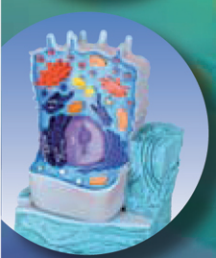
Building Blocks
For Your Vibrant Lessons




BIOLOGY
2010 / 2011

ANATOMY

ZOOLOGY

BOTANY

CELL BIOLOGY

GENETICS

REPRODUCTION

MICROSCOPY

EXPERIMENTS

3B SCIENTIFIC® PRODUCTS

...going one step further

Otto H. Gies, Managing Director

Dear Customer,

The building blocks of hearing, sight, touch and doing-it-yourself make your lessons vibrant and lead to optimal learning results. We support you with graphic 3B Scientific® Models and Experiments. I would especially like to draw your attention to

- the aforementioned experiments (hearing, sight, touch) in the practical Sensory Physiology Kit on page 150,
- the latest in microscopes: the high-quality polarization microscopes on page 89, the most popular individual microscope slides on page 104 and the extensive thematic CD-ROMs on page 166,
- as well as our much-copied, yet unsurpassed original 3B Scientific® Classic Torso on page 32

Speaking of copied products, allow me to guarantee here once again: we provide you with **original products of highest quality**. Our specialized medical department ensures the high professional and educational level of the products, which are frequently developed in cooperation with professors from the respective fields. At the same time, due to our many years of experience (see page 177) we can, of course, pay particular attention to costs and therefore you can expect **exceedingly favourable value for money.**

As you know or may suspect, the materials used by many of the mainly Asian, "low budget" suppliers can be toxicologically highly questionable and the products may be unprofessionally designed. In order to very clearly distinguish ourselves from these, a while ago we were the **very first supplier** to have the popular 3B Scientific® Classic Torso (item no. B13, page 30) tested by the Chemicals and Environmental Protection Institute of the TÜV Nord technical inspection agency. Based on the various materials used in the torso, the results of this emission study are representative for nearly all 3B Scientific® models and confirm that we comply with and sometimes distinctly fall below all of the relevant threshold values. For more detailed information about this, please visit www.3bscientific.co.uk/downloads.html.

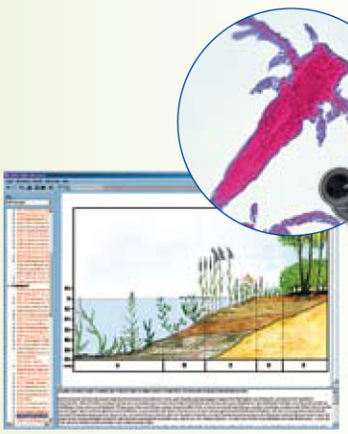
For your own wellbeing and the health of your students, rely on trusted quality brands like 3B Scientific® and, if in doubt, ask about the origin and the toxicological safety of a product. For this, too, is a building block for your vibrant lessons.

With kindest regards

Otto H. Gies

Sensory Physiology Kit

Page 150



Interactive CD-ROM

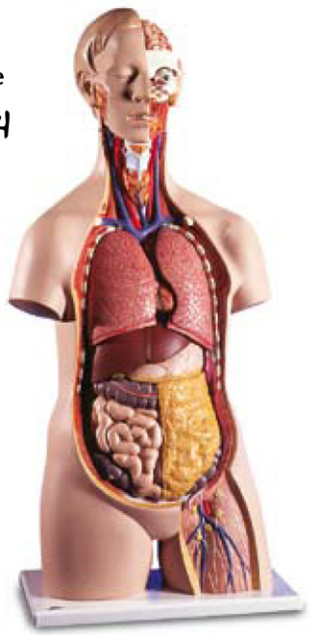
Page 166

Individual Microscope Slides

Page 104

Page 89

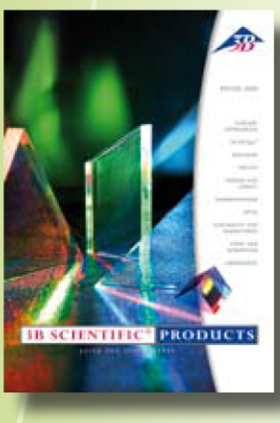
Binocular Polarisation Microscope



Classic Unisex Torso, 14- part

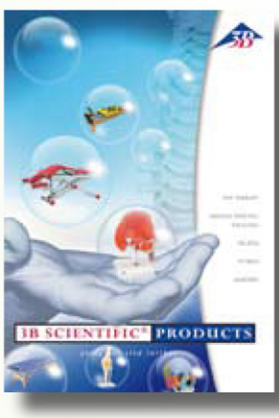
Page 32

Further 3B Scientific® Catalogues

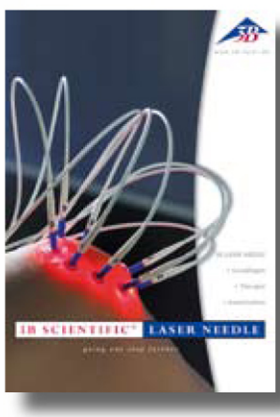


Physics

Medical



Physiotherapy



3B Laser Therapy

Content

KEY

= Extra carriage charges

= Product comes with product manual

www. = Product manual available for free download at www.3bscientific.com

C = Chinese, D = German, DÄN = Danish, E = English, F = French, FIN = Finnish, H = Hungarian, I = Italian, J = Japanese, K = Korean, L = Latin, NL = Dutch, NO = Norwegian, P = Portugese, S = Spanish, SE = Swedish

Committed to quality

3B Scientific provides you with good quality at fair prices. Our sophisticated quality management complies with the ISO 9001:2000 standards and the Worlddidac Quality Charter and is regularly approved by independent experts.

That's something you can rely on.

9 Reasons to Buy 3B Scientific® Products:

1 Three Year Quality Warranty
If you detect material or processing defects despite appropriate handling of a product within 3 years of the invoice date, we will replace the product or remedy the defect.

2 Global Price Guarantee
You will get high quality at low prices. If you obtain a comparable product of the same quality at a lower price from anywhere else on our planet within 14 days, we will take it back and refund the full purchase price.

3 No Risk Buying
If you are dissatisfied with a 3B Scientific® Product for whatever reason, simply return it to us within 14 days for a refund, packed in original cartons and with a copy of the invoice. No questions asked!

4 Prompt Delivery
Most products are shipped from stock. That means that we will generally ship the items you ordered within 2 - 10 days without incurring unreasonable freight or express charges.

5 Special Prices
If you place an order for large numbers of 3B Scientific® Products, you may be eligible for additional savings. Please ask for your special price offer.

6 Custom Orders
We are the worlds leading manufacturer of anatomical models. If you have a suggestion for a new item, or require special labelling or packaging, we will do our best to accommodate you.

7 Environment-Friendly Paints and Packaging
All models are painted accurately with solvent-free paints. Packaging is included in the price and is made of reusable material containing no CFCs. Only special packaging will incur an extra charge.

8 Continuous Improvement
Continual design improvements and product research are carried out in order to ensure that you receive only the very best. As a result, products may differ slightly in form or colour from those depicted here.

9 DIN EN ISO 9001 Certification
The proven quality of our service, products and organisational procedures has been DIN EN ISO 9001:2000 certified since June 2000. This approved quality management system promotes our particular commitment to innovation, product improvement and customer orientation. In addition, since the Worlddidac Quality Charter was introduced in September 2004, we have been met all related quality standards.

BONElike™

A52
3B BONE*like*™ Human Child Vertebral Column

Page 21

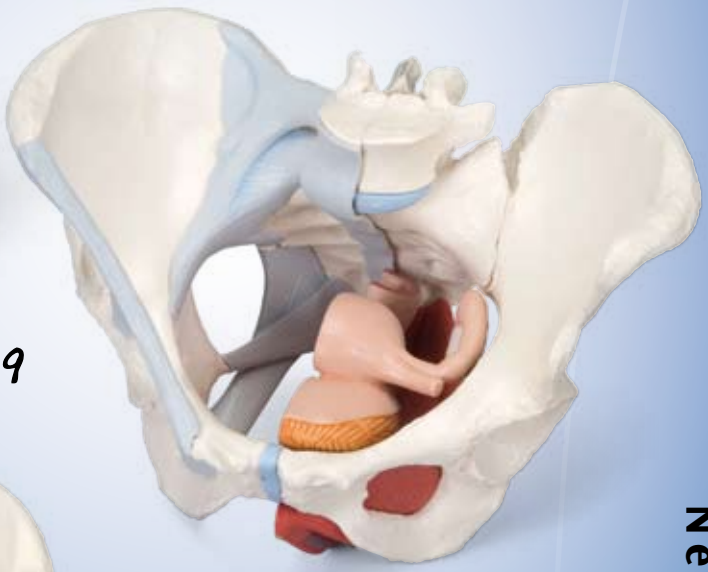
NEW

A882
Knee Joint, 12-part

Page 25

H20/2
Ligamented Female Pelvis

Page 49



H20/3
Pelvis with Ligaments, Nerves and Floor Muscles

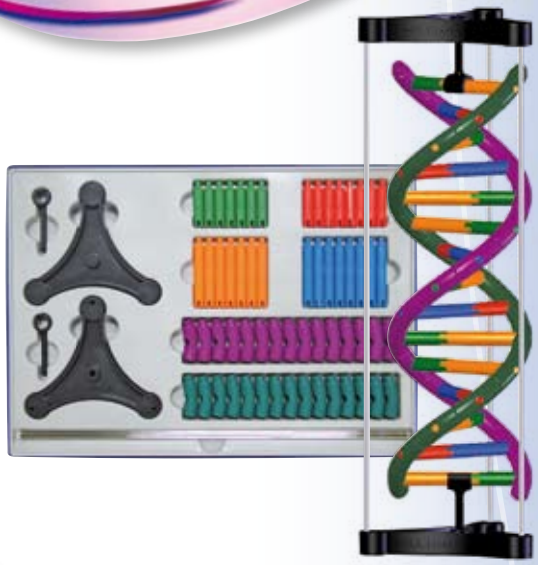
H20/4
Female Pelvis and Pelvic Floor, 5-part

NEW

M33/1
Deluxe Hand and Wrist

M34/1
Deluxe Foot and Ankle

Page 12



W19780
DNA Double Helix Structure Model

Page 80

Polymerase Chain Reaction (PCR)

Polymerase Chain Reaction (PCR) is one of the most exciting techniques in modern biology and now you can do it in your classroom!

Page 152

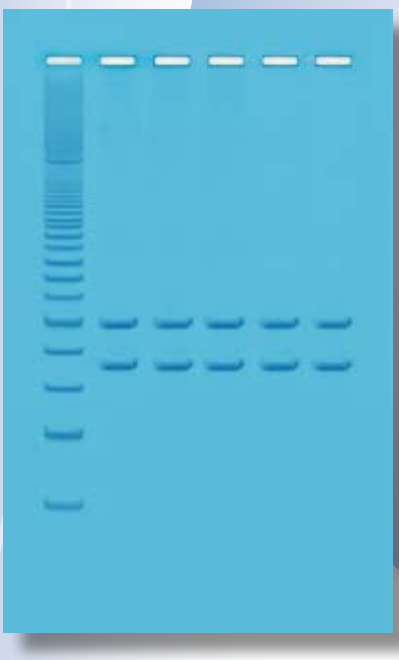
W48925
Microcentrifuge Piccola

W48925

W48926
Digital Waterbath (1,8 l)

NEW

W48928
Mitochondrial DNA Analysis Using PCR



W48927
EdvoCycler™ PCR Machine

GASTEC

Gas detector for highly educational experiments
in your biology and environmental studies classes

Page 158

W11730
GASTEC – Kit

NEW

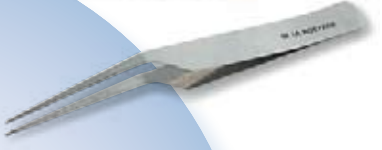
U11395
Blood Pressure Sensor

Page 144

U11396
ECG/EMG Box

U30723
Binocular Polarisation Microscope

Page 89



Laboratory Equipment

Page 162

New Products

W16151
Blood Pressure Meter

W60083

W16150
Stethoscope

W16150

W60083
Cardio HITRAX Pulse

Page 149

NEW

W13672
High Tech Flowmeter (spirometer)

Page 149

W13672

U16100

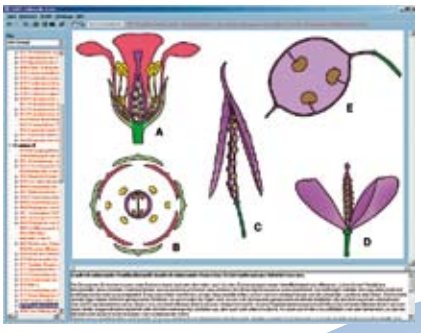
U16100
Timer

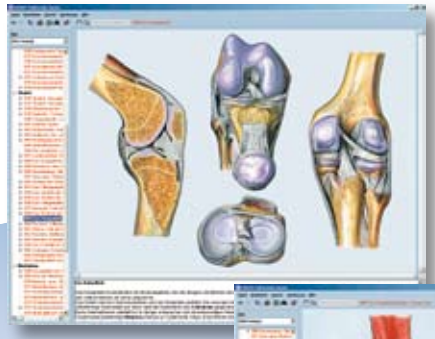
Page 162

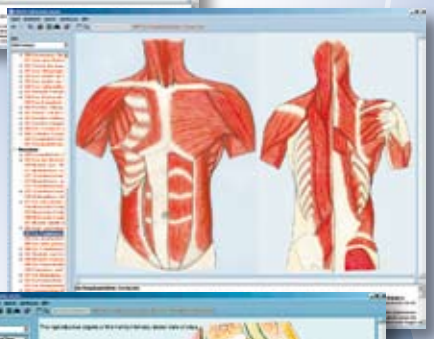
W60088

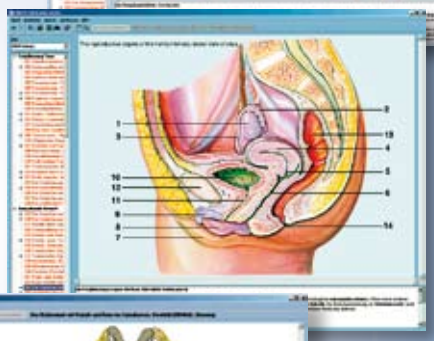
W60088
Piko 1 Electronic Spirometer

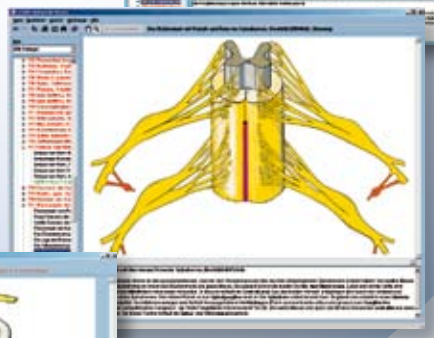
Page 149

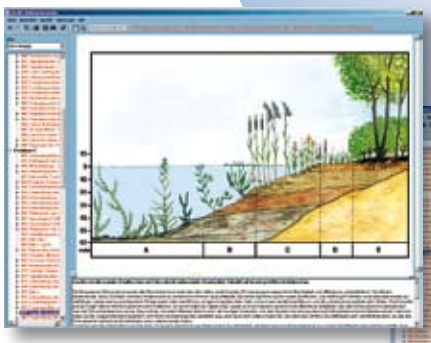


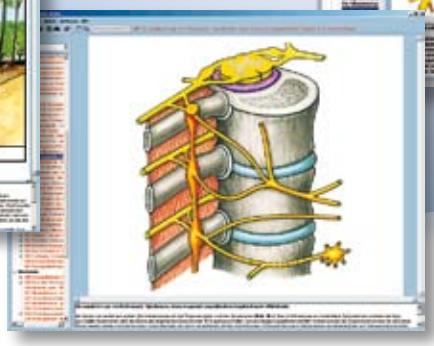












New interactive CD-ROM

This newly developed CD programme for interactive teaching promises exciting lessons at a high standard. Each CD covers a full topic and contains a large number of excellent quality anatomical colour charts, micro and macro images, diagrams, graphic representations and drawings, live images, circulation charts and x-ray images. Use the comprehensive teaching and learning materials featured on each of the CD-ROMs to visualize your current topic of study for your students!

Page 166

NEW

Individual Microscope Slides

Now Available: - Create your own set using any slides of your choice from our complete range (minimum of 25 microslides)

Page 104

BESTseller

A10

Experience the world's best-selling natural casts of human skeletons on the following pages. Don't settle for inferior imitations. Demand 3B Scientific® quality!

The Standard Benefits of a 3B Scientific® Skeleton:

- *Excellent price-performance ratio*
- *3-year warranty*
- *First-class natural cast "Made in Germany"*
- *Manual final assembly*
- *Made of durable, unbreakable plastic*
- *Almost real weight of the approx. 200 bones*
- *Life-size*
- *3-part mounted skull*
- *Individually inserted teeth*
- *Limbs are quick and easy to remove*
- *Stand and transparent dust cover included*

Details of the additional features of each individual models is provided in the product descriptions.

A10

Classic Skeleton Stan, on 5-feet roller stand

This classic model (we call him Stan) has been the standard of quality in hospitals, schools, universities, and laboratories for over 50 years. Choose from 5 models to suit your individual preference – of course each one has all standard benefits of a 3B Scientific® skeleton.
170 cm; 7.6 kg

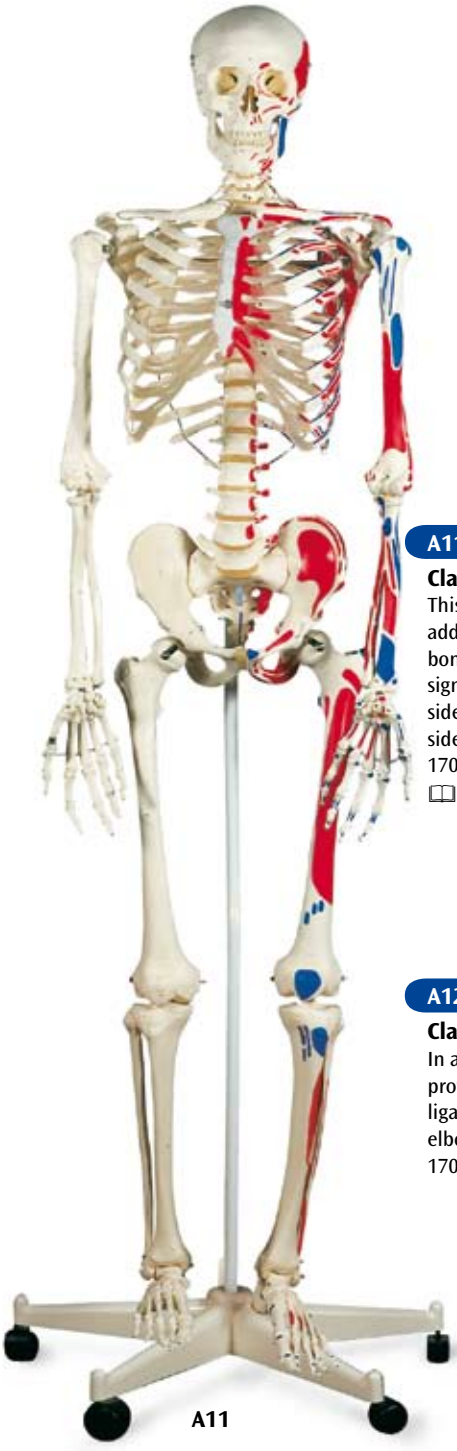
A10/1

Classic Skeleton Stan, on hanging 5-feet roller stand with brake

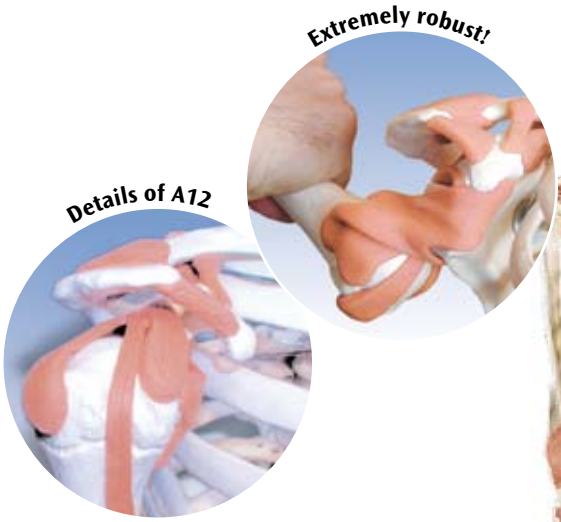
186 cm; 8.3 kg

NEW: All 5-leg roller stands have brakes

Detail of A10/1



A11



A11

Classic Skeleton Max, on 5-feet roller stand with brake

This version contains all standard benefits of a 3B Scientific® skeleton but additionally offers representations of the structural interaction between bones and muscles. It depicts over 600 structures of medical/anatomical significance including muscle origins (red) and insertions (blue) on the left side as well as hand numbered bones, fissures and foramina on the right side.

170 cm; 8.0 kg

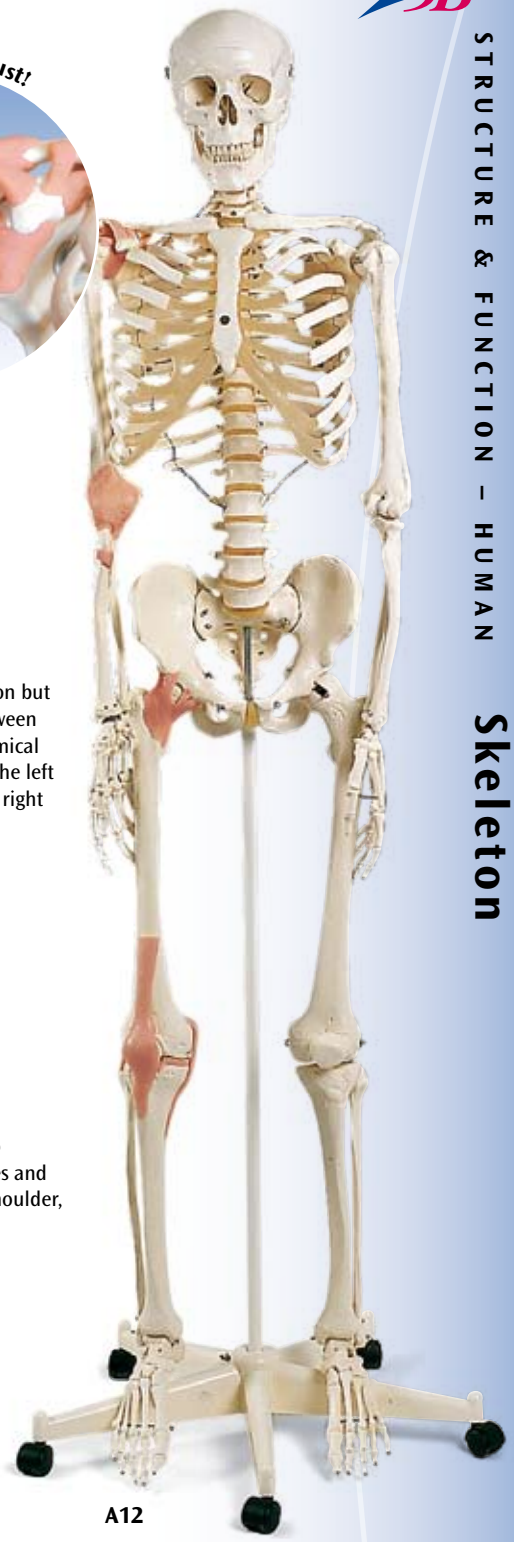
📖 **L/E www.**

A12

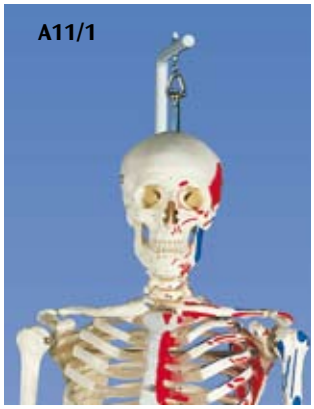
Classic Skeleton Leo, on 5-feet roller stand with brake

In addition to the standard benefits of a 3B Scientific® skeleton, Leo provides representations of the structural interaction between bones and ligaments. Its elastic ligaments on the major appendicular joints (shoulder, elbow, hip and knee) are mounted on the right side.

170 cm; 8.2 kg



A12



A11/1

A11/1

Classic Skeleton Max Showing Muscles, on hanging stand with brake

186 cm; 8.3 kg

📖 **L**

W40103

W40103

Heavy Duty Dust Cover for Skeletons

Protect your investment with our heavy duty protective cover. Suitable for all skeletons and stand versions. Black with transparent window.

BESTseller

A13

A13

Sam Deluxe Skeleton, on 5-feet roller stand with brake

Of course this top-of-the-range version contains all the benefits you have come to expect in our high-quality 3B Scientific® standard skeletons. Sam additionally allows you to demonstrate the movements of the skull and head joints as well as all natural human postures due to the fully flexible vertebral column. The unique combination of flexible vertebral column, muscle origins and insertions, numbered bones, flexible joint ligaments and a disc prolapse between the 3rd and 4th lumbar vertebrae display over 600 structures of medical/anatomical interest in this top model.

To sum it up:

- All standard benefits of a 3B Scientific® Skeleton (see page 8)
- Over 600 hand-numbered and identified details
- Hand-painted muscle origins and insertions
- Flexible joint ligaments
- Flexible vertebral column
- Emerging spinal nerves and vertebral arteries
- Disc prolapse between L3 and L4

170 cm; 8.2 kg

📖 **L/E www.**

A13/1

Sam Deluxe Skeleton, on hanging stand with brake

186 cm; 8.5 kg

📖 **L/E www.**

A18

Mini Skeleton "Shorty", mounted on a base

Top of the range mini skeleton. Skillful 3B engineers using powerful hard-ware and software optimized the process of reproducing miniatures in order to keep all anatomical details and structures even at half natural size (80 cm). The skull can be removed and disassembled into three parts (skull-cap, base of skull, mandible). The arms and legs are removable. The hip joints are specially mounted so their natural rotation can be demonstrated.
88 cm; 1.5 kg

A18/1

Mini Skeleton "Shorty", on hanging stand

This model is the same as the A18 Mini Skeleton, but with a hanging stand. The stand can be either placed on the floor or attached to a wall.
94 cm; 1.7 kg

A18/5

Mini Skeleton "Shorty" with Painted Muscles, on base

As A18, but with colour portrayal of the muscle origins (red) and insertions (blue) on the left half. The muscles are numbered.
(not shown)
📖 **L/D/E/F/I/S/P/J www.**

A18

A18/6

W33000

W33000

Desktop Skeleton

This model shows the basic bony locomotive apparatus and, in addition, the emerging spinal nerves, vertebral arteries and one prolapsed disc. Arms and legs mounted flexibly. Supplied with a stand.
84 cm; 2.7 kg

A18/6

Mini Skeleton "Shorty" with Painted Muscles, on hanging stand

As A18/5, but with hanging stand. The stand can be either placed on the floor or be suspended from the wall.
94 cm; 1.7 kg
📖 **L/D/E/F/I/S/P/J www.**

A05/1

Disarticulated Full Skeleton, with 3 part skull

One hand and foot on wire, one loosely articulated. Supplied in a sturdy partitioned storage box.
48.5x27x42.5 cm; 4.8 kg

A71/9

Hyoid bone on stand

A71/9

M19

Internal Finger Structure Model

This full-size model shows the bones, muscles and tendons of the human index finger. Delivered on stand.
19.5x13x19 cm; 0.5 kg
📖 **L/D/E/S/F/P/I/J www.**

M19

A04

A04

Disarticulated Half Skeleton
Complete with mounted skull, sternum, hyoid and spinal column. Hand and foot on wire. Comes in a sturdy partitioned storage box.
49x43x26.5 cm; 4 kg

A04/1

Disarticulated Half Skeleton, with loosely articulated hand and foot
Complete with mounted skull, sternum, hyoid and spinal column. Hand and foot loosely articulated on nylon cord. Comes in a sturdy partitioned storage box. 48.5x27x42.5 cm; 4 kg

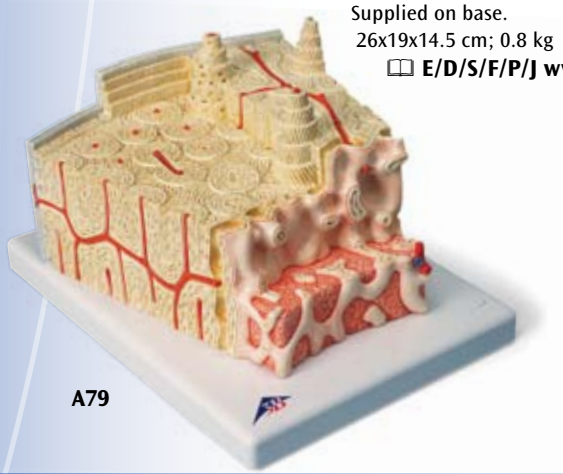
M18

M18

Internal Hand Structure Model, 3-part
Full size hand model shows the superficial and internal structures of the hand, including bones, muscle, tendons, ligaments, nerves, and arteries (superficial and deep palmar arches). The palmar aponeurosis and plate of the superficial tendons are removable.
28.5x13x6.5 cm; 1.2 kg
📖 **L/D/E/S/F/P/I/J www.**

A79

3B MICRO*anatomy*™ Bone Structure
This extremely detailed model depicts a three dimensional section of a lamellar bone, showing the typical structure of a tubular bone enlarged 80 times. Various planes are shown in cross and longitudinal section through all levels of the bone, as well as a 2-plane section through the inner structure of the bone marrow. The typical elements of a lamellar bone are easily identified and help to understand its structure and function with the characteristic osteons, also referred to as Haversian systems. This model allows a graphic illustration of the interplay of the individual components, such as spongy and compact substance, endosteum, cortical substance, osteocytes, Volkmann and Haversian canals.
Supplied on base.
26x19x14.5 cm; 0.8 kg
📖 **E/D/S/F/P/J www.**



A79

M34/1

M33/1

M33/1

Deluxe Hand and Wrist
- Cast from natural bone specimen
- Articulated bones of hand and wrist
- Interosseous muscles depicted
- Shows median, ulnar and radial nerve
- Tendons, ligaments and arteries simulated
- Palmar and thenar space simulated
- Transverse ligament can be cut to show carpal tunnel syndrome

Stand included.
6x18x18 cm; 0.3 kg
📖 **E**

M34/1

Deluxe Foot and Ankle
- Cast from natural bone specimen
- Bones of foot and ankle
- Lower half of tibia and fibula
- Depicts all major muscles, nerves, arteries and tendons

Stand included.
22x18x18 cm; 0.5 kg
📖 **E**

M30

Normal Foot
Superficial structures as well as internal bones, muscles, ligaments and nerves are represented.
13x24x9 cm; 0.4 kg
📖 **L/D/E/F**

M31

Flat Foot (Pes Planus)
Superficial structures as well as internal bones, muscles, ligaments and nerves are represented.
12x24x10 cm; 0.4 kg
📖 **L/D/E/F**

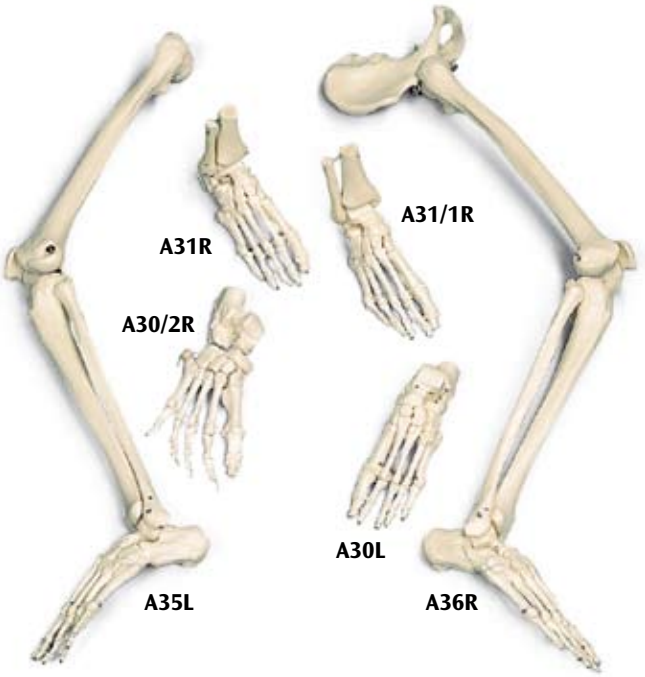
M32

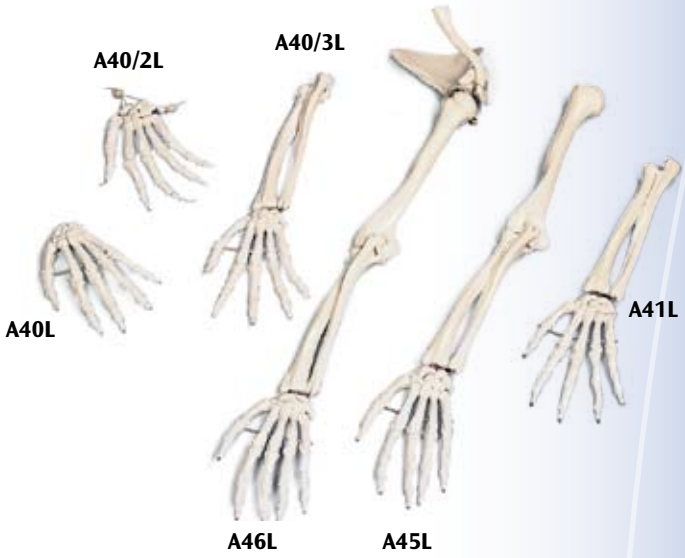
M30

M31

M32

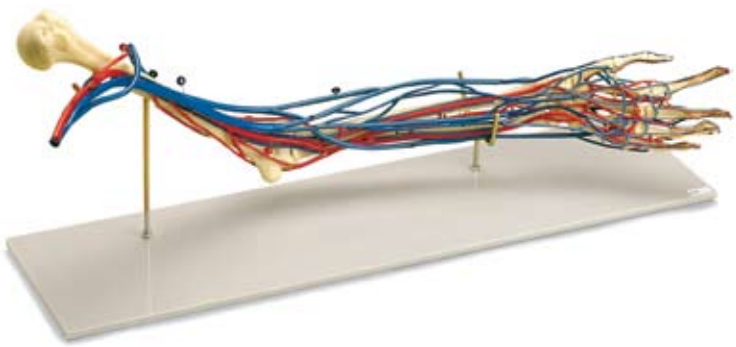
Hollow Foot (Pes Cavus)
Superficial structures as well as internal bones, muscles, ligaments and nerves are represented.
13x23x10 cm; 0.4 kg
📖 **L/D/E/F**





Art.-No.	Skeleton-Components
A30L	**Foot Skeleton** mounted on wire, left
A30R	**Foot Skeleton** mounted on wire, right
A30/2L	**Foot Skeleton** loosely threaded on nylon, left
A30/2R	**Foot Skeleton** loosely threaded on nylon, right
A31L	**Foot Skeleton** with portions of tibia and fibula, wire mounted, left
A31R	**Foot Skeleton** with portions of tibia and fibula, wire mounted, right
A31/1L	**Foot Skeleton** with portions of tibia and fibula, flexibly mounted, left
A31/1R	**Foot Skeleton** with portions of tibia and fibula, flexibly mounted, right
A35L	**Leg Skeleton**, left
A35R	**Leg Skeleton**, right
A35/1L	**Femur**, left
A35/1R	**Femur**, right
A35/2L	**Patella**, left
A35/2R	**Patella**, right
A35/3L	**Tibia**, left
A35/3R	**Tibia**, right
A35/4L	**Fibula**, left
A35/4R	**Fibula**, right
A35/5L	**Hip Bone**, left
A35/5R	**Hip Bone**, right
A35/6	**Femur Heads**, 1 pair
A36L	**Leg Skeleton with Hip Bone**, left
A36R	**Leg Skeleton with Hip Bone**, right

Art.-No.	Skeleton-Components
A40L	**Hand Skeleton** wire mounted, left
A40R	**Hand Skeleton** wire mounted, right
A40/2L	**Hand Skeleton** loosely threaded on nylon, left
A40/2R	**Hand Skeleton** loosely threaded on nylon, right
A40/3L	**Hand Skeleton** with portions of ulna and radius, flexibly mounted, left
A40/3R	**Hand Skeleton** with portions of ulna and radius, flexibly mounted, right
A41L	**Hand Skeleton** with portions of ulna and radius, wire mounted, left
A41R	**Hand Skeleton** with portions of ulna and radius, wire mounted, right
A45L	**Arm Skeleton**, left
A45R	**Arm Skeleton**, right
A45/1L	**Humerus**, left
A45/1R	**Humerus**, right
A45/2L	**Ulna**, left
A45/2R	**Ulna**, right
A45/3L	**Radius**, left
A45/3R	**Radius**, right
A45/4L	**Scapula**, left
A45/4R	**Scapula**, right
A45/5L	**Clavicle**, left
A45/5R	**Clavicle**, right
A46L	**Arm Skeleton** with scapula and clavicle, left
A46R	**Arm Skeleton** with scapula and clavicle, right



W19019

Vascular Arm

Life size model of the left arm and hand in a semi-flexed position with the brachial, radial and ulnar arteries and accompanying veins with their radicals in situ. The complete circulatory system of the hand is shown on both palmar and dorsal surfaces. Comparative sizes of the various blood vessels are clearly indicated and facilitate the study of the blood circulation in the arm. Mounted on stand.

66x18x28 cm; 2.0 kg

📖 **E**

3B Scientific® has the right model for everyone. Enjoy the world's largest selection of high-class artificial human skulls on the following pages.

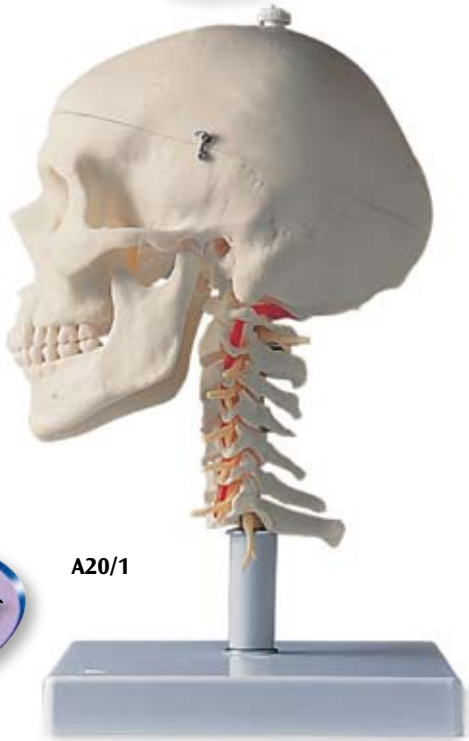
3B Scientific® Skulls

Choose from 25 different models – all featuring the following, unless otherwise stated:

- *High-quality original casts of real human skulls*
- *Hand-made from hard, unbreakable plastic*
- *Highly accurate representation of the fissures, foramina, processes, sutures etc.*
- *Disassemble into at least 3 parts for detailed studies*
- *As an option, you can insert a 5-part brain into all skulls of the Classic Series*

A20

A20/T



A20/1

BESTseller

A20

Classic Skull, 3-part

Our Classic Skulls combine quality and value. Each of the 8 classic versions available are designed to show exceptional detail at an affordable price. The 3-part standard version A20 is a first choice for basic anatomical studies or an attractive medical present. Alternatively, choose one of the more advanced versions exhibiting additional anatomical structures such as muscle origins/insertions, hand-numbered bones and structures or a supplimentary complete 5-part brain.
20x13.5x15.5 cm; 0.6 kg

A20/1

Skull on Cervical Spine, 4-part

This flexibly mounted version on a stand with a cervical spine. Also represented are the hindbrain, spinal cord, cervical nerves, vertebral arteries, basilar artery and rear cerebral arteries. On stand.
20x13.5x15.5 cm; 1.4 kg

A20/T

Classic Skull, transparent, 3-part

Use this unique skull to study internal structures that otherwise are only visible using x-ray images.
20x13.5x15.5 cm; 0.6 kg


A23


A22/1


A21


W10532

A23

Classic Skull, Painted, 3-part
The muscle origins (red) and insertions (blue) are shown in colour on the left side of the skull. Cranial bones and structures are numbered on the right side. This skull shows over 140 anatomical details.
20x13.5x15.5 cm; 0.7 kg
📖 **L/E www.**

A21

Numbered Classic Skull, 3-part
Numbered skull with skull sutures drawn in colour.
20x13.5x15,5 cm; 0.7 kg
📖 **L/D/E/S/F/P/I www.**

A22/1

Classic Skull with Opened Lower Jaw, painted, 3-part
Muscle origins (red) and insertions (blue) are represented on the left side of this model.
20x13.5x15.5 cm; 0.7 kg
📖 **L/D/E/S/F/P/I www.**

W10532

Skull with Teeth for Extraction, 4-part
The teeth of the upper and lower jaw can be extracted and replaced individually with their fully-formed roots. A bone flap on the right mandible can be opened to view the dental roots, spongiosa, nerve canal and an impacted wisdom tooth.
22x13.5x17 cm; 0.8 kg


A22

A22

Classic Skull with Opened Lower Jaw, 3-part
This dental skull with opened mandible exposes the dental roots with vessels and nerves. The cranial bones, bone components, fissures, foramina and other structures are numbered. The cranial sutures are shown in colour, as are the meningeal vessels and venous sinuses.
20x13.5x15.5 cm; 0.7 kg
📖 **L/D/E/S/F/P/I www.**


A24

A24

Functional Skull with Masticator Muscles, 2-part
The masticatory muscles (masseter, temporal, medial and lateral pterygoid muscles) are represented by elastic bands. This model is suitable for demonstrating the function of the masticator muscles with jaw occlusion, the initial stage of jaw opening and the movements of the mandible to the side and front. The skullcap is removable.
20x13.5x15.5 cm; 0.7 kg


C18

A20/9

unique!

A20/9

Classic Skull with Brain, 8-part
This skull can be disassembled into
- Skull Cap
- Base of Skull
- Mandible

The midsagitally divided brain (C18) is cast from an original anatomical specimen.
The components of its left half are:
- Frontal and parietal lobe
- Temporal and occipital lobe
- Encephalic trunk
- Cerebellum

20x13.5x15.5 cm; 1.1 kg
📖 **L/E/D/S/F/J**

A27

Deluxe Demonstration Skull, 10-part

This replica of the human skull is of an exceptional quality. The skullcap is removable and the base of skull is mid-sagitally divided. The frontal sinus, perpendicular lamina and vomer are fitted with flaps which can be opened to view the lateral nose wall and sphenoidal sinus. On the left half, the temporal bone can be removed and folded up in the area of the tympanic membrane. Maxilla and mandible are opened to reveal the alveolar nerves. On the right side the temporal bone is opened to reveal the sigmoid sinus, the facial nerve canal and the semicircular ducts. Additional flaps are located at the maxillary sinus and the right half of the mandible, so that the dental roots of the premolars and molars of the lower jaw can also be viewed. The natural occlusion and the individual removal and replacement of each tooth also make this skull especially interesting for dentists.
28x22.5x18.5 cm; 1.5 kg

A20/2

Didactic Skull on Cervical Spine, 4-part

This model uses 19 didactic colours to demonstrate the shapes and relationships of the various bone plates of the skull. Flexibly mounted on the cervical spine (C1, C2 and C7 are coloured), this model also shows the hindbrain, spinal cord, spinal nerves of the cervical spine, vertebral arteries, basilar artery and rear cerebral arteries. Mounted on a stand.
18x18x30 cm; 1.4 kg
📖 **E/D/S/F/P/J** www.

A29/1

A29/1

Microcephalic Skull

Skull of a young male. This one-part microcephalic skull has an alveolar abscess of the right maxilla with the canine tooth suspended in the abscess. The molars exhibit severe attrition. 27 teeth. Natural cast.
23x16.5x17 cm; 0.8 kg

A27/9

Deluxe Demonstration Skull with Display Case

48x39x36 cm; 4.8 kg

A20/2

A29/2

A29/3

A29/2

Hydrocephalic Skull

The enlarged cerebral cranium is typical of this severe malformation. The skullcap of the one-part skull is partially covered by bone skin. The lower right canine and the right molar are decayed. Natural cast.
28x23x19.5 cm; 0.8 kg

A29/3

Skull with Cleft Jaw and Plate

Male. Severe malformation of the left skull half. The one-part skull has 29 teeth. Natural cast.
28x23x19.5 cm; 0.8 kg

A290

3B Scientific® Skull Kit – Anatomical Version, 22-part

The human skull consists of many individual bones that gradually grow together as development proceeds. The 3B Scientific® Skull Kit is a natural cast and makes the complex structure of the skull easy to understand, since it can be disassembled into its 22 individual bones. The individual bones can be reassembled by means of inconspicuous, stable connectors attached at the slightly simplified skull sutures. All 22 bones are depicted in their natural bone colour.

The skull consists of the following individual bones:

- Parietal bone (left and right)
- Occipital bone
- Frontal bone
- Temporal bone (left and right)
- Sphenoid bone
- Ethmoid bone
- Vomer bone
- Zygomatic bone (left and right)
- Upper jaw (maxilla) with teeth (left and right)
- Palatine bone (left and right)
- Nasal concha (left and right)
- Lacrimal bone (left and right)
- Nasal bone (left and right)
- Lower jaw (mandible) with teeth

21x14x16 cm; 0.7 kg

📖 **E/D/S/F/P/I/J www.**

A291

3B Scientific® Skull Kit – Didactic Version, 22-part

The 22 bones are depicted in 9 different didactic colours so that the individual skull bones are easy to distinguish. Each pair of bone plates have the same colour.

21x14x16 cm; 0.7 kg

📖 **E/D/S/F/P/I/J www.**

A18/15

Mini Skull, 3-part

Our mini skull, precisely depicting the anatomical structures true to detail, can be disassembled into skullcap, base of skull and mandible.

10x8x8 cm; 0.10 kg

A26

Foetal Skull, on stand

Natural cast of a foetal head in the 30th week of pregnancy.

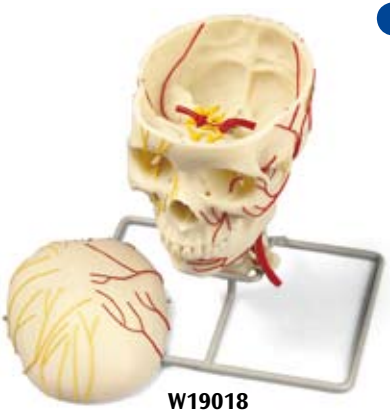
18.5x14.5x14 cm; 0.2 kg

A25

Foetal Skull (not shown)

Natural cast of a foetal head in the 30th week of pregnancy.

14x9x9 cm; 0.15 kg



W19018

Neurovascular Skull

A life size adult skull with seven cervical vertebrae mounted upon a stand. The arteries are shown on one side and nerves on the other. Removing the vault exposes the main nerves and arteries on the floor of the cranium. The 12 cranial nerves and the distribution of their branches is also shown.

29x21x18.5 cm; 1.3 kg

📖 **E**

A283

Unique worldwide:

The **3B BONE*like*™** *system skulls are made of a new material that allows an absolutely natural reproduction of even finest anatomical structures for the first time.*

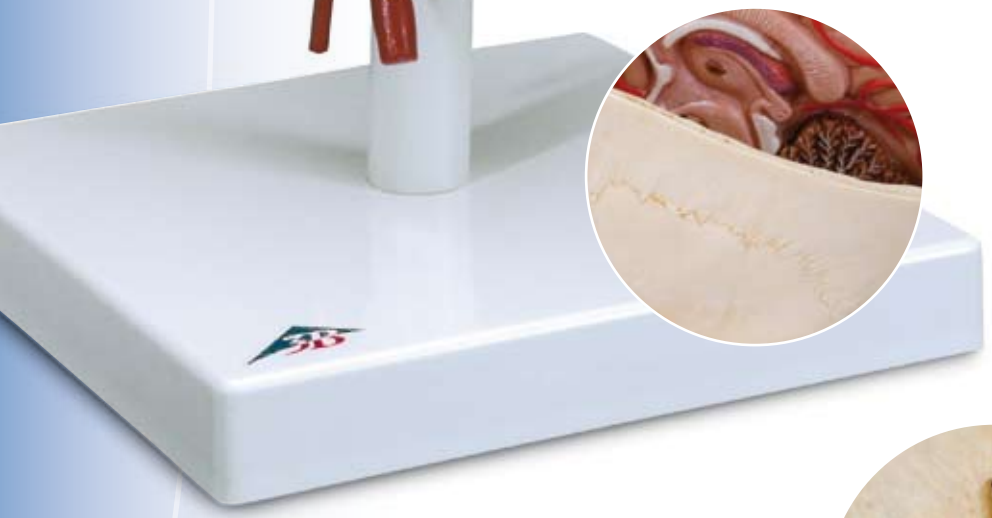
Bones made of **3B BONE*like*™** *look real, have an absolutely natural feel and are almost exactly the weight of a natural bone.*

See page 23 for customer statements on **3B BONE*like*™**

A283

3B BONE*like*™ System Skull – Didactic Deluxe Skull, 7-part

This unique and high-quality skull will leave no questions in the study of anatomy unanswered! The ability to transfer the structures visible on the transparent half to the bony half give this skull a special didactic value. On the right, transparent skull half the paranasal sinuses can be easily located even from the outside, since these are marked in different colours: maxillary sinus (yellow), ethmoidal cells (orange), frontal sinus (green), sphenoidal sinus (purple). The cranial sinuses and the neck and face arteries are also shown in colour: sinuses of dura mater (blue), common carotid artery, external and internal carotid artery and the branches of the meningeal artery (red). One brain half, which is also visible through the skullcap, visualizes the brain position and the course of the sinuses. The periodontal pockets and tooth roots can be seen through the transparent jaw. The lower jaw is mounted flexibly to demonstrate the masticator movements. The skull is mounted on a cervical spine and can be disassembled into both halves of the skullcap, the left half of the base of skull, the nasal septum, the complete mandible and a brain half.
35x18x18 cm; 1.0 kg
📖 **E/D/S/F/P/J www.**



A280

A280

3B BONE*like*™ System Skull – Bony Skull Half, 4-part

The left bony half skull has been designed especially for the student's budget. The half skull can be disassembled into skullcap, base of skull, mandible and nasal septum. An affordable first-class model to study all anatomical structures.
16x7x21 cm; 0.25 kg
📖 **E/D/S/F/P/J www.**

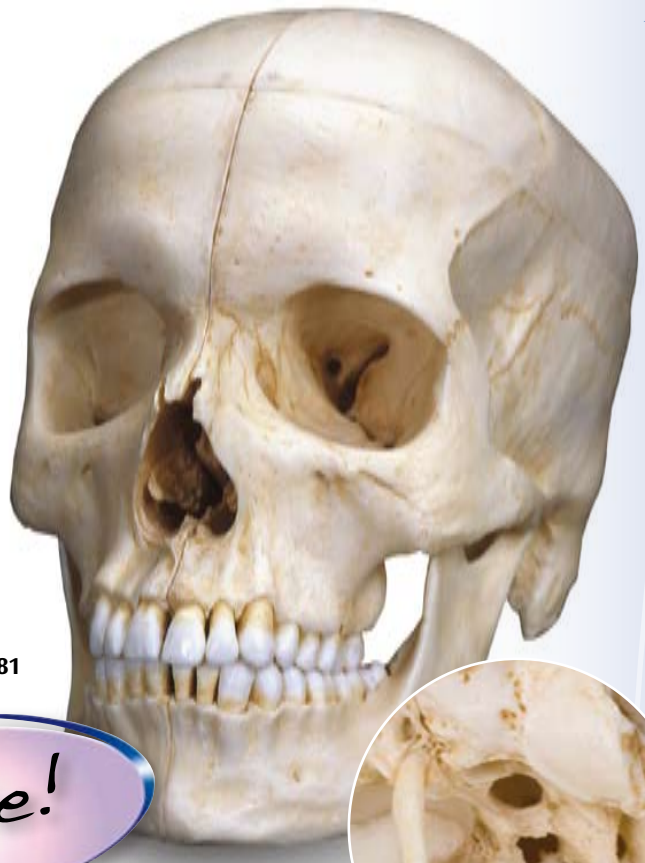
A281

3B BONE*like*™ System Skull – Bony Skull, 6-part

This version represents a complete midsagitally sectioned skull. It can be disassembled into both halves of the skullcap and the base of skull, the nasal septum and the complete mandible. To demonstrate masticatory movement, the lower jaw is mounted flexibly. An excellent skull to study the bony structure and the complicated anatomy of the human skull.

16x14x21 cm; 0.5 kg

📖 **E/D/S/F/P/J www.**



A281

unique!

BONElike™

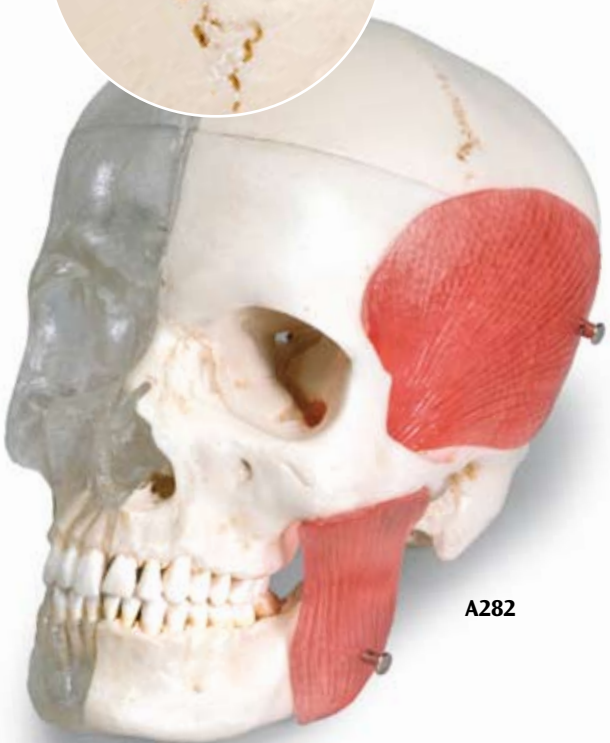
A282

3B BONE*like*™ System Skull – Combined Transparent / Bony Skull, 8-part

By combining one transparent and one bony skull half this is the first model to allow teachers of anatomy a topographical juxtaposition of the structures that cannot be seen in other skull versions. The right, transparent skull half allows the study of important anatomical details, such as the location of the paranasal sinuses. Therefore, in combination with the left, bony skull half, a direct transfer of the otherwise invisible structures becomes easy and un-complicated. The transparency of the jaw allows an exceptional view onto the periodontal pockets and roots. The teeth are removable for detailed studies. In addition, the external masticator muscles (masseter and temporal muscles) are represented on the bony skull half. To demonstrate masticator movement, the lower jaw is mounted flexibly. These features also make the skull especially valuable for dentists. The skull can be disassembled into both halves of the skullcap and base of skull, the nasal septum, the complete mandible and both masticator muscles.

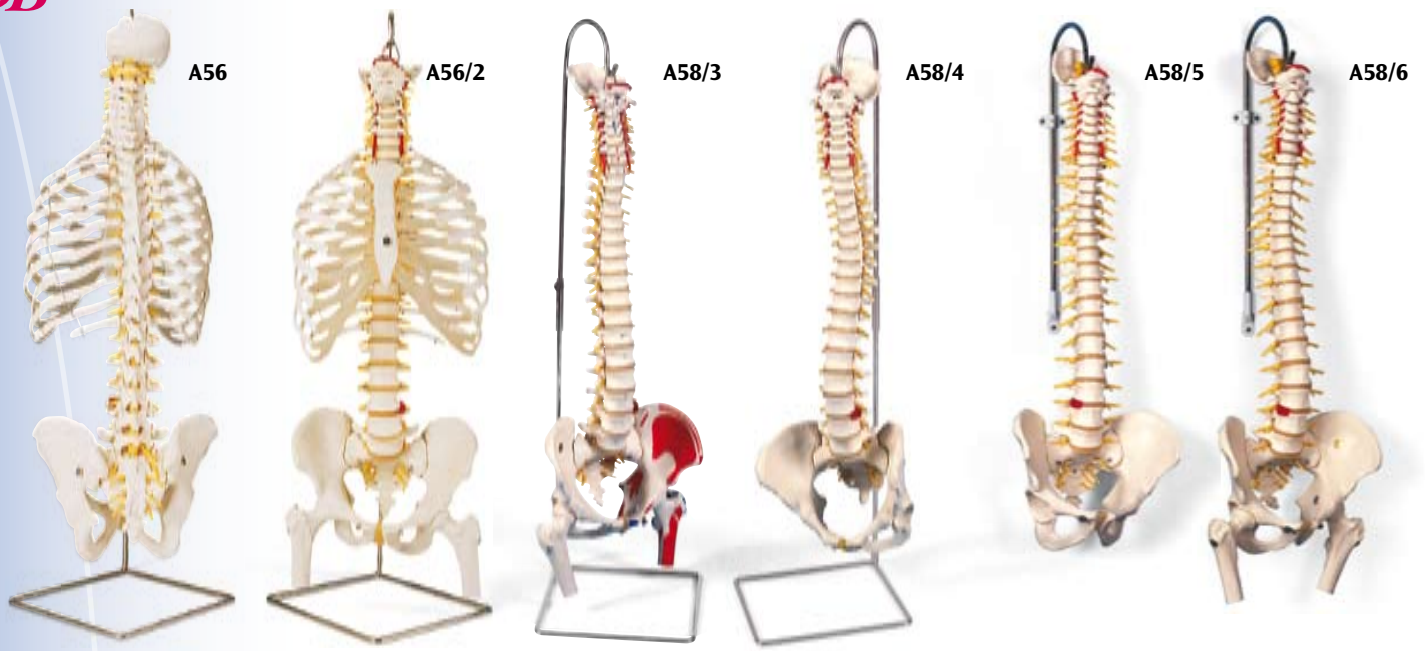
16x14x21 cm; 0.54 kg

📖 **E/D/S/F/P/J www.**



A282

Please refer to page 78 for anthropological skulls.



A56

Classic Flexible Spine with Ribs

Flexible spine with ribs shows the interaction of the ribs, spine and associated structures. Contains the following features:

- Extremely good value and durable.
- Full pelvis and occipital plate
- Fully flexible mounting
- L3-L4 disc prolapsed
- Spinal nerve exits
- Cervical vertebral artery
- Male pelvis

Stand is not included, please see A59/8.
74 cm; 2.8 kg

A58/3

Classic Flexible Spine with Femur Heads and Painted Muscles

Painted spines add a new dimension to demonstrations. Muscle origins (red) and insertions (blue) are painted on left innominate, femur and vertebrae. Same features as A58/1. Stand is not included, please see A59/8.
83 cm; 2.1 kg
📖 **L/D/E/F/S/P/I/J www.**

A58/5

Deluxe Flexible Spine

Additionally to all features of the Classic Spine Series our Deluxe Spine has a sacral opening and exposed brainstem for advanced studies. Other features are:

- Full pelvis and occipital plate
- Fully flexible mounting
- L3-L4 disc prolapsed
- Spinal nerve exits
- Cervical vertebral artery
- Male pelvis
- Cauda equine

Stand is not included, please see A59/8.
74 cm; 1.8 kg

A56/2

Classic Flexible Spine with Ribs and Femur Heads

All other features as A56.
83 cm; 3.0 kg

A58/4

Classic Flexible Spine with Female Pelvis

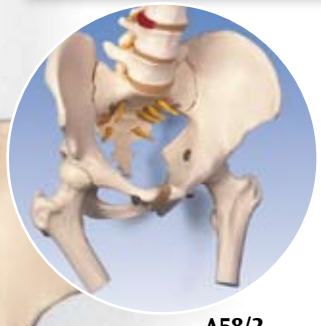
All other features as A58/1.
74 cm; 1.8 kg

A58/6

Deluxe Flexible Spine with Femur Heads

All other features as A58/5.
83 cm; 2.1 kg

3B BONE*like*™ Vertebral column See A794 on page 23



A58/1

Classic Flexible Spine

Our most popular spine for patient education is also our most affordable. Fully flexible and designed for hands-on demonstrations. Contains these features:

- Full pelvis and occipital plate
- Fully flexible mounting
- L3-L4 disc prolapsed
- Spinal nerve exits
- Cervical vertebral artery
- Male pelvis

Stand is not included, please see A59/8.
74 cm; 1.8 kg

A58/2

Classic Flexible Spine with Femur Heads

Same features as A58/1, additionally with femur heads.
83 cm; 2.1 kg

A59/8

Multifunctional Spinal Column Stand, 3-part

Unique worldwide:

- Can be placed on the floor
- Mounted on a wall!
- Made of nickle-plated steel

Pelvic Skeleton, female
See A61 on page 49.

Vertebral Column

A18/21

A58/8

A59/1

A59/2

VB84

A58/7

A18/21

Mini Vertebral Column, elastic, on stand

Model with squama occipitalis and pelvis. The vertebral column is mounted flexibly to demonstrate natural movements and pathological changes. On a detachable stand.
44 cm; 0.35 kg

A18/20

Mini Vertebral Column, elastic

As A18/21, but without stand.
40 cm; 0.25 kg

A59/1

Lifetime Flexible Spine

The last spine you will ever need! With male pelvis, occipital plate, vertebral artery, spinal nerve exits and a dorsalateral disc prolapse between the 3rd and 4th lumbar vertabrae. Specially mounted on a flexible hose adding extra stability. Ideal for regular active use, such as in schools. Stand is not included, please see A59/8.
74 cm; 1.4 kg

A59/2

Lifetime Flexible Spine with Femur Heads

All other features as A59/1
83 cm; 2.3 kg

A58/8

Didactic Flexible Spine

This superb new didactically painted spinal column has the same anatomical features as the A58/1. Differentiated by colour are the 5 different sections of the spinal column:

- 7 cervical vertebrae
- 12 thoracic vertebrae
- 5 lumbar vertebrae
- Sacrum
- Coccyx

Use this spinal column for simplified patient education or for lessons in a classroom environment where the didactical colours help to immediately reinforce the explanation, even from a distance. Stand is not included, please see A59/8.
74 cm; 1.9 kg

VB84

Flexible Spine with Soft Intervertebral Discs

Soft Discs for greater realism. This unique spine shows how the discs deform during normal and abnormal positioning. Use it to demonstrate any number of pathological conditions such as scoliosis, lordosis, kyphosis or subluxations. Herniation can be demonstrated with compression. In addition, the special mounting allows unobstructed viewing during demonstration and display. Includes dura mater of spinal cord and spinal nerves. Delivered on removable stand.
105 cm; 5.0 kg

A58/7

Deluxe Flexible Spine with Femur Heads and Painted Muscles

Painted spines add a new dimension to demonstrations. Muscle origins (red) and insertions (blue) are painted on left innominate, femur and vertebrae. For further information see A58/5.
83 cm; 2.1 kg
📖 L/D/E/F/S/P/I/J www.

A58/9

Didactic Flexible Spine with Femur Heads

All other features as A58/8.
82 cm; 2.1 kg

A52

NEW

A52

3B BONE*like*™ Human Child Vertebral Column

The unique material of the model makes it almost indistinguishable visually from a real vertebral column.
This model is particularly useful for studying the phase of bone growth characteristics for the developmental stage of a 5-year-old.
This includes:

- Vertebrae - partially still incomplete development of vertebral bodies and vertebral arches.
- Sacrum – as yet incomplete fusion of individual sacral vertebrae. This commences at around the age of 15.
- Pelvis – still open Y cartilage as main growth plate of the acetabulum. The hip, pubic and ischial bone parts are not yet connected (didactically fixed with brackets in the model). These fuse around the age of 14-16.

This flexible, movable vertebral column including occipital bone, pelvis and sacrococcyx is mounted on a stand. Within the spinal canal, the spinal cord with cauda equina and exiting nerve roots are represented with flexible material.
14x9x51cm; 0,5kg

A72

Cervical Spinal Column
Consisting of, occipital plate, the 7 cervical vertebrae with intervertebral discs, cervical nerves, vertebral arteries and spinal cord. On flexible stand.
19 cm; 0.3 kg

A73

Thoracic Spinal Column
Consisting of the 12 thoracic vertebrae with intervertebral discs, thoracic nerves and spinal cord. On flexible stand.
32 cm; 0.5 kg

A74

Lumbar Spinal Column
Consisting of the 5 lumbar vertebrae with intervertebral discs, sacrum with flap, coccyx, spinal nerves and dura mater of spinal cord. On flexible stand.
34 cm; 0.6 kg

A71/5

Atlas and Axis, with Occipital Plate
Assembled, on removable stand

A71/1

Atlas and Axis
Assembled, on removable stand

A70/6

Sacrum and Coccyx
Assembled

A75

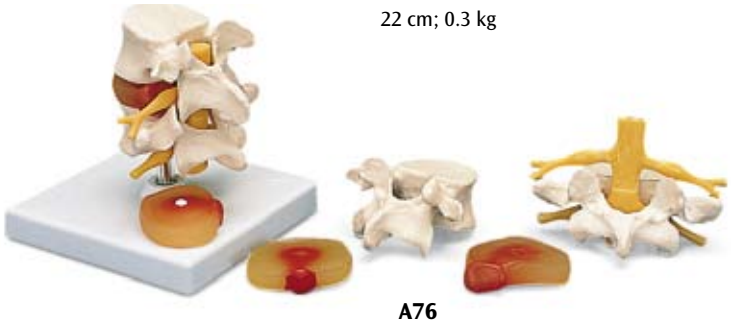
6 Mounted Vertebrae
Consisting of atlas, axis, another cervical vertebra, two thoracic vertebrae with inter-vertebral discs and one lumbar vertebra. On removable stand.
22 cm; 0.3 kg

A75/1

5 Vertebrae (not shown)
Atlas, axis, cervical, thoracic and lumbar vertebrae. Loosely threaded on nylon.

A71

Atlas and Axis (not shown)
Assembled, no stand



W19007

Lifting Demonstration Figure
Demonstrates graphically the effects of correct and incorrect lifting techniques on the spinal column.
28x21x21.5 cm; 1.4 kg
📖 **E**

A76

Lumbar Spinal Column with Prolapsed Intervertebral Disc
2 lumbar vertebrae with spinal nerves, dura mater of spinal cord and 2 replaceable dorso-lateral prolapsed discs between the 4th and 5th lumbar vertebrae. On stand, removable.
13 cm; 0.27 kg

3B BONE*like*™ *Vertebrae*

Worldwide unique, original cast of human vertebrae with precise illustration of even the finest anatomical structures, shown with excellent quality.

- *Feels and looks like real bones.*
- *Realistic weight.*
- *Excellent real bone substitutes for medical teaching and patient consultation.*
- *Each vertebra is marked for identification (C1-7, T1-12 and L1-5).*

A794

3B BONE*like*™ Vertebral Column
Flexible, mounted, true-to-life model of the human vertebral column in excellent BONE*like*™ quality with exact reproduction of all anatomical details, based on real weight. Consists of the male pelvis and occipital bone. Occipital bone and atlas can be detached individually. Without stand, see A59/8, page 18.
85 cm, 1,5 kg

A793

Set of 24 BONE*like*™ Vertebrae
This set includes the 7 cervical, 12 thoracic and 5 lumbar vertebrae. Each vertebra is labeled for identification purposes (C1-7, T1-12 and L1-5). Supplied in a transport and storage case with individual compartments for all 24 vertebrae.
41x40x12 cm; 2.4 kg

unique!
BONElike™

A793

A792

A790

A794

A790

Set of 7 3B BONE*like*™ lumbar vertebrae
Supplied on a base.
30x21x6 cm; 0.3 kg

A792

Set of 5 3B BONE*like*™ cervical vertebrae
Supplied on a base.
30x21x6 cm; 0.3 kg

"It is a unique reproduction of a bone that cannot be distinguished from a real one. One of my staff members, a world renowned bone specialist, was not able to distinguish the vertebra from a real one. I wish your company much success with your excellent artificial preparations." (Prof. Dr. Dr. h.c. Horst Erich König, Director of the Institute for Anatomy at the University of Veterinary Medicine, Vienna)

"In the first moment, I actually believed it was real bone! My compliments, the material has excellent tactile feel." (Dr. med. Yvonne Kammerer, Institute of Anatomy of the University of Regensburg, Germany)

"I am convinced that you have developed the best bone ever created by man." (Professor Vladimir Ovcharov, MD, DSc Rector of Medical University – Sofia)

A795

Stages of Disc Prolapse and Vertebral Degeneration

This model provides a very graphic comparative illustration of lumbar vertebrae with intervertebral discs in a healthy vs. degenerated condition. Intervertebral disc degenerations are shown both in the form of protrusion and prolapse and of changes to the vertebra. The model can be disassembled into its components (vertebral bodies, intervertebral discs and spinal nerves).
22 cm; 0.5 kg

W47500

4-Stage Degenerative Lumbar Set

An exceptional model demonstrating bone and disc degeneration. The vertebrae pairs (L4, L5) demonstrate from left to right: a normal disc and bone; Facet Syndrome and a herniated disc; thinning disc and the beginning of bone spurring; a seriously degenerated disc with bone fusing. Mounted on base. 8.5 cm, 0.5 kg
📖 **E**

A78

Deluxe Osteoporosis Model (3 Vertebrae)

Consisting of 3 medially divided lumbar vertebrae with intervertebral discs. For comparison, the upper section shows healthy bone structure, the middle section osteoporotic bone structure and the lower section advanced osteoporotic bone structure with flattened plates, deformation and decreased mass. For detailed study the vertebrae can be removed from the stand.
16 cm; 0.25 kg

A76/5

Lumbar Spinal Column with Dorso-lateral Prolapsed Intervertebral Disc

between the 3rd and 4th lumbar vertebrae. On stand, removable.
34 cm; 0.55 kg

A76/8

3 Lumbar Vertebrae, flexibly mounted

Anatomically correct in every single detail. Flexibly mounted with spinal nerves and dura mater of spinal cord.
11 cm; 0.15 kg

A76/9

2 Lumbar Vertebrae with Prolapsed Disc, flexibly mounted

With spinal nerves and dura mater of spinal cord.
7.4 cm; 0.15 kg

A89

Sectional Knee Joint Model, 3-part

This model can be used to demonstrate various disorders of the human knee joint and their respective therapies in a graphic way. The model shows a natural-sized, healthy right knee joint in upright position, including parts of the femur, tibia and fibula as well as the ligament system and the patella with part of the femoral tendon. The patella and attached tendon and the front half of the model (which is frontally sectioned) can be detached. Mounted on base.
12x12x24 cm; 0.5 kg
📖 **L/E/D/S/F/P/I/J www.**

W19006

Sectional Knee Joint

Longitudinal section of the human knee joint. Bone structure, meniscus, joint cartilage, synovial membrane and joint ligaments are shown in colour.
18.5x8.5x5 cm; 0.3 kg
📖 **E**

A880 A882

A880

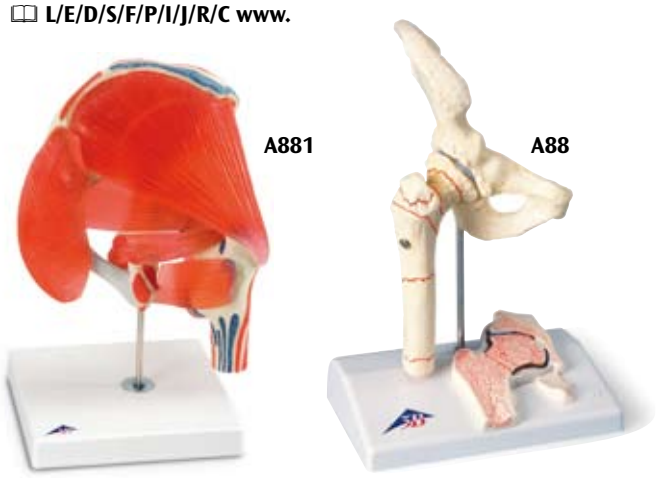
Shoulder Joint with Rotator Cuff, 5-part

This model comprises the upper half of the humerus, the clavicle and the shoulder blade. The muscles of the rotator cuff are displayed and the sites of origin and insertion of the shoulder muscles are highlighted in colour (origin = red; insertion = blue). By removing the individual muscles, all movements of the shoulder joint can be performed. Mounted on a stand.
18x18x24cm; 0.85kg
📖 **L/E/D/S/F/P/I/J www.**

A881

Hip Joint, 7 part

This unique model shows the right hip joint of a male with the individual muscles as well as the muscle origins and insertions on the femur and the hip bone. For educational purposes, the origin and insertion areas of the muscles have been raised and presented in colour (muscle origin = red; muscle insertion = blue). The hip muscles have been mounted on their corresponding regions of origin and insertion and are thus removable.
18x32x18cm
📖 **L/E/D/S/F/P/I/J/R/C www.**



A881 A88

A882

Knee Joint, 12-part

Completing our set of joints and their muscles we are proud to introduce this 12-part knee model. It shows different removable muscles and muscle portions of the knee area. Colour coded and raised areas indicate the muscle origin and insertion points on the femur, tibia, and fibula. In addition parts of the fibular and tibial collateral ligaments are represented. All the muscles of the leg are easily removable to permit study of the deeper anatomical layers.
33x17x17 cm, 0,9 kg
📖 L/D/E/F/I/S/P/J/R/C www.

A883

Elbow Joint, 8 parts

This model shows the right elbow of a male with individual muscles and the muscular origins and insertions on humerus, radius and ulna. For didactic reasons, the areas of the muscular origins and insertions are raised and colour-coded (origin = red, insertion = blue). The muscles can be attached to and removed from the corresponding areas of origin and insertion. 25x41x25 cm
📖 **E/D/S/F/P/I/J www.**

A88

Femoral Fracture and Hip Osteoarthritis

This model was developed to provide patients with understandable information, e.g. before surgery. It shows the right hip joint of an elderly person in half natural size. In addition, a frontal section through the femoral neck is shown in relief on the base. The model shows the femoral fractures that occur most commonly as well as typical wear and tear symptoms of the hip joint. The following fractures are shown:
Medial femoral neck fracture, Lateral femoral neck fracture, Fracture through the trochanteric region, Fracture below the trochanters, Femoral shaft fracture, Femoral head fracture, Fracture of the greater trochanter, Fracture or avulsion of the lesser trochanter, Mounted on base.
14x10x22 cm; 0.3 kg
📖 **E/D/S/F/P/J www.**

W47002

Sports Shoulder

Includes upper half of humerus, clavicle and scapula. Articulated to show normal movement. Depicts the following:
- M. supraspinatus,
- Long head tendon,
- Glenoid labrum,
- Rotator cuff

Stand included.
23x17x12 cm; 0.4 kg
📖 **E**

W47007

Deluxe Knee

Distal half of femur articulated to tibia, fibula and patella. Depicts all major muscles of the knee. Cruciate/collateral ligaments simulated with triple springs. Simulated “Bucket Handle” tear in medial meniscus. Patellar tendon simulated. Stand included.
33x12x12 cm; 0.7 kg
📖 **E**

A883 W47002 W47007

A80 A82 A81 A83

3B Scientific® Joint Series

These functional models provide a graphic demonstration of the anatomy and mechanics of the major joints, allowing better doctor-patient or teacher-student understanding. Use these life-size and fully flexible joints to demonstrate abduction, anteversion, retroversion, internal/external rotation and much more. On stand.

A80
Functional Shoulder Joint
Consists of shoulder blade, collar bone, portion of humerus and joint ligaments.
16x12x20 cm; 0.35 kg

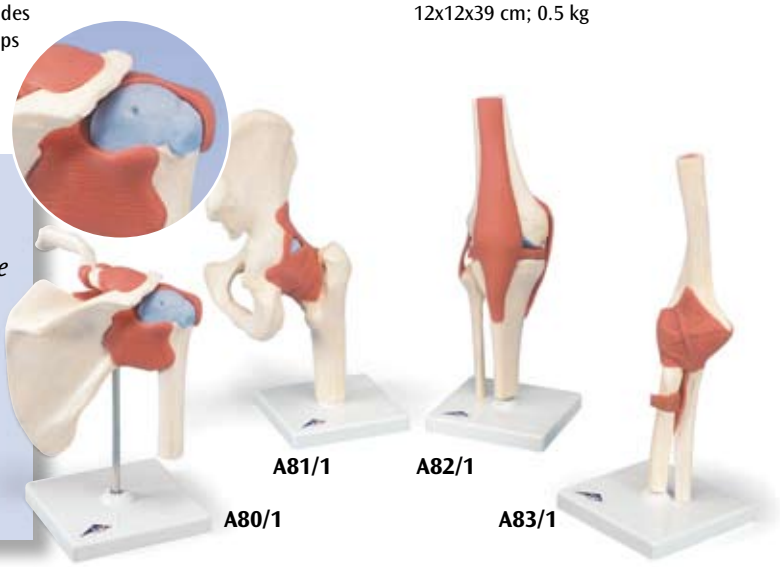
A82
Functional Knee Joint
Consists of portion of femur, tibia and portion of fibula; also includes meniscus, patella with quadriceps tendon and joint ligaments.
12x12x34 cm; 0.4 kg

A81
Functional Hip Joint
Consists of portion of femur, hip bone and joint ligaments.
17x12x33 cm; 0.55 kg

A83
Functional Elbow Joint
Consists of portion of humerus, complete ulna and radius as well as joint ligaments.
12x12x39 cm; 0.5 kg

3B Scientific® Deluxe Functional Joint Models

These high quality functional models of a naturally-sized right joint with ligaments shows the anatomy and possible physiological movements (e.g. abductions, anteversion, retroversion, internal and external rotation) in exceptional detail. The colour of the natural-cast bones is extremely realistic. The cartilage on the joint surfaces is marked blue. Mounted on a base.
L/E/D/S/F/P/I/J



A81/1 A82/1 A80/1 A83/1

A80/1
Deluxe Functional Shoulder Joint Model
Consists of shoulder blade, collar bone and upper arm stump. Mounted on a base.
22 cm; 0.41 kg

A81/1
Deluxe Functional Hip Joint Model
Consists of thigh stump and hip bone. Mounted on a base.
32 cm; 0.56 kg

A82/1
Deluxe Functional Knee Joint Model
Consists of thigh stump, shinbone stump and calf bone stump, menisci and patella. Mounted on a base.
32 cm; 0.55 kg

A83/1
Deluxe Functional Elbow Joint Model
Consists of a stump of the upper arm, ulna and radius. Mounted on a base.
33 cm; 0.285 kg

A87/1 A85/1 A84/1 A86/1

3B Scientific® Mini Joint Series

Following in the footsteps of their successful larger brothers, these mini-joints have been reduced to a half of their natural size but have kept all of their functionality. In addition to the external anatomical structures, using the superb new joint cross-sections mounted on base, the medical or teaching professional now has the ability to explain what is happening from "within".

A84/1
Mini Hip Joint with Cross Section
With base.
16x12x20 cm; 0.2 kg

A87/1
Mini Elbow Joint with Cross Section
With base.
16x12x20 cm; 0.2 kg

A85/1
Mini Knee Joint with Cross Section
With base.
10x14x24 cm; 0.35 kg

A86/1
Mini Shoulder Joint with Cross Section
With base.
12x14x16 cm; 0.2 kg

Also available without base:

A84
Mini Hip Joint
16,5x8,5x9 cm; 0.1 kg

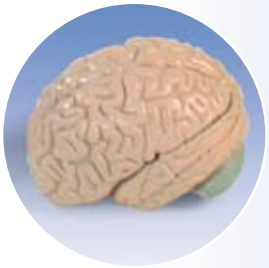
A86
Mini Shoulder Joint
12x10x5 cm; 0.05 kg

A85
Mini Knee Joint
20x6,5x5 cm; 0.13 kg

A87
Mini Elbow Joint
17.5x4x3.5 cm; 0.05 kg

Something Very Special

Items VA01, VA16 as well as VA20 (page 39), VA30 and VA31 (page 34) were developed in the teaching aid workshops of the German Museum of Hygiene in Dresden, a world-renowned institute of medical training and information.



VA01

Life-size Male Muscular Figure, 37-part

This sophisticated model shows the deep and superficial musculature in great detail. The extraordinary accuracy makes this masterpiece a unique tool for teaching even in large lecture halls. Following parts can be removed and studied in detail: skull cap, 6-part brain, eyeball, breast and abdominal wall, both arms, 2-part larynx, 2 lungs, 2-part heart, diaphragm, 2-part stomach, liver with gall bladder, kidney, whole intestine system, bladder half, 2-part penis, 10 muscles.
180x110x50 cm; 57.0 kg
🕮 **L/D/E/F/S**

VA16

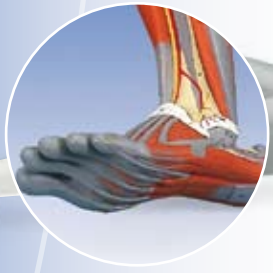
Life-Size Muscle Torso, 27-part

This is the muscle torso for particularly demanding studies, showing the deep and superficial muscles in great detail. With extraordinary accuracy and manufactured in life size, this masterpiece is a unique aid for anatomic demonstrations even in large lecture halls. The following parts can be removed for detailed studies: skull cap, 6-part brain, eyeball with optic nerve, chest/abdominal wall, 2-part larynx, 2 lungs, 2-part heart, diaphragm, 2-part stomach, liver with gall bladder, complete intestinal tract with appendix, front half of kidney, half urinary bladder, 4 muscles.
95x60x35 cm; 14.0 kg
🕮 **L/D/E/F/S**

VA16

VA01

VA01 disassembled



B50

B50

Dual Sex Muscle Figure, 45-part

The finest teaching tool available! Standing over 138 cm tall, this 3/4 life-size human replica depicts deep and superficial musculature in addition to the body's major nerves, vessels, tissues and organs in exquisite detail. The internal organs are removable (45 pieces in all) to reveal the fundamental inter-relationships of human morphology. Remove the calvarium to view the 3-part removable brain. Look beneath the liver to reveal the gall bladder and bile duct. Peer inside the appendix, stomach lungs, heart or kidney. Remove and view the details of 13 different muscles of the arms and legs. This dual sex version has interchangeable genital inserts and a female mammary gland as well as a detailed multilingual key card identifying the hand-numbered structures. Over 600 hand-numbered and identified structures. Hand-painted in realistic colours and mounted on a convenient roller base. Includes the following features:

- 5 arm/shoulder muscles
- 8 leg/hip muscles
- 2-part removable heart
- 5-part head including removable brain
- 2-part removable lungs
- 2-part stomach
- Removable 4-part male and 2-part female genital inserts
- Detachable arms, leg, head, and abdominal wall for detailed study

138x50x32 cm; 12.4 kg

🕮 **L/D/E/F/S/P/I/J www.**

B51

Female Muscle Figure, 23-part

This female muscle figure without internal organs, brain and male genital inserts provides the same quality characteristics as the model B50. This model consists of 23 parts, including 13 arm/leg muscles. Remove the calvarium to view the 3-part removable brain. Hand-painted in realistic colours and mounted on a convenient roller base, there is simply no finer reproduction available! Includes the following features:

- 5 arm/shoulder muscles
- 8 leg/hip muscles
- Detachable arms, leg, head and abdominal wall for detailed study

138x45x32 cm; 11.2 kg

🕮 **L/D/E/F/S/P/I/J www.**

B55

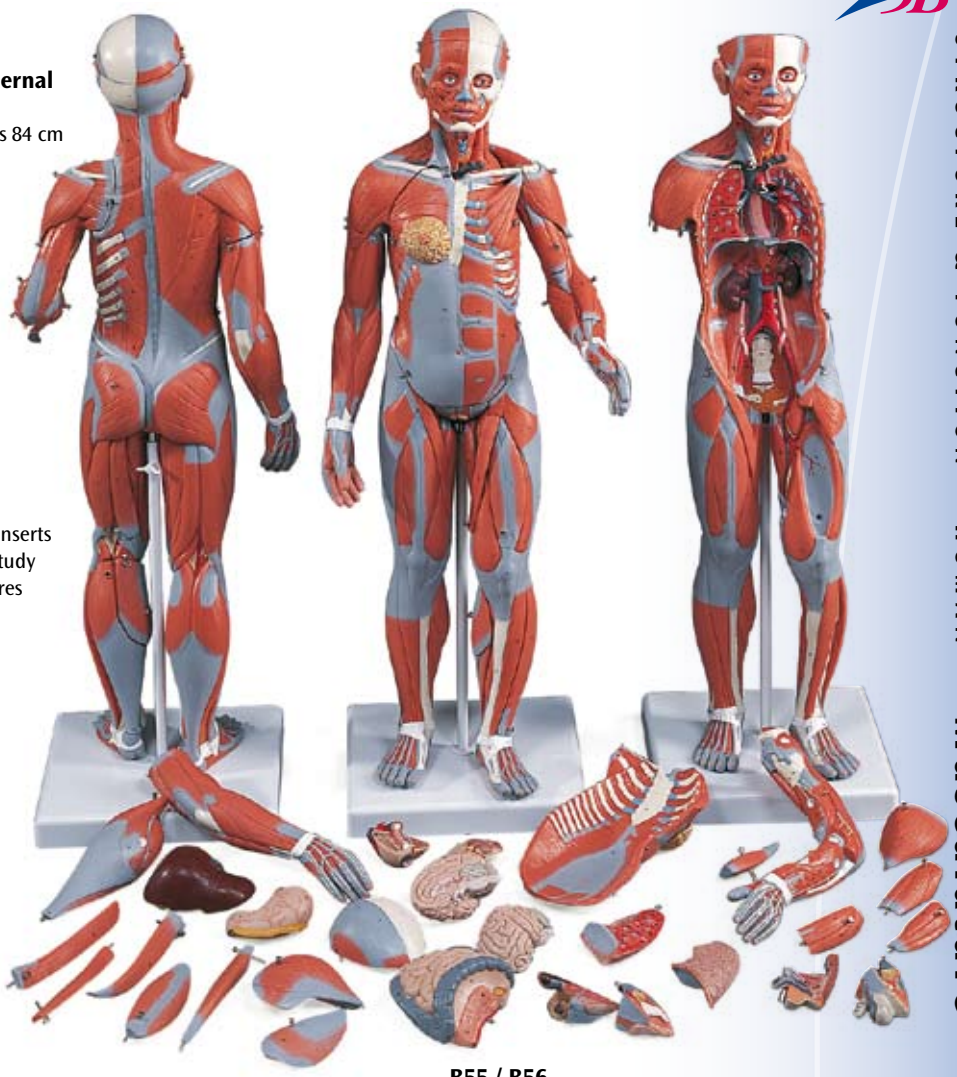
Complete Dual Sex Muscular Figure, with internal organs, 33-part

The whole human anatomy in a convenient size. This 84 cm high version of our deluxe muscle figure is a perfect choice for thorough demonstrations of human musculature and internal organs where space is an issue. Exquisitely hand-detailed and complete with 33 removable and/or dissectible parts, this version represents fine quality at a more affordable price. Handpainted in realistic colours, this model comes complete with stand and detailed multi-lingual product manual. It includes the following features:

- 5 arm/shoulder muscles
- 8 leg/hip muscles
- 2-part removable heart
- 2-part removable brain
- 2 Removable lungs
- Removable 2-part male and 2-part female genital inserts
- Detachable arm and abdominal wall for detailed study
- Almost 400 hand-numbered and identified structures

84x30x30 cm; 5.0 kg

📖 **L/D/E/F/S/P/I/J www.**



B55 / B56

B56

Complete Female Muscular Figure, 21-part

The whole human anatomy in a convenient size without internal organs or male genital inserts for where space is an issue. This model comes complete with stand and detailed multilingual product manual. It includes the following features:

- 5 arm / shoulder muscles
- 8 leg / hip muscles
- Detachable arm and abdominal wall for detailed study
- Over 400 hand-numbered and identified structures

84x30x30 cm; 5.0 kg

📖 **L/D/E/F/S/P/I/J www.**

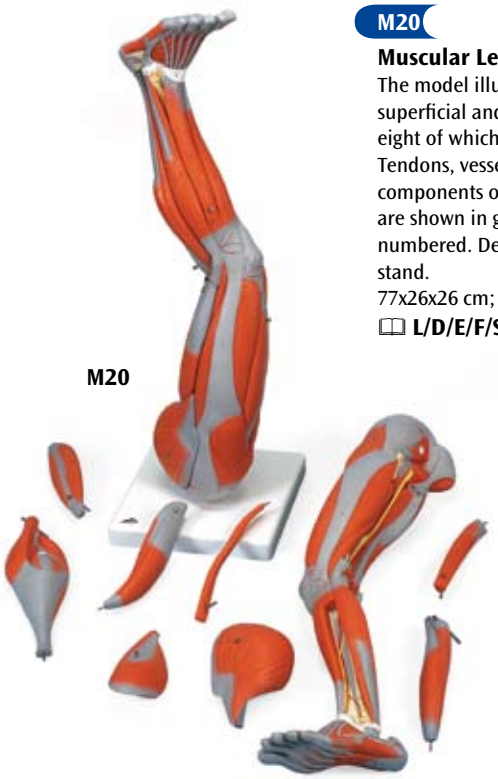
M20

Muscular Leg, 9-part

The model illustrates both the superficial and deeper muscles, eight of which are removable. Tendons, vessels, nerves and bone components of the left leg and foot are shown in great detail. Parts numbered. Delivered on removable stand.

77x26x26 cm; 4.0 kg

📖 **L/D/E/F/S/P/I/J www.**



M20

B59

Mini-Muscular Figure, 1/3 life-size, 2-part

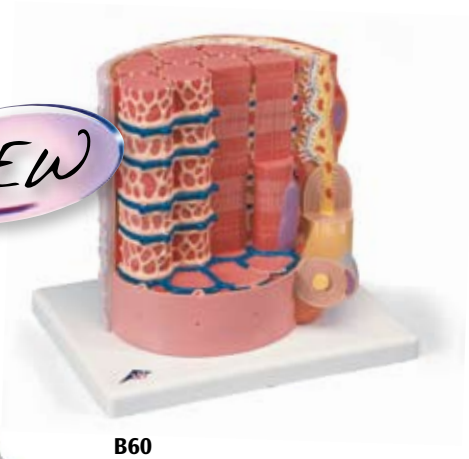
Mini muscle model's (57 cm) appeal is its value for money. All the superficial musculature of the human form is accurately reproduced and detailed in life like colours in this desktop size version. The chest plate is removable to reveal the internal organs and the right side contains a female mammary gland. Over 125 hand-numbered and identified structures. Delivered on base. 57x25x18 cm; 2.1 kg

📖 **L/D/E/F/S/P/I/J www.**

B59

M21

M22



NEW

B60

M21

Muscular Leg, 7-part
This life-size model can be disassembled into upper and lower leg. The following muscles can be detached:
- Sartorius muscle
- Gluteus maximus muscle
- Rectus femoris muscle
- Long head of biceps femoris muscle with semitendinous muscle
- Gastrocnemius muscle

Supplied on base.
100 cm; 7.0 kg
📖 **L/D/E/F/S/P/J www.**

M22

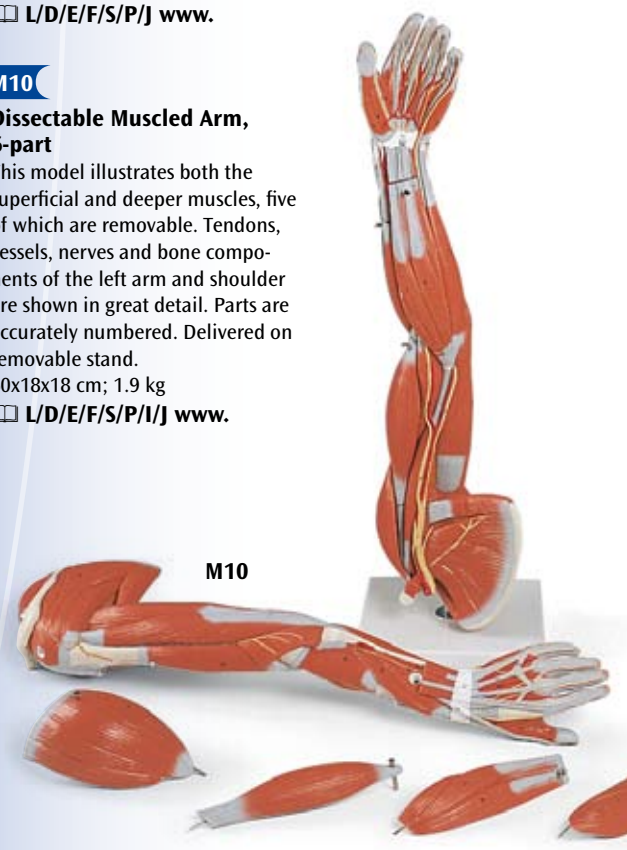
Lower Muscled Leg with Knee, 3-part
This life-size model can be divided horizontally at the knee joint for viewing the joint structures. The gastrocnemius muscle can be detached. Supplied on a base.
58 cm; 2.6 kg
📖 **L/D/E/F/S/P/J www.**

B60

3B MICRO*anatomy*™ Muscle Fibre
The model illustrates a section of a skeletal muscle fibre and its neuromuscular end plate magnified approx. 10,000 times. The muscle fibre is the basic element of the diagonally striped skeletal muscle.
23.5x26x18.5 cm; 1.1 kg
📖 **L/E/D/S/F/P/I/J**

M10

Dissectable Muscled Arm, 6-part
This model illustrates both the superficial and deeper muscles, five of which are removable. Tendons, vessels, nerves and bone components of the left arm and shoulder are shown in great detail. Parts are accurately numbered. Delivered on removable stand.
60x18x18 cm; 1.9 kg
📖 **L/D/E/F/S/P/I/J www.**



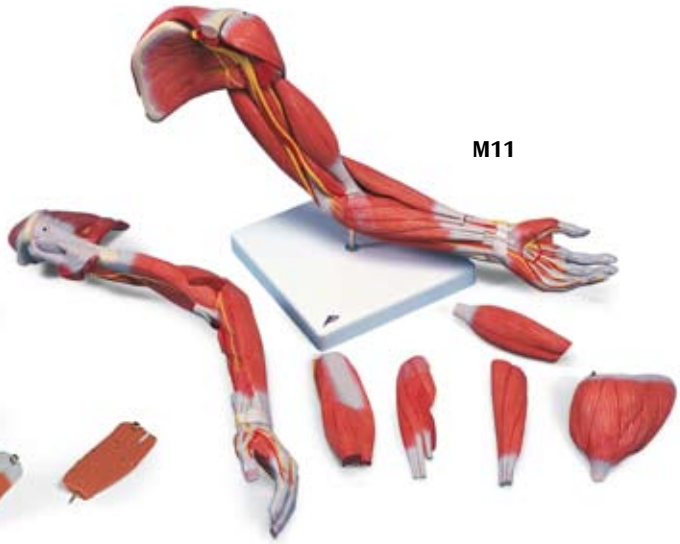
M10

M11

Muscular Arm, 6-part
The following muscles can be detached in this life-size model:
- Deltoid muscle
- Biceps muscle of arm
- Triceps muscle of arm
- Long palmar muscle with radial flexor muscle of wrist
- Brachioradial muscle with radial extensor muscle of wrist

Supplied on base.
70 cm; 3.0 kg
📖 **L/D/E/F/S/P/J www.**

Good to combine:
- M10 with M20
- M11 with M21 / M22



M11

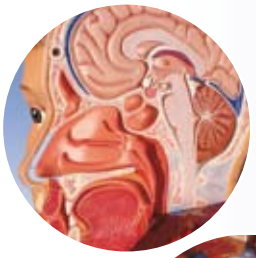
B53

3B Scientific® Life-Size Dual Sex European Muscular Figure, 39-part

This life-size, high-quality model represents a wide variety of human anatomical structures in accurate detail. It is therefore especially suitable for the high demands of medical school. The right half shows the skin, the left half the superficial and more profound muscles with nerves, vessels and bony structures. The versatility of this model, which is also aesthetically designed, is rounded off by the accurate representation of the internal organs. Its components are:

- 2-part head
- Brain half
- Sternocleidomastoideus muscle
- 6-part muscle arm (detachable: deltoid muscle, biceps muscle of arm, triceps muscle of arm, long palmar muscle with radial flexor muscle of wrist, brachioradial muscle with radial extensor muscle of wrist)
- 5-part upper leg (detachable: sartorius muscle, gluteus maximus muscle, rectus femoris muscle, long head of biceps femoris muscle with semitendinous muscle)
- 2-part lower leg (detachable: gastrocnemius muscle)
- Chest/abdominal wall with detachable mammary gland
- Torso body with skin arm and leg
- 2 lung halves
- 2-part heart
- Liver with gall bladder
- 2-part stomach
- Half kidney
- 4-part intestine set
- 3-part female genital insert with embryo
- 4-part male genital insert

Includes the 3B ANATOMY*trainer*™ and 3B MUSCLE*trainer*™ (page 164) study programs on CD-ROM and a CD-ROM with illustrations and descriptions of the individual structures. Supplied with wooden roller base and assembly instructions.
174 cm; 28 kg
🕮 **L/D/E/F/S/P/J**





B53

B52

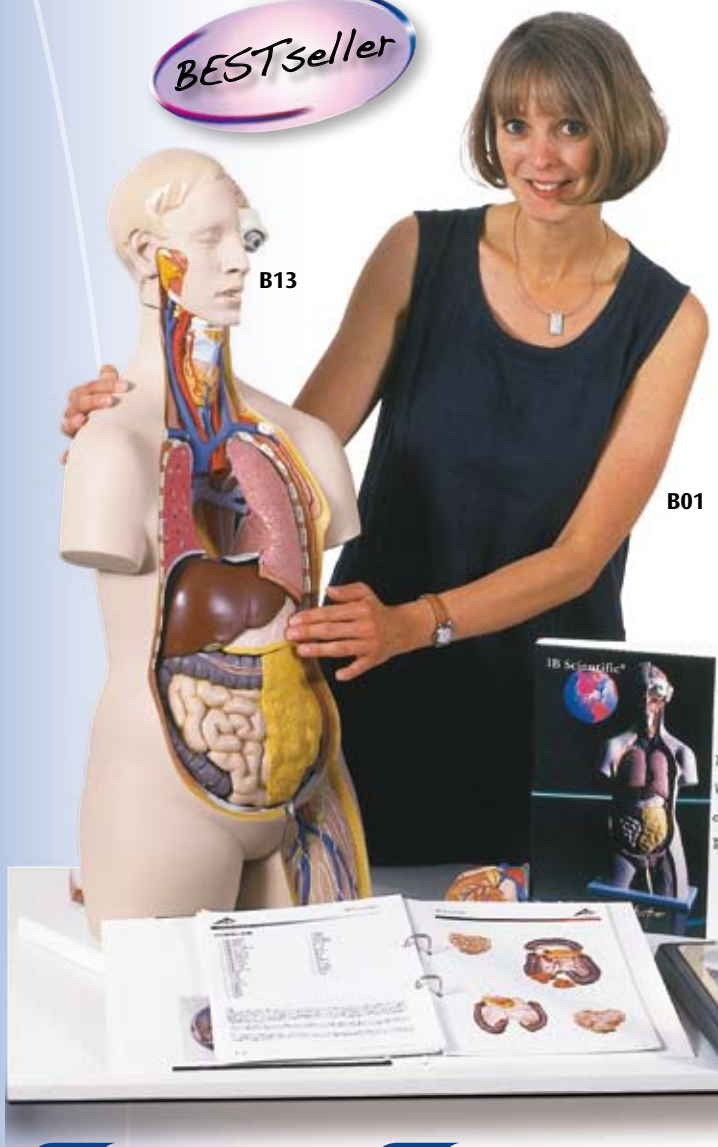
B52

3B Scientific® Life-Size Dual Sex Asian Muscular Figure, 39-part

Provides all quality characteristics and components of the 3B Scientific® Muscular Figure B53, but with asian facial features.
174 cm; 28 kg
🕮 **L/D/E/F/S/P/J**

You are now entering the fascinating world of 3B Scientific® Torsos. Lying ahead of you is the wide variety supplied by the worldwide leader.

BESTseller



3B Scientific® Torsos

Whether Classic Series, Deluxe Series or one of the special versions, each 3B Torso has been:

- *Hand-painted true to detail*
- *Made of high-quality plastic*
- *Developed and modeled in Germany*

And in addition to your choice of Classic or Deluxe Torso you will receive our detailed 3B Scientific® Torso Guide (B01) including CD-ROM for free (as illustrated on this page).

B02

3B-Torso-Classroom-Set
Includes 33 brilliant overhead-foils with coloured pictures of each part of the torsos.

B13

Classic Unisex Torso, 14- part
This popular school torso is supplied with the following removable parts:
- 3-part head
- 2 lungs
- 2-part heart
- Stomach
- Liver with gall bladder
- 2-part intestinal tract
- Front half of kidney
- Front half of urinary bladder

Supplied with 3B Torso Guide.
87x38x25 cm; 5.9 kg

B12

Classic Unisex Torso, 11-part
(not shown)
Same as B13, but without head.
Supplied with 3B Torso Guide.
70x38x25 cm; 5.5 kg

B01

3B Torso-Guide
- Brilliant coloured pictures of each part of the torsos
- Even the smallest structures are explained
- Valuable teaching tips to create more interesting lessons
- Complete with 7 different languages (Latin, English, German, Spanish, Portuguese, French, Japanese)
- Also on a CD-ROM in pdf-format to assist in creating tests or preparing lessons
- Supplied complete in a coloured filing system.

B09

Classic Unisex Torso, 12-part
The following components of this torso are removable:
- 2-part head
- 2-part removable heart
- 2 lungs
- Stomach
- Liver with gall bladder
- 2-part intestinal tract
- Front half of kidney

Supplied with 3B Torso-Guide.
87x38x25 cm; 4.6 kg

B09/1

Classic Unisex Torso, 10-part
(not shown)
Same as B09, but without head.
Supplied with 3B Torso-Guide.
70x38x25 cm; 4.1 kg

BESTseller

B19

B19

Classic Unisex Torso with Opened Neck and Back, 18-part

Based on our B13 torso, this model is characterised by its open neck and back section reaching from the cerebellum to the coccyx. Vertebrae, intervertebral discs, spinal cord, spinal nerves, vertebral arteries, and many other features are represented in detail and can be studied closely. It contains the following new features additionally to B13:

- 7th thoracic vertebra removable
- 6-part head

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 5.8 kg

B11

Classic Unisex Torso, 16-part

This torso is especially popular among students. It shows the human anatomy in great detail and contains the following removable parts:

- 3-part head
- 2 lungs with sternum and rib attachments
- 2-part heart
- Stomach
- Liver with gall bladder
- 4-part intestinal tract
- Front half of kidney
- Front half of urinary bladder

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 6.8 kg

B11

Overview: Classic-Torsos

Page 32

Product Number	B09/1	B12	B09	B13	B11	B19	B17	B36	VA30	VA31
Parts	10	11	12	14	16	18	21	14	17	11
Open Back	-	-	-	-	-	yes	yes	-	yes	-
Head	-	-	2-part	3-part	3-part	6-part	6-part	1-part	2-part	1-part
Lungs	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Rib Representation	-	-	-	-	yes	-	yes	-	-	-
Heart	2-part	2-part	2-part	2-part	2-part	2-part	2-part	2-part	2-part	2-part
Stomach	1-part	1-part	1-part	1-part	1-part	1-part	2-part	1-part	2-part	2-part
Liver/Gall Bladder	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Intestinal Tract	2-part	2-part	2-part	2-part	4-part	2-part	4-part	1-part	1-part	1-part
Half Kidney	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Half Urinary Bladder	-	yes	-	yes	yes	yes	yes	yes	yes	yes

VA30

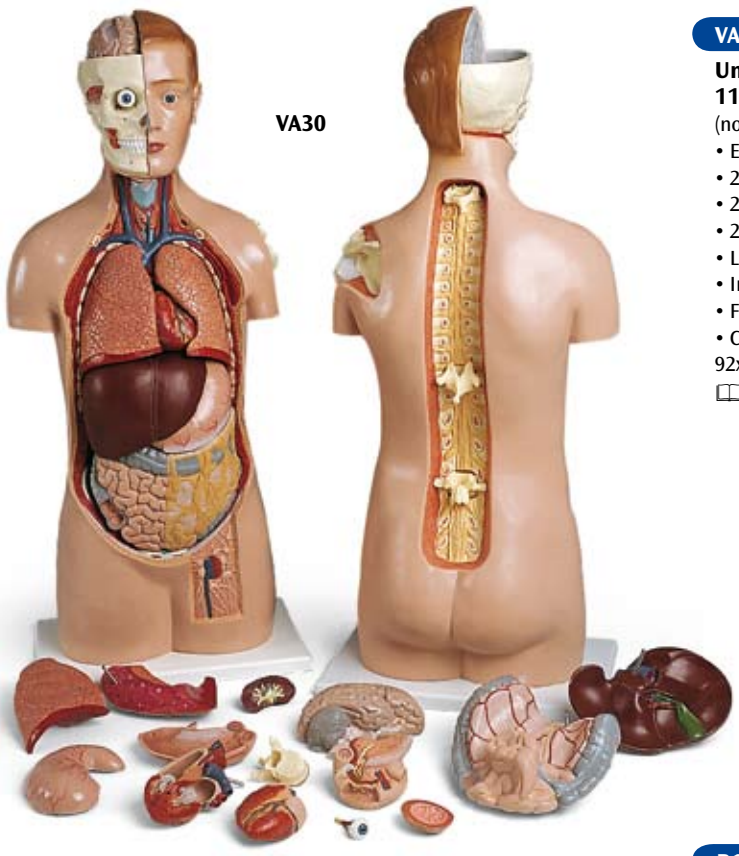
Unisex Torso with Fixed Head, Back and Shoulder Opened, 17-part

It's neck and back section is opened to reveal part of the shoulder blade and part of the humerus. The following parts are made of hard plastic and removable:

- Eyeball with optic nerve
- Brain half
- 2 lungs
- 2-part heart
- 2-part stomach
- Liver with gall bladder
- Intestinal tract
- Front half of kidney
- 1 cervical vertebra, 1 thoracic vertebra, lumbar vertebra
- Pancreas with duodenum
- Front half of bladder

92x42x25 cm; 13.6 kg

📖 **L/D/E/F/S**



VA30

VA31

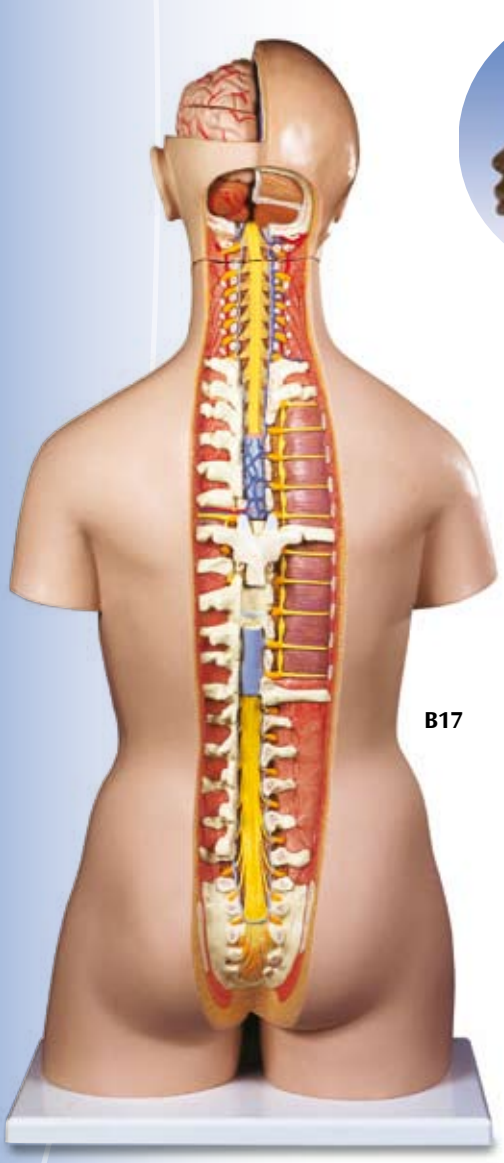
Unisex Torso with Fixed Head, 11-part

(not shown)

- Eyeball with optic nerve
- 2 lungs
- 2-part heart
- 2-part stomach
- Liver with gall bladder
- Intestinal tract
- Front half of kidney
- Closed back and shoulders

92x42x25 cm; 7.5 kg

📖 **L/D/E/F/S**



B17

B17

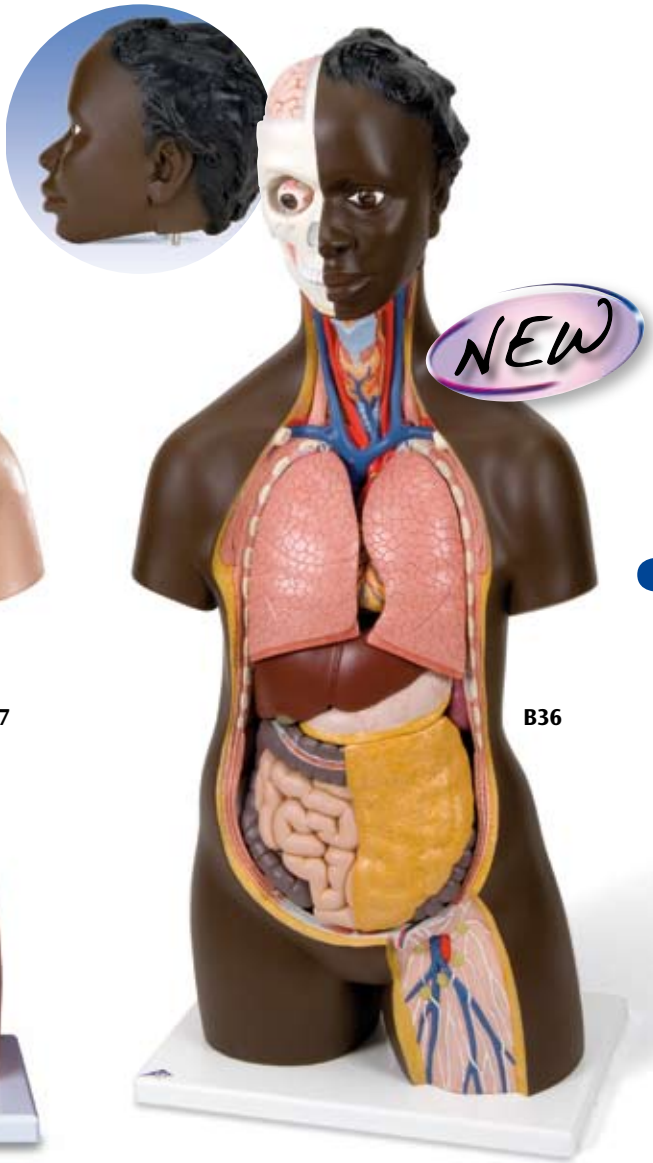
Classic Unisex Torso with Open Back, 21-part

This torso is based on the B11 version for students and is equipped with an open neck and back section going from the cerebellum to the coccyx. Vertebrae, inter-vertebral discs, spinal cord, spinal nerves, vertebral arteries, and many other features are represented in detail. This version contains the following new features in addition to B11:

- 7th thoracic vertebra removable
- 6-part head
- 2-part stomach

Supplied with 3B Torso Guide (page 32).

87x38x25 cm; 6.5 kg



B36

B36

African Unisex Torso, 14-part

This popular school torso is supplied with the following removable parts:

- 3-part head
- 2 lungs
- 2-part heart
- Stomach
- Liver with gall bladder
- 2-part intestinal tract
- Front half of kidney
- Front half of urinary bladder

Supplied with 3B Torso Guide (page 32).

87x38x25 cm; 5.9 kg

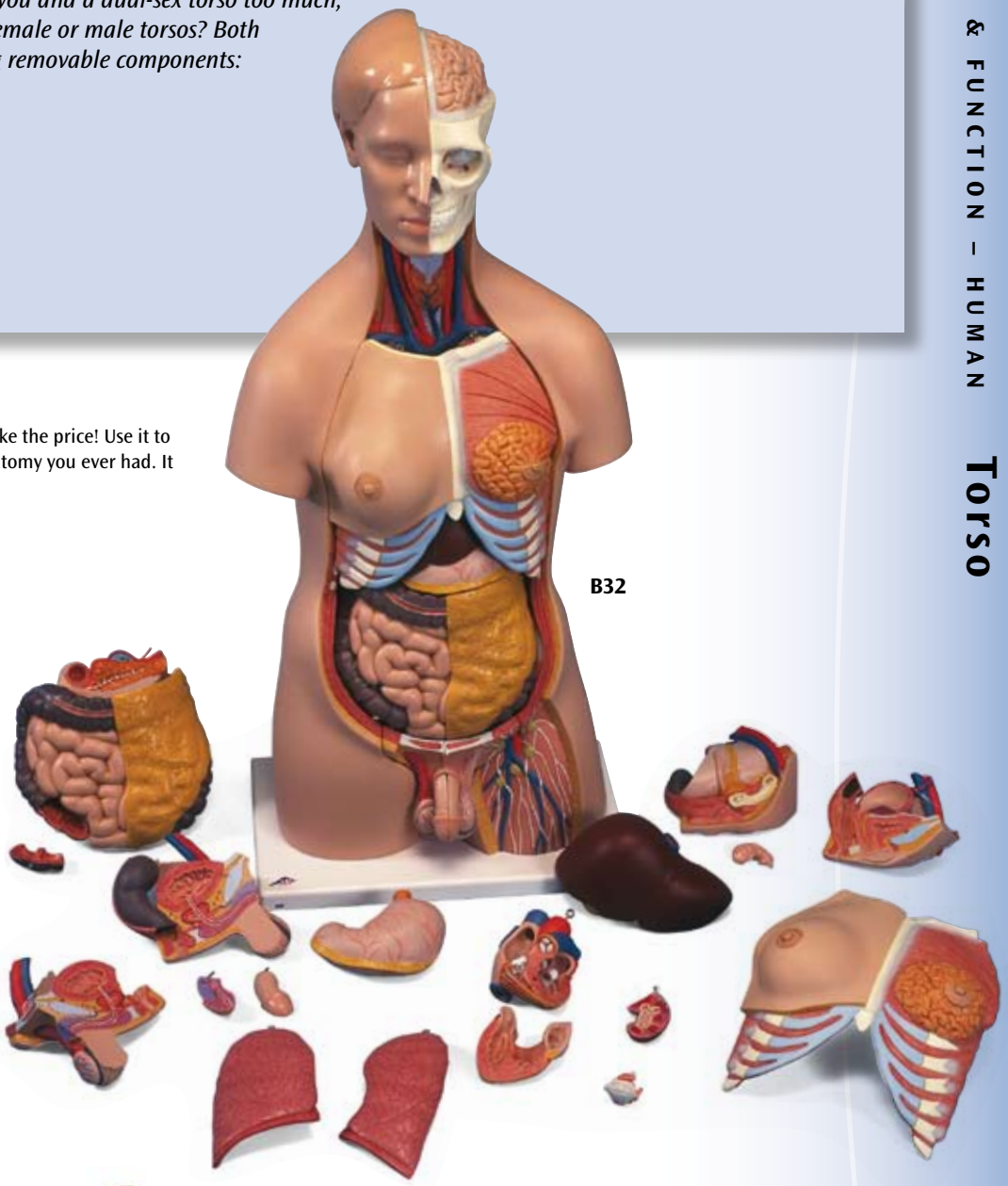
📖 **L/D/E/F/S/P/I/J/C/R www.**

Deluxe Torso Series

The 3B Scientific® Deluxe Torso Series offers all the options you need for detailed demonstrations. You receive 100% quality and a high standard of detailed manufacturing. In addition, all torsos of this series are equipped with male and/or female genital inserts, with a 3-month foetus in its correct intrauterine position.

If a unisex torso is not enough for you and a dual-sex torso too much, why don't you choose one of our female or male torsos? Both B08 and B15 contain the following removable components:

- *3-part head*
- *2-part heart*
- *2-part stomach*
- *Liver with gall bladder*
- *4-part intestinal tract*
- *Front half of kidney*



B32

B32

Deluxe Dual-Sex Torso, 20-part

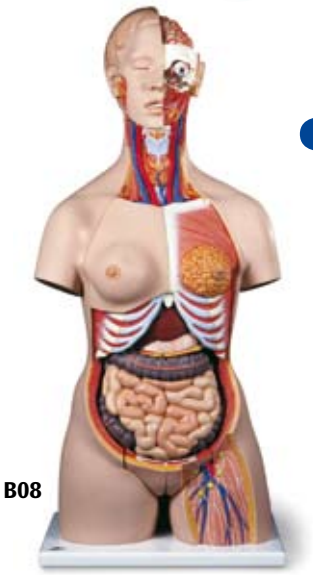
The quality of this torso is impressive, just like the price! Use it to answer all questions on internal human anatomy you ever had. It contains these removable components:

- 2-part head
- Female chest wall
- 2 lungs
- 2-part heart
- Stomach
- Liver with gall bladder
- 2-part intestinal tract
- Front half of kidney
- 4-part male genital insert
- 3-part female genital insert with embryo

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 7.3 kg

B15 closed

B15



B08

B15

Male Deluxe Torso, with Head, 20-part

Additionally featuring:

- 2 lungs with sternum and rib attachments
- 4-part male genital insert

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 7.2 kg

B08

Female Deluxe-Torso, 20-part

Additionally featuring:

- 2 lungs
- Female chest wall
- 3-part female genital insert with removable embryo

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 7.2 kg

B35 Back

B35

B35

Deluxe Dual Sex Torso with Opened Back, 28-part

This torso offers everything! Interchangeable male and female genital inserts, opened neck and back section to study vertebrae, intervertebral discs, spinal cord, spinal nerves, vertebral arteries etc., a deluxe head with a 4-part brain and much more. A detailed torso for advanced demonstrations. The following parts are removable:

- 7th thoracic vertebra,
- female chest wall
- 6-part head
- Female breast covering
- 2 lungs
- 2-part heart
- 2-part stomach
- Liver with gall bladder
- 4-part intestinal tract
- Front half of kidney
- 4-part male genital insert
- 3-part female genital insert with embryo

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 7.6 kg

Detail of shoulder

B40

Detail of lymph

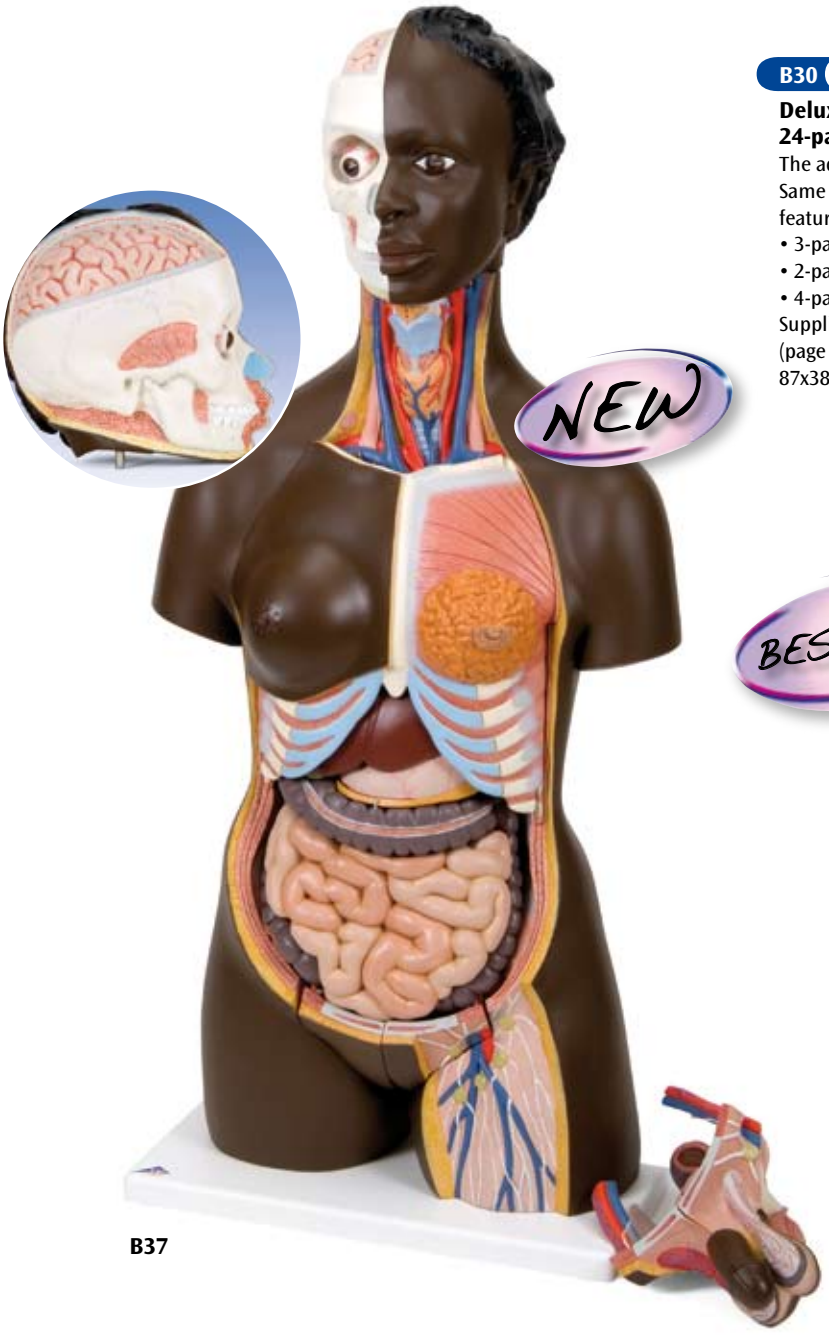
B40

Deluxe Dual-Sex Muscle-Torso, 31-part

With this unique torso you have the top notch in the field of anatomy. It depicts both the superficial and deep muscles, and the two main muscles, the deltoid and gluteus maximus can be removed for closer studies. You can also study the vertebrae, the spinal cord, spinal nerves and vertebral arteries, exchange the male and female genital inserts, investigate the internal structures of the brain etc. The following parts are removable:

- 6-part head
- chest and abdominal wall with muscles
- 7th thoracic vertebra
- Female mammary gland
- Gluteus maximus and deltoid muscle
- 2 lungs
- 2-part heart
- 2-part stomach
- Liver with gall bladder
- 4-part intestinal tract
- Front half of kidney
- 3-part female genital insert with embryo
- 4-part male genital insert

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 8.5 kg

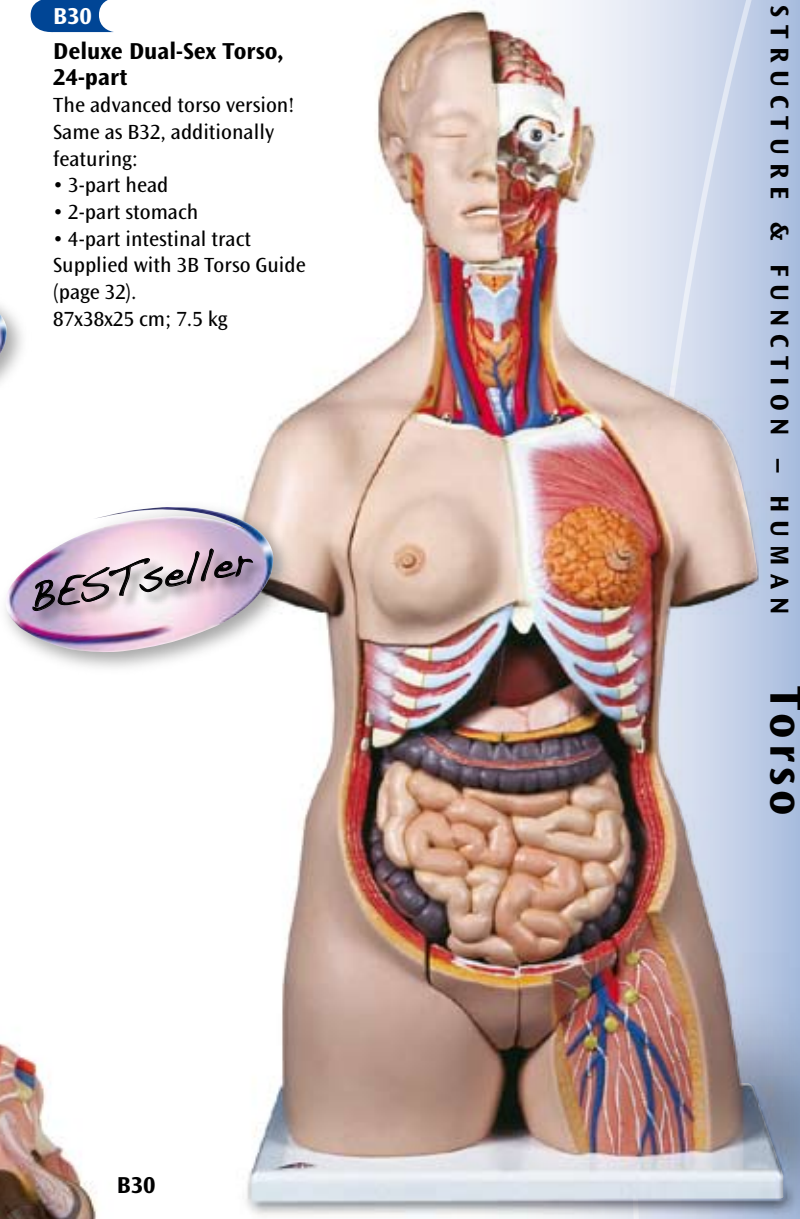


B37

B30

Deluxe Dual-Sex Torso, 24-part
The advanced torso version!
Same as B32, additionally featuring:
- 3-part head
- 2-part stomach
- 4-part intestinal tract

Supplied with 3B Torso Guide (page 32).
87x38x25 cm; 7.5 kg



B30

B37

African Dual-Sex Torso, 24-part
otherwise as B30
87x38x25 cm; 7,5 kg
📖 **L/D/E/F/S/I/J/R/C www.**

B32/4

Asian & Japanese Dual-Sex Torsos, 18-part
3B Scientific has developed two torsos especially for Asian schools. Both are judged as a "must" by the Japanese Ministry of Health for high-quality education. Choose between general Asian or specifically Japanese facial features, the internal organs are soft and identical in both versions:
- Head
- 2 lungs
- 2-part heart
- Stomach
- Liver with gall bladder
- 2-part intestinal tract
- Front half of kidney
- 3-part female genital insert with embryo
- 4-part male genital insert

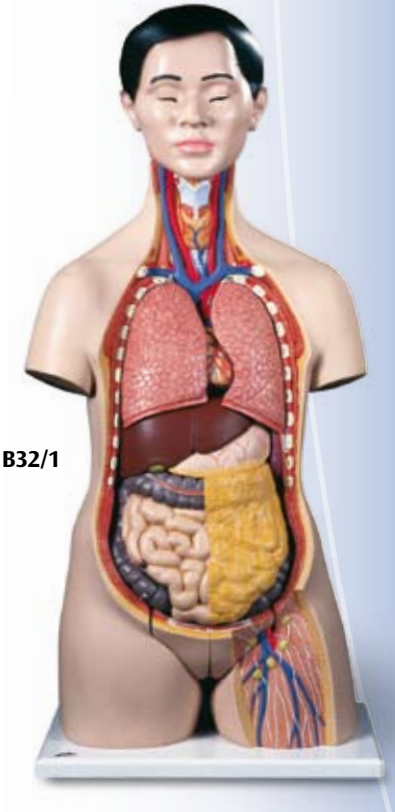
Supplied with 3B Torso Guide (page 32).
85x38x25 cm; 6,7 kg

B32/1

Asian Dual-Sex Torso, 18-part

B32/4

Japanese Dual-Sex Torso, 18-part



B32/1

B41

B42

B42

Deluxe Dual-Sex Torso with Muscular Arm, 33-part

A worldwide unique feature of this life-size torso is the removable 6-part muscle arm. The high-quality model therefore fully represents the anatomy of the complete human upper body. The right half shows the skin, the left half the superficial and deeper muscles with nerves, vessels and bony structures. The following parts are removable:

- 2-part head
- Brain half
- Sternocleidomastoideus muscle
- 6-part muscle arm, removable
- Upper leg stump
- Chest/abdominal wall with detachable mammary gland
- Torso body
- 2 lungs
- 2-part heart
- Liver with gall bladder
- 2-part stomach
- Kidney half
- 4-part intestinal tract
- 3-part female genital insert with embryo
- 4-part male genital insert

Supplied on base board and with 3B Torso Guide (page 32).
90x55x60 cm; 15.5 kg
📖 **L/D/E/F/S/P/J** in colour

B41

Asian Deluxe Dual-Sex Torso with muscular arm, 33-part

Same as B42, with Asian head.

Overview: Deluxe Torsos

Product Number	B08	B15	B30	B32	B32/1	B32/4	B35	B37	B40	B41	B42
Parts	20	20	24	20	18	18	28	24	31	33	33
Muscular arm	-	-	-	-	-	-	-	-	-	6-part	6-part
Open Back	-	-	-	-	-	-	yes	-	yes	-	-
Female Breast Covering	1-part	-	1-part	1-part	1-part	1-part	1-part	1-part	2-part	2-part	2-part
Head	3-part	3-part	3-part	2-part	1-part	1-part	6-part	3-part	6-part	3-part	3-part
Lung Halves	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Ribs Shown	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Heart	2-part	2-part	2-part	2-part	2-part	2-part	2-part	2-part	2-part	2-part	2-part
Stomach	2-part	2-part	2-part	1-part	1-part	1-part	2-part	2-part	2-part	2-part	2-part
Liver/Gall Bladder	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Intestine	4-part	4-part	4-part	2-part	2-part	2-part	4-part	4-part	4-part	4-part	4-part
Kidney Half	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Male Genitals	-	4-part	4-part	4-part	4-part	4-part	4-part	4-part	4-part	4-part	4-part
Female Genitals	3-part	-	3-part	3-part	3-part	3-part	3-part	3-part	3-part	3-part	3-part

VA20

Disc-Torso, 15 slices

This unique torso is horizontally sectioned into 15 slices. The topographical relationships are represented as coloured reliefs on the individual sectional planes. For closer study, each disc can be shifted horizontally, rotated around its sagittal axis, and individually removed.
130x40x35 cm; 11.5 kg
📖 **L/D/E/F/S**

B22

Mini-Torso 12-part

This torso is approximately half life-size. Even small hands can quickly disassemble it, removing:
- 2-head halves
- Brain half
- 2 lungs
- 2-part heart
- Stomach
- Liver with gall bladder
- 2-part intestinal tract

54x24x18 cm; 2.0 kg
📖 **L/D/E/F**

unique!

B20

Mini Torso without Head, 9-part

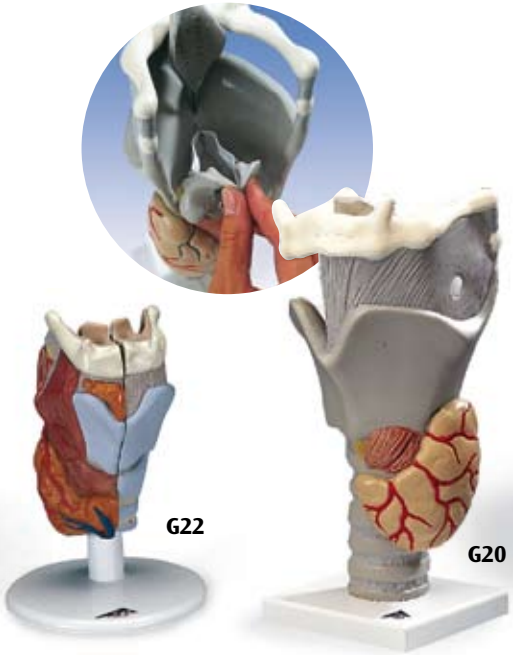
(not shown)
Same features as B22, but without a head.
42x24x18 cm; 1.9 kg
📖 **L/D/E/F**

BESTseller

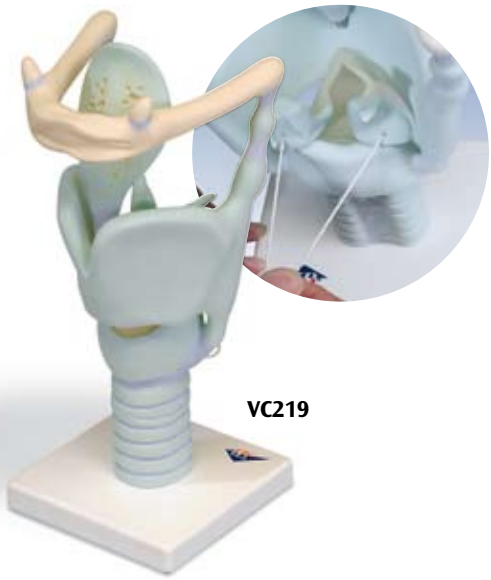
B22

VA20


G21


G22

G20


VC219

G21

Larynx, 2 times full-size, 7-part
This medially sectioned model shows:
- Larynx
- Hyoid bone
- Windpipe
- Ligaments
- Muscles
- Vessels
- Nerves
- Thyroid gland

Thyroid cartilage, 2 muscles and 2 thyroid gland halves are removable.
On stand.
12x12x23 cm; 0.8 kg
📖 **L/E/D/S/F/P/J www.**

G22

Larynx, 2-part
This model shows most of the same features as G21, but it is only divisable into two halves.
On stand.
9x9x14 cm; 0.15 kg
📖 **L/E/D/S/F/P/J www.**

G20

Functional Larynx, 2.5 times full-size
The epiglottis, vocal cords and arytenoid cartilage are movable. Additionally representing the following structures:
- Hyoid bone
- Cricoid cartilage
- Thyroid cartilage
- Thyroid
- Parathyroid glands

On stand.
14x14x28 cm; 0.8 kg
📖 **L/E/D/S/F/P/I/J www.**

VC219

Functional Larynx, 3 times full-size
Epiglottis, vocal cords and arytenoid cartilage are movable.
On base.
32x13x15 cm; 0.8 kg
📖 **L/E/D/S/F/P/I/J www.**

G23

CT Bronchial Tree with Larynx
Same as G23/1, but without transparent lungs.
22x18x37 cm; 0.43 kg
📖 **E/D/S/F/P/I/J www.**

W42503

Functional Larynx, 4 times full-size
Replica of the human larynx, hyoid bone and epiglottis. The right half shows cartilaginous structures, the left half of the musculature. Vocal cords, arytenoid cartilage and epiglottis are movable. On base.
41x18x18 cm; 1.6 kg
📖 **E**

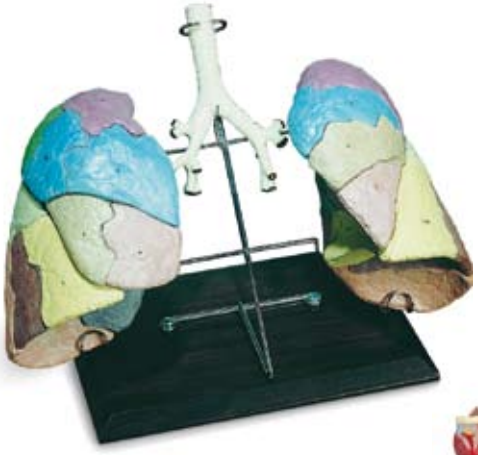

W42503

G23

G23/1

G23/1

Larynx with Bronchial Tree and Transparent Lungs
This unique model was created on the basis of computer tomography data of a human (male, approx. 40 years). What is special about this procedure is that the natural spatial 3D-relations and the reciprocal location of the segmental bronchi can be preserved and depicted in a realistic way. The larynx with hyoid bone and epiglottis and the trachea with primary and lobar bronchi are depicted in one colour. The larynx is detachable at the level of the second tracheal cartilage and divisible in the median plane. The epiglottis is mounted flexibly. The various segmental bronchi are made of elastic material and detailed in various transparent colours so that they are easier to distinguish visually. The transparent lungs are detachable.
19x18x37 cm; 1.3 kg
📖 **E/D/S/F/P/I/J www.**



W47029

G15

VC243

W47029

Segmented Lung Reproduction

Cast from actual human lungs with representation of bronchial tree, bronchioles and alveoli. 18 coded segments held together elastically and allow easy viewing of the internal structures. Supplied on stand.
30x25x26 cm; 1.5 kg
📖 **E**

G15

Lung Model with Larynx, 7-part

This first class model contains the following removable parts:
- 2-part larynx
- Trachea with bronchial tree
- 2-part heart
- Subclavian artery and vein
- Vena cava
- Aorta
- Pulmonary artery
- Oesophagus
- 2-part lung (front halves removable)
- Diaphragm

On baseboard. 31x41x12 cm; 2.2 kg
📖 **L/D/E/F**

VC243

Lung Model with Larynx, 5-part

Showing the following features:
- Larynx
- Trachea with bronchial tree
- 2-part heart (removable)
- Vena cava
- Aorta
- Pulmonary artery
- Oesophagus
- 2-part lung (front halves removable)

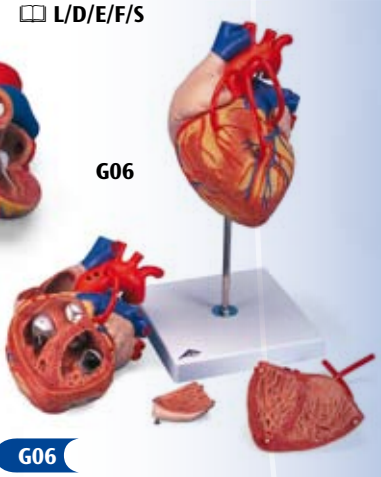
Delivered on baseboard.
12x28x37 cm; 1.25 kg
📖 **L/D/E/F/S**

G10

G10

Heart Model, 2-part

This model shows the anatomy of the human heart with ventricles, atriums, valves, veins, and the aorta in great detail. The front heart wall is removable to view the chambers and internal structures. Delivered on removable stand. 22x12x12 cm; 0.35 kg
📖 **L/E/D/S/F/P/J www.**

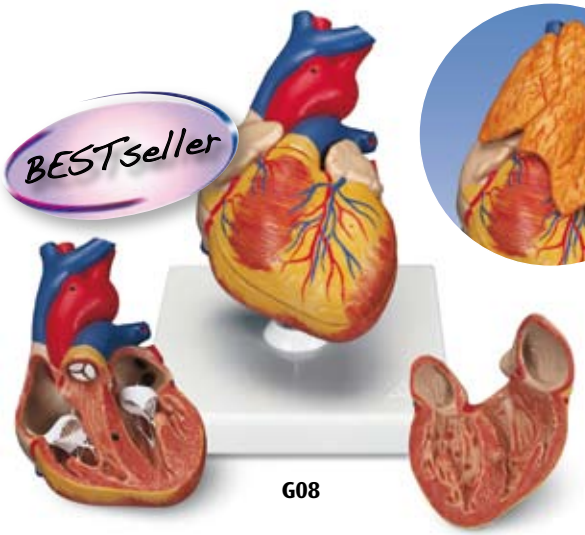


G06

G06

Heart with Bypass, 2 times life-size, 4-part

This 2-times life-size heart is a great aid to teaching, even in large lecture halls or classrooms. The front heart wall can be removed to view the inner chambers of the human heart. In addition to the anatomy of the heart, this model shows a venal by-pass to the ramus postero-lateralis of the right coronary artery, to the ramus interventricularis ant. of the left coronary artery with branching to the ramus diagonalis as well as a bypass to the ramus circumflexus of the left coronary artery. On removable stand.
32x18x18 cm; 1.1 kg
📖 **L/D/E/F**



G08

G08/1

G08/3

G08

Classic Heart, 2-part

Highly detailed 2-part heart at a price you will love. The front heart wall is detachable to reveal the chambers and valves inside. Just slightly smaller than life-size with exquisite detail throughout. On stand. 19x12x12 cm; 0.3 kg
📖 **L/E/D/S/F/P/J www.**

G08/1

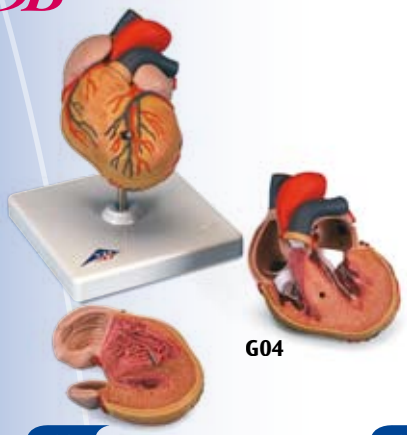
Classic Heart with Thymus, 3-part

Same features as G08, however including thymus.
20x12x12 cm; 0.3 kg
📖 **L/E/D/S/F/P/J www.**

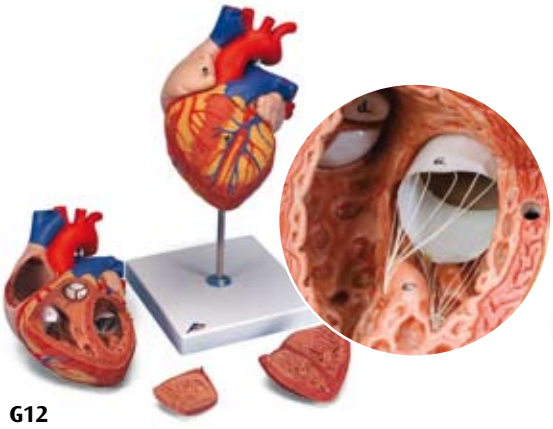
G08/3

Classic Heart with Conducting System, 2-part

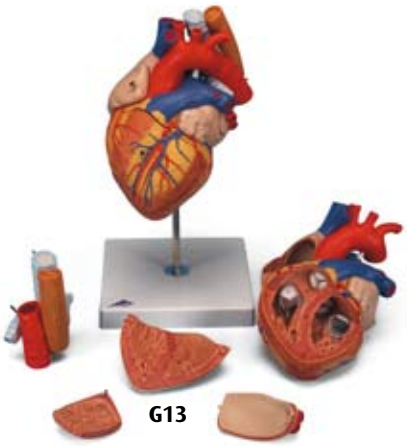
Same features as G08, however, this transparent model also displays the complete conducting system, which is represented in colour. Delivered on removable stand.
19x12x12 cm; 0.2 kg



G04



G12



G13

G04

Classic Heart with Left Ventricular Hypertrophy (LVH), 2-part

Same features as G08. Additionally, this unique model shows the long-term effects of increased heart activity due to high blood pressure. The muscular wall of the left heart ventricle is considerably thickened and the tip of the heart is visibly rounded off. On stand.
20x15x16 cm; 0.45 kg
L/E/D/S/F/P/J www.

G12

Heart, 2-times life-size, 4-part

This 2-times life-size heart model allows easy identification of all structures and is a perfect aid for lessons in large classrooms or lecture halls. The atrium walls and the front heart wall are removable to reveal the most professionally detailed and realistic heart available. Hand-painted in Life-like colours to depict dozens of items of anatomical interest. Delivered on removable stand.
32x18x18 cm; 1.3 kg
L/D/E/F

G13

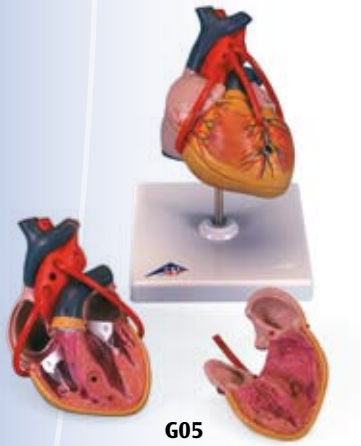
Heart with Oesophagus and Trachea, 2 times life-size, 5-part

Same features as G12. Additionally depicts the upper section of the oesophagus, the upper bronchi and the ascending aorta. The front heart wall and the atrium walls can be removed. Delivered on removable stand.
32x18x18 cm
L/D/E/F

VD250

Giant Heart, 8 times life-size

See every detail of the heart with this giant 8 times life-size model. Painstakingly constructed by hand, this heart will be the centre of attention at any exhibition and it is especially suitable for lecture halls. The atria and ventricles are open to give a view of the interior, and show the accurately modelled bicuspid and major vessels adjacent to the heart coronary heart vessels, are also accurately. On stand.
100x90x70 cm; 35.0 kg
L/E/D/S/F/P/I/J www.

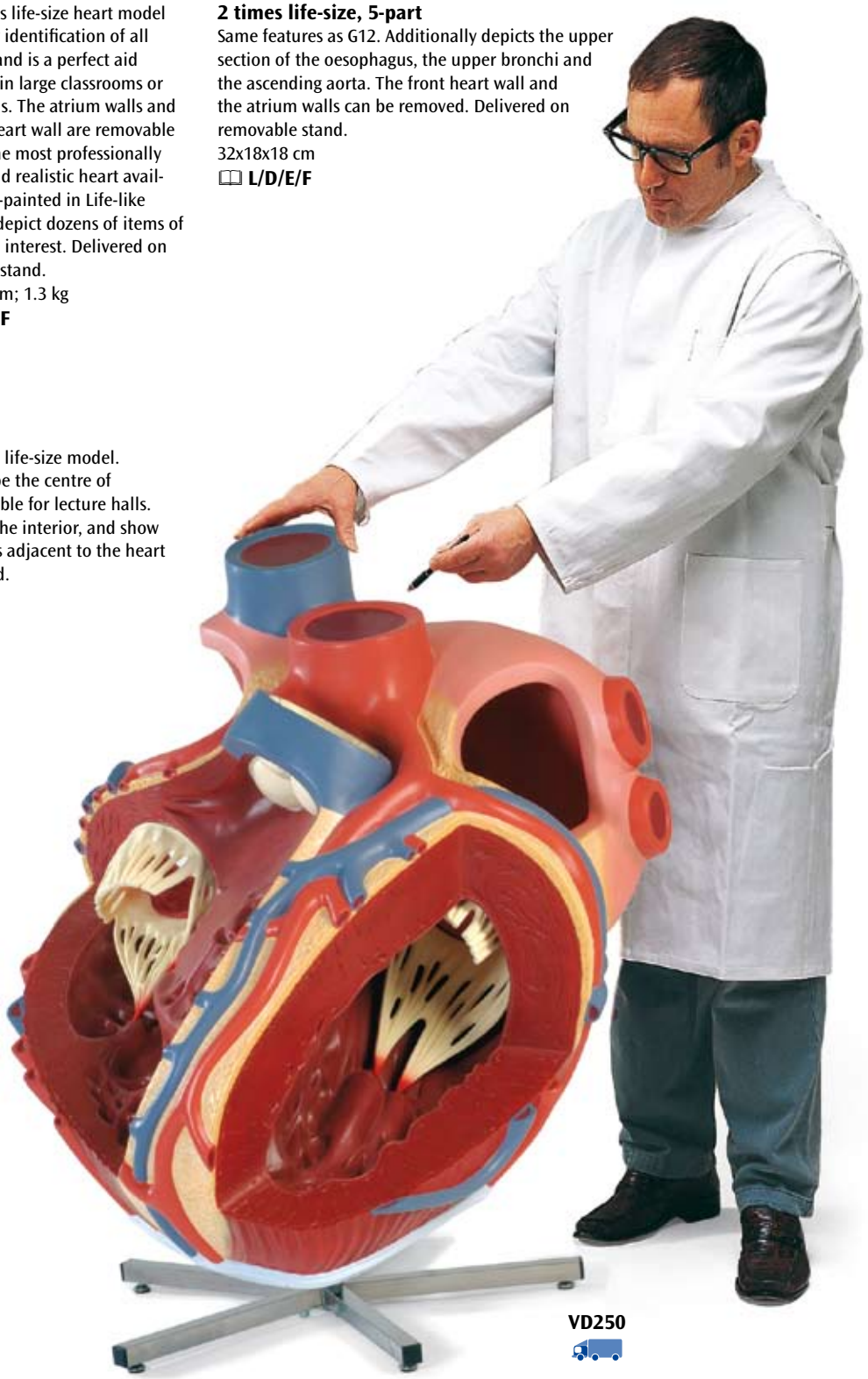


G05

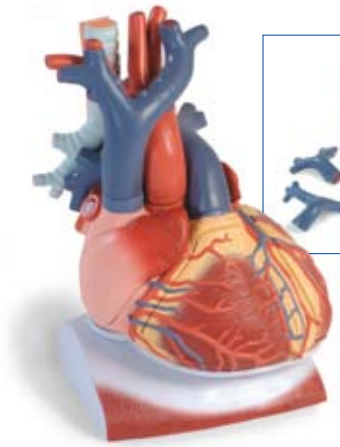
G05

Classic Heart with Bypass, 2-part

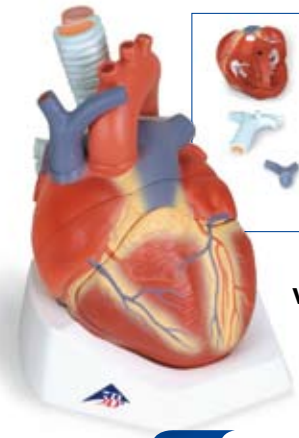
Same features as G08, additionally including venal bypasses to the right coronary artery, to the ramus inter-ventricularis anterior, and also to the ramus circumflexus of the left coronary artery, which are shown in colour. This model is a great aid for explaining the treatment of coronary heart disease. On removable stand.
19x12x12 cm; 0.35 kg
L/E/D/S/F/P/J www.



VD250



VD251



VD253

G40

VD251

Heart on Diaphragm, 3 times life-size, 10-part

This detailed heart is depicts the structures of the diaphragm (= base). The following parts can be removed:

- Oesophagus
- Trachea
- Superior vena cava
- Aorta
- Pulmonary artery stem
- Both atrium walls
- Both ventricle walls

Comes with a multilingual product manual.

41x33x28 cm; 3.6 kg

📖 **L/E/D/S/F/P/I/J www.**

VD253

Heart, 7-part

This model shows the anatomy of the human heart and is horizontally sectioned at the level of the valve plane. The following parts can be removed:

- Oesophagus
- Trachea
- Superior vena cava
- Aorta
- Front heart wall
- Upper half of the heart

On base. 20x15x17 cm; 1.1 kg

📖 **L/D/E/F/S**

G40

Arteriosclerosis Model, with Cross Section of Artery, 2-part

With the help of this model doctors can explain changes in the blood vessels due to arteriosclerosis. A horizontally dissected artery fork is depicted with arteriosclerotic changes in four different stages, from slightly sedimented to a completely clogged vessel. On stand.

15 cm; 0.2 kg

G30

Circulatory System

This 1/2 life-size relief model shows:

- The arterial/venous system
- Heart
- Lung
- Liver
- Spleen
- Kidneys
- Partial skeleton

On baseboard.

80x30x6 cm; 3.6 kg

📖 **L/E/D/S/F/P/I/J www.**

G35

Hypertension Model, 7-part

This model shows the harmful effects of hypertension on the most susceptible organs. It consists of scaled down depictions of: Brain, Eye, 2-part heart, 2-part kidney, an enlarged artery.

34.5x11.5x11.5 cm; 0.9 kg

📖 **E www.**

W16001

Functional Heart and Circulatory System

This amazing working model will bring your lecture to life! A complete schematic model of the human circulatory system with "blood" (coloured water) that flows through transparent veins, arteries, capillaries and heart chambers. This model's special design portrays venous blood, a deep reddish purple and arterial blood, a bright red to give visual reinforcement to the oxygenation and deoxygenation of haemoglobin as it travels the body's vascular network. Mounted on a baseboard with support legs and supplied with teacher's guide, red dye and syringe for refilling the system.

36x16x38 cm; 1.5 kg

📖 **E**

G42

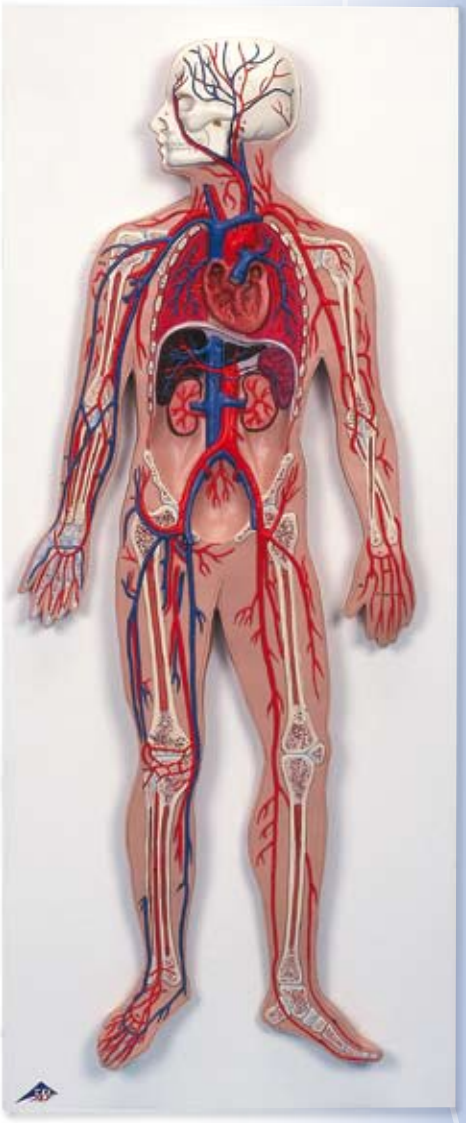
3B MICRO*anatomy*™ Artery and Vein

The model shows a medium-sized muscular artery with two adjacent veins from the antebrachial area with adjoining fat tissue and muscle enlarged 14 times. The model illustrates the reciprocal anatomical relationship of artery and vein and the basic functional techniques of the venous valves ("valve function" and "muscle pump"). The left vein and the middle artery are fenestrated in the upper anterior segment, revealing the various layers of the wall structure in a cross and longitudinal section and in top view. The right vein is opened throughout in the anterior segment, revealing the orifice of a feeder vein and two venous valves, i.e. "flap valves" formed by a duplication of the tunica intima. On the rear of the model, the relief of two veins is shown to illustrate the functional aspect of the venous valves. Supplied on base.

26x19x18.5 cm; 0.9 kg

📖 **L/D/E/S/F/P/I/J**

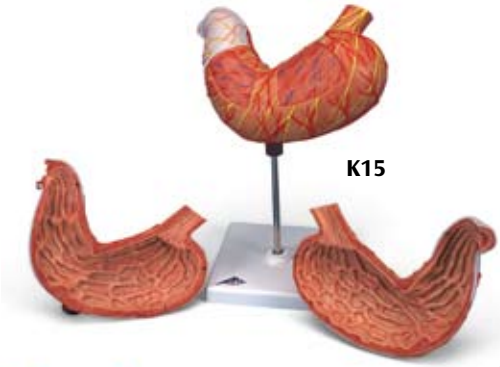
G30

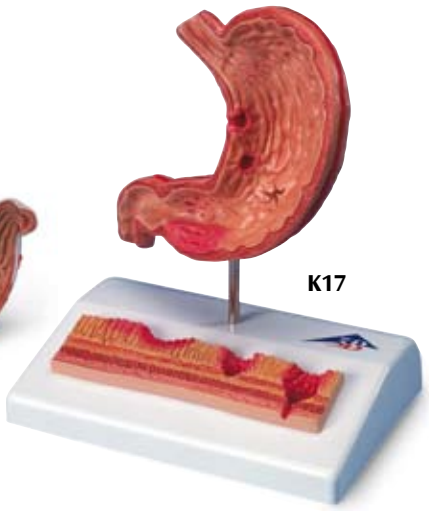


W16001

G35

G42





K16

Stomach, 3-part
Same features as K15, additionally displaying the removable duodenum and pancreas. Delivered on stand.
25x22x12 cm; 0.8 kg
📖 **L/D/E/F**

K15

Stomach, 2-part
The model shows the different and individual layers of the stomach wall. The front half of the stomach is removable. Depicted are:
- The lower oesophagus
- Vessels
- Nerves

Delivered on stand.
25x22x12 cm; 0.6 kg
📖 **L/D/E/F**

K17

Stomach with Ulcers
The stomach section with oesophagus and duodenum attachment in half life size shows the following pathological changes:
- Erythematous gastritis
- Erosive gastritis
- Hemorrhagic gastritis
- Healing stage with scar formation
- Atrophic gastritis
- Hypertrophic gastritis
- Bleeding ulcer
- Perforated ulcer

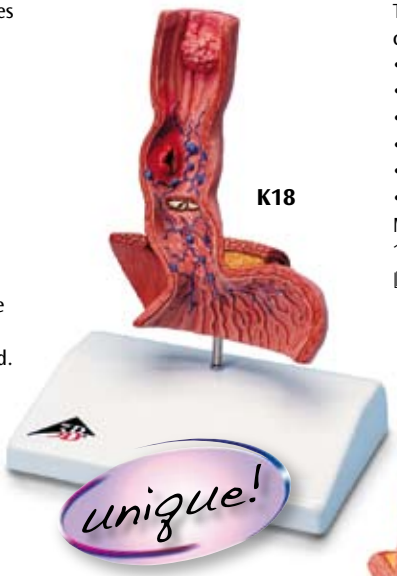
An additional relief model of the enlarged stomach wall shows:
- Healthy mucous membrane
- Acute gastritis in the antral area
- Erosive gastritis with mucous membrane defects
- Bleeding ulcer (eroded muscularis mucosae)
- Perforated ulcer (all stomach layers eroded)

Mounted on a base.
14x10x17 cm; 0.3 kg
📖 **E/D/S/F/P/I/J www.**

K21

Digestive System, 3-part
Life-size model which demonstrates the entire digestive system in graphic relief. Features:
- Nose
- Mouth cavity and Pharynx
- Oesophagus
- GI tract
- Liver with gall bladder
- Pancreas
- Spleen

The duodenum, caecum and rectum are opened. The transverse colon and front stomach wall are removable. Mounted on baseboard.
81x33x10 cm; 4.4 kg
📖 **L/D/E/S/F/P/I/J www.**



K18

Diseases of the Oesophagus
The following illnesses are replicated:
- Reflux oesophagitis
- Ulcer
- Barrett's Ulcer
- Oesophageal carcinoma
- Oesophageal varices
- Hiatal hernia

Mounted on base.
14x10x19 cm; 0,194 kg
📖 **E/D/S/F/P/I/J www.**

K20

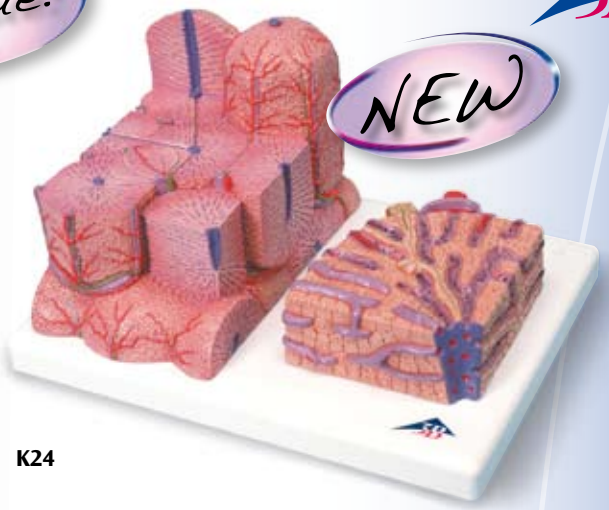
Digestive System, 2-part
(not shown)
Same features as K21, however without removable stomach half. Mounted on baseboard.
81x33x10 cm; 4.4 kg
📖 **L/D/E/S/F/P/I/J www.**

K27

Haemorrhoid Model
The model is a life-size frontal section of the rectum with an additional smaller relief on a pedestal. In addition to the anatomical structures of the rectum (sphincter, mucous membrane, venous plexus), the model shows internal haemorrhoids during stage I and II as well as external haemorrhoids. The relief exhibit shows haemorrhoids during stage III and IV. Mounted on base.
14x10x14 cm; 0.2 kg
📖 **E/D/S/F/P/I/J www.**

W42507

K23



K24

W42507

Intestinal Villi, 100 times life-size

This model consists of one entire villus, one longitudinally sectioned villus showing the arterioles and venules and one sectioned villus to show the lymphatic vessels. Also includes a longitudinal section of Lieberkühn's crypt. On base.
43x28x10 cm; 2.5 kg

K23

3B MICRO*anatomy*™ Digestive System

The model illustrates the structure of the fine tissues of four characteristic sections of the digestive system: oesophagus, stomach, small intestine, large intestine
The front of the model, from top to bottom, shows a magnified view in histological section of the individual sections of the digestive system and their fine tissue structures.On the back of the model, highly magnified views of didactically interesting areas of each of the digestive system sections shown on the front are emphasized.
29.5x26x18.5 cm; 1.5 kg
📖 **L/E/D/S/F/P/I/J www.**

K24

3B MICRO*anatomy*™ Liver

This 2-part model shows a highly magnified diagrammatic view of a section of the liver. The left part of the model shows a section of the liver that comprises several lobules. The right part of the model is a highly magnified view of the sectioned lobule on the left.
15x26x18.5 cm; 0.7 kg
📖 **L/E/D/S/F/P/I/J www.**

VE315

Liver with Gall Bladder, Pancreas and Duodenum

This excellent relief model shows the liver with:
- Ducts
- Gall bladder
- Pancreas
- Duodenum
- Vessels
- Extra-hepatic ducts with gall bladder
- Main pancreatic duct and their orifices

On baseboard.
4x20x18 cm; 0.8 kg
📖 **L/E/D/S/F/P/I/J www.**

K26

Gallstone Model

This graphic model for patient education shows the anatomy of the biliary system and its surroundings in half natural size. Both acute inflammation (cholecystitis) and the tissue changes caused by chronic inflammation can be identified in the gallbladder wall. Gallstones can be found in the following typical locations:
- In the fundus area of the gall bladder
- In the area of the spiral valve
- In the area of the common bile duct
- In the papillary opening to the small intestine

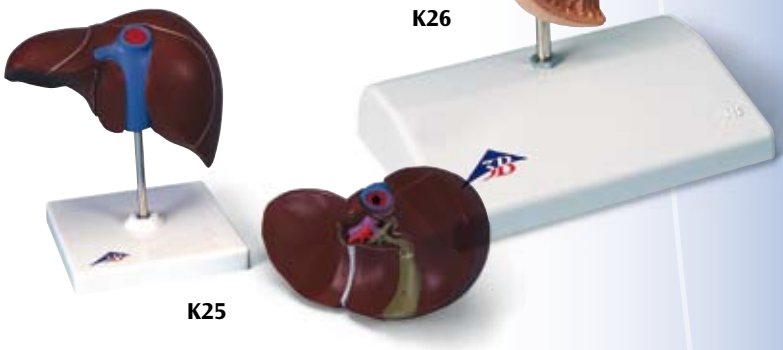
Mounted on base.
14x10x19 cm; 0.2 kg
📖 **E/D/S/F/P/J www.**

K26

K25

Liver with Gall Bladder
- 4 lobes with gall bladder
- Extra-hepatic ducts
- Hilus vessels

On removable stand.
18x18x12 cm; 0.5 kg
📖 **L/D/E/F**



K25

VE315

W42508

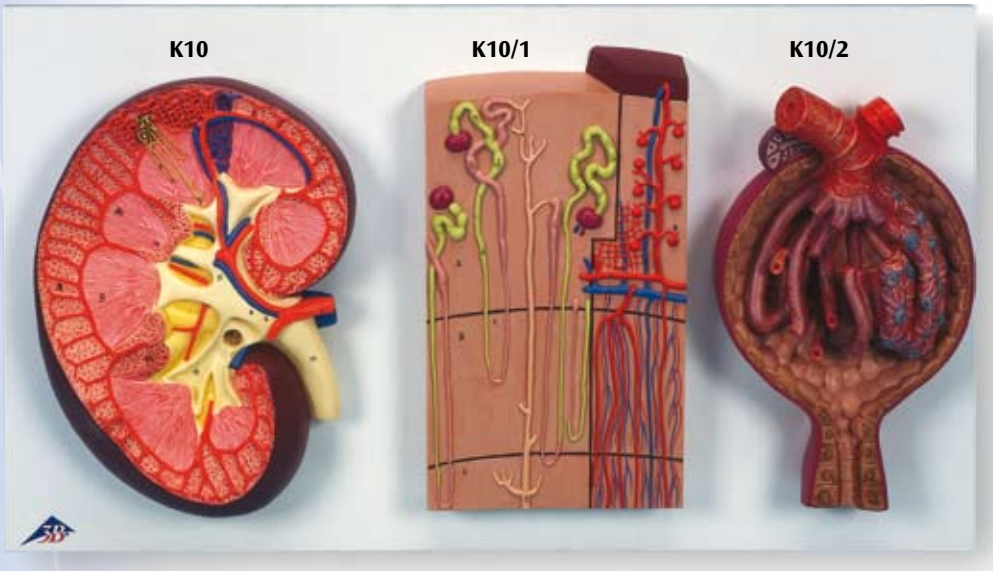
Liver with Gall Bladder, 1.5 times full-size

The complex vessels network in the opened liver, displayed in different colours:
- The hilus vessels
- The extra-hepatic and intra-hepatic bile ducts
- The gall bladder

Mounted on stand.
36x30.5x16 cm; 1.8 kg

W42508

K11



K10/1

Nephrons and Blood Vessels, 120 times full-size
On baseboard.
26x19x5 cm; 0.7 kg
📖 **L/E/D/S/F/P/I/J www.**

K10/2

Malpighian Corpuscle of Kidney, 700 times full-size
On baseboard.
26x19x8 cm; 0.7 kg
📖 **L/E/D/S/F/P/I/J www.**

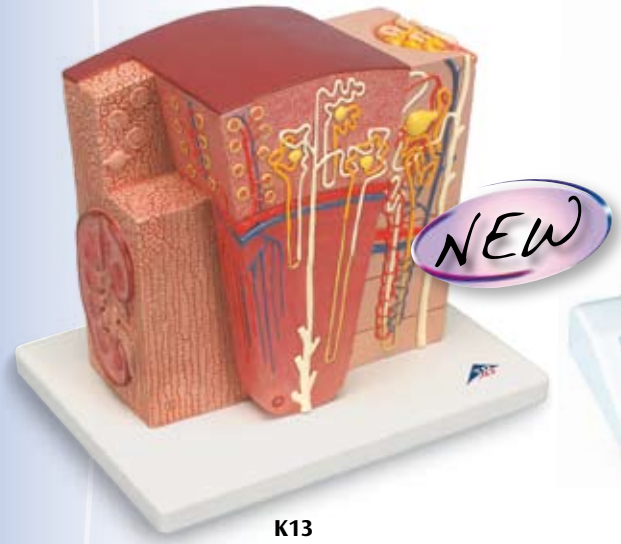
K11

Kidney Section, Nephrons, Blood Vessels and Renal Corpuscle
A complete series of 3 models (K10, K10/1, and K10/2) for studying the kidney and its different structures in great detail. Delivered on baseboard.
29x52x9 cm; 2.8 kg
📖 **L/E/D/S/F/P/I/J www.**

K10

Kidney Section, 3 times full-size
Longitudinal section of the right kidney. On baseboard.
33x20x10 cm; 1.0 kg
📖 **L/E/D/S/F/P/I/J www.**

K09



K13

K29

K12

K13

3B MICRO*anatomy*™ Kidney
This extremely detailed model shows the morphologic/functional units of the kidney greatly magnified. Six model zones illustrate the following fine-tissue structures that serve the production of urine:
- Longitudinal section of a kidney
- Section of renal cortex and renal medulla
- Wedge-shaped section of a kidney lobe with a diagrammatic depiction of three nephrons with Henle's loops of different lengths and diagrammatic depiction of the vascular supply
- Diagrammatic illustration of a nephron with a short Henle's loop and didactic/diagrammatic illustration of the vascular supply
- Diagrammatic illustration of an opened renal corpuscle with nephron and light-microscopic transverse sections of the proximal, attenuated and distal segments of a renal tubule
- Diagrammatic/didactic illustration of an opened renal corpuscle

Mounted on a base.
23.5x25.5x19 cm; 1.3 kg
📖 **L/E/D/S/F/P/I/J www.**

K29

Kidney Stone Model
The renal calices, the renal pelvis and the ureter are opened so that concretions or stones can be identified in the following typical positions:
- In the area of the renal pyramids
- In the area of origin of the upper calix group
- In the renal cortex
- In the connecting tubule of the lower calix group, causing congestion of the minor calices (partially closed, partially opened)
- In the ureter

4 original colour pictures on the base show various kidney stones.
14x10x16.5 cm; 0.18 kg
📖 **E/D/S/F/P/J www.**

K09

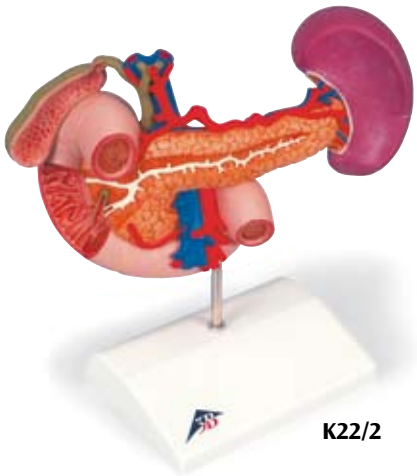
Basic Kidney Section, 3 times full-size
Longitudinal section of the right kidney. All important structures are shown.
8.5x19x26 cm; 0.9 kg

K12

Kidney with Adrenal Gland, 2-part
This model shows:
- Kidney with adrenal gland
- Renal and adrenal vessels
- Upper portion of ureter

The front half of the kidney is removable to enable demonstration of cortex medulla and vessels as well as renal pelvis. On stand.
20x12x12 cm; 0.9 kg
📖 **L/D/E/F/S/P/I/J/R/C www.**

K22/1



K22/2

K22/3

K22/1

Kidneys with Vessels, 2-part
This model shows the kidneys with suprarenal glands, the outgoing ureters, the renal vessels and the large vessels situated close to the kidneys in natural size. The front half of the right kidney can be removed to reveal the renal pelvis, the renal calices, the renal cortex and the renal medulla.
On stand.
21x18x28 cm; 1.0 kg

K22/2

Rear Organs of the Upper Abdomen
The model shows the duodenum (partially opened), gall bladder and bile ducts (opened), the pancreas (revealing large ducts), the spleen and the surrounding vessels in natural size. On stand.
23x12x20 cm; 0.55 kg

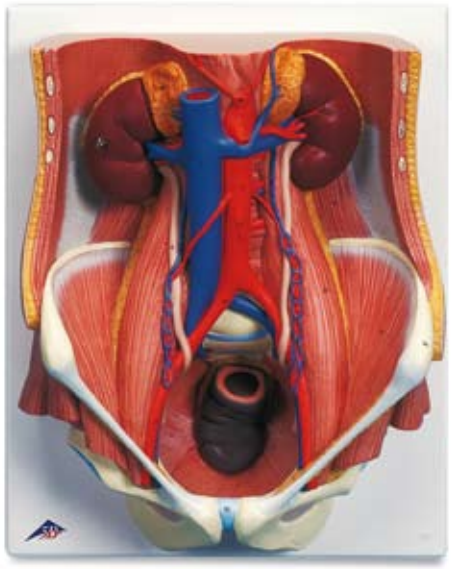
K22/3

Kidneys with Rear Organs of the Upper Abdomen, 3-part
This model combines models K22/1 and K22/2. The upper abdominal organs are attached in their natural positions and removable from the kidneys. On stand.
24x18x29 cm; 1.4 kg

K32

Dual Sex Urinary System, 6-part
- Structures of retroperitoneal cavity
- Large and small pelvis with bones and muscles
- Inferior vena cava
- Aorta with its branches including iliacal vessels
- Upper urinary tract
- Rectum
- Kidney with adrenal gland.

One front half of a kidney is removable. With easy to change male insert (bladder and prostate, front and rear half) and female insert (bladder, womb and ovaries, 2 lateral halves). Parts are numbered. On baseboard.
41x31x15 cm; 2.3 kg
📖 **L/E/D/S/F/P/I/J/R/C www.**

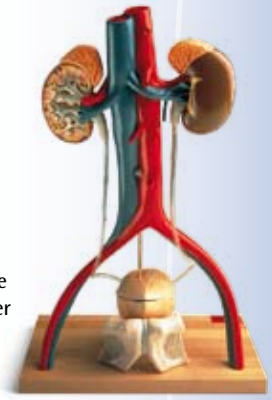


K32

W42510

Free-Standing Urinary System, male
Represented are:
- Kidneys (right kidney in longitudinal section)
- Adrenal glands
- Abdominal aorta and its branches
- Inferior vena cava with branches
- Iliacal vessels
- Ureter
- Upper half of bladder and prostate (removable into pubic bone and symphysis as well as lower half of bladder and prostate).

Delivered on wooden base.
51x33x20 cm
📖 **E**



W42510

Model of Kidney Vessels
This corrosion cast contains a real pig's kidney embedded in crystal-clear plastic. The size and macro-structure of pig's kidneys resemble those of human kidneys. Detailed spatial portrayal of vessel arborisation and progression is very well illustrated with different nuances of colour: red for the arterial flow area, blue for the venous blood vessels and yellow for the pelvicalyceal system/ureter. Each of the specimens is unique and therefore varied in shape. 14.5x8.5x4 cm; ca. 0.5 kg

W10600

Red-Yellow-Blue
Red for the arterial flow area, blue for the venous blood vessels and yellow for the pelvicalyceal system/ureter.

W10602

Red-Yellow
Red for the arterial flow area and yellow for the pelvicalyceal system/ureter.

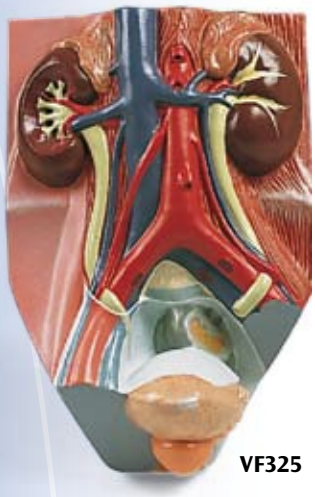
W10603

Red
With red arterial flow areas.

W10600

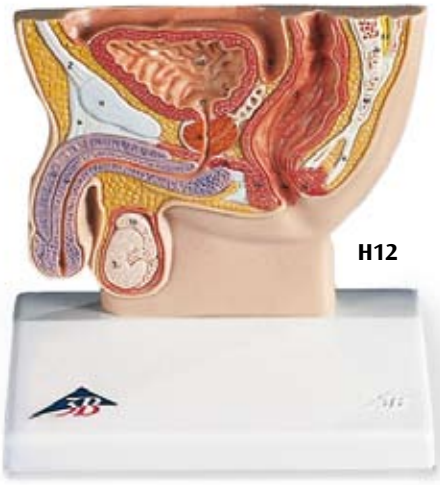
W10602

W10603



VF325

K41



H12

VF325

Urinary System, male, 0.75 times full-size

- Inferior vena cava
- Renal veins
- Aorta with its branches
- Iliacal vessels
- Ureter
- Urinary bladder
- Prostate
- Adrenal gland
- Rectum
- Musculature

The right kidney is opened.
10x18x26 cm; 1.0 kg
📖 **L/D/E/F/S**

K41

Prostate Model, 1/2 natural size
A cross section of the male genital organs shows a healthy prostate with bladder, urethra, testicle, symphysis and rectum. The narrowing of the urethra due to the change of the prostate is illustrated via the 4 cross sectional views. On base.
13.5x10x14 cm; 2.4 kg
📖 **L/E/D/S/F/P/I/J www.**

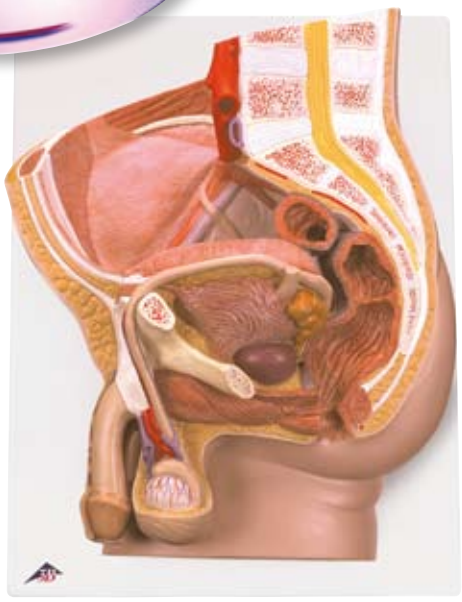
H12

Male Pelvis Section, 1/2 life-size
This cross section of the male genital organs shows all structures in detail.
13.5x10x14 cm; 2.4 kg
📖 **L/D/E/F/S www.**

H13

BESTseller

H10



H11

H13

Inguinal Hernia Model
This natural-sized, graphic model shows the anatomical structures of a male groin with an indirect inguinal hernia, opened in layers. Two diagrammatic illustrations on the base allow for a comparison of direct and indirect hernia. Mounted on base.
14x10x18 cm; 0.28 kg
📖 **L/E/D/S/F/P/I/J www.**

H10

Female Pelvis, 2-part
41x31x20 cm; 2.2 kg

H11

Male Pelvis, 2-part
41x31x17 cm; 2.5 kg

Median section. One half of genital organs with bladder, rectum is removable, one half is shown at the normal position in the pelvis. Delivered on baseboard, which can also be wall mounted.
📖 **L/E/D/S/F/P/I/J www.**

H20/2

H20/3

H20/4

H20/2

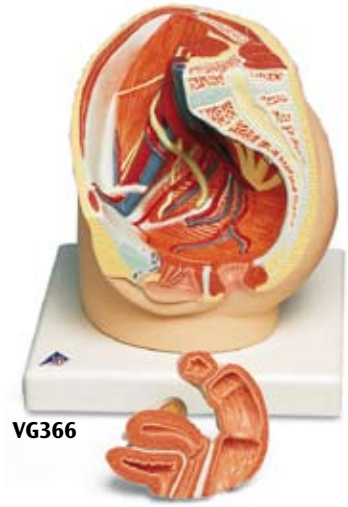
Ligamented Female Pelvis
This life-size, one-piece teaching aid is fitted with synthetic pelvic ligaments which in life hold the bones of the pelvic girdle together. Mounted on a base.
19x27x19 cm; 1,0 kg
📖 **L/E/D/S/F/P/I/J/R/C www.**

H20/3

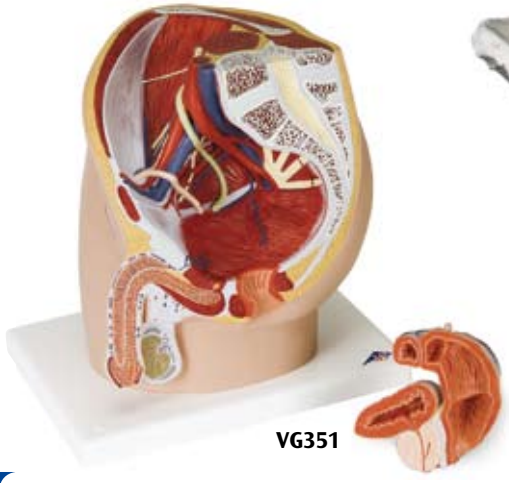
Pelvis with Ligaments, Nerves and Floor Muscles
A life size bony female pelvis showing the ligaments and the main nerves, with a removable 2-part pelvic floor. Mounted on a base.
27x20x18 cm; 1.0 kg
📖 **L/E/D/S/F/P/I/J/R/C www.**

H20/4

Female Pelvis and Pelvic Floor, 5-part
A pelvis of synthetic bone-like material with a highly detailed and dissectible pelvic floor in carefully coloured flexible material, comprising genitalia and associated muscles. Mounted on a base.
27x20x18 cm; 1.0 kg
📖 **L/E/D/S/F/P/I/J/R/C www.**



VG366



VG351

BESTseller

A61

VG366

Female Pelvis, 2-part
26x22x17 cm; 1.65 kg

VG351

Male Pelvis, 2-part
26x21x16 cm; 1.65 kg

A61

Pelvic Skeleton, Female
Consisting of hip bone, sacrum with coccyx and 2 lumbar vertebrae as well as movable symphysis.
19x25x24 cm; 0.9 kg

Median section with removable half of genital organs with bladder and rectum. The abdominal and pelvic muscles are shown. Delivered on baseboard.
📖 **L/D/E/F/S**

L31

A60

A62

L31

Female Pelvis Skeleton with Genital Organs, 3-part
It consists of female pelvis with a movable symphysis, hip bone, sacrum, coccyx, 2 lumbar vertebrae and a female genital insert with rectum. Womb and bladder can be removed. Delivered on base.
33x26x18 cm; 2 kg

A60

Pelvic Skeleton, Male
Consisting of hip bone, sacrum with coccyx and 2 lumbar vertebrae.
18x28x23 cm; 0.8 kg

A62

Pelvic Skeleton, Female, with Movable Femur Heads
Consisting of hip bone, sacrum with coccyx and 2 lumbar vertebrae as well as movable symphysis.
30x30x20 cm; 1.2 kg

VE287

Half Lower Jaw, 3 times full-size, 11-part
The front section of bone and all the teeth are removable, one incisor is longitudinally sectioned. Nerves, blood vessels, the sublingual and submandibular glands are shown.
22x32x9 cm; 1.1 kg
L/D/E/F

D25

Half Lower Jaw, 3 times full-size, 6-part
This model represents half of the lower left jaw of a young person. One section of bone is removable to expose the tooth roots, spongiosa, vessels and nerves. Canine and first molar are removable, and longitudinally sectioned. On stand.
35x18x36 cm; 1.2 kg
L/D/E/F

VE290

Advanced Half Lower Jaw with 8 diseased teeth, 19-part
The front section of bone and all the teeth are removable, one incisor is longitudinally sectioned. Nerves, blood vessels, the sublingual and submandibular glands are shown. The diseased teeth show various stages of caries from a small and easy-to-treat example on an incisor, through to advanced degradation of a molar, showing exposed root. Using this model it is simple to explain the necessity of good tooth care.
22x32x9 cm; 1.1 kg
L/D/E/F

D20

Dentition Development
Cast from a natural specimen, 4 upper and lower jaw halves, 4 different stages of development:
- New born
- Approx. 5-year old child
- Approx. 9-year old child
- Young adult

33x10x20 cm; 0.5 kg
L/D/E/F

VE300

Upper Incisor, 2-part
Complete horizontal section cut in order to show pulp. On removable base.
23 cm; 0.9 kg
L/D/E/F/S/P/I/J/R/C www.

VE282

Milk Dentures
Upper and lower jaw are opened to show the arrangement of the remaining teeth. On base.
13x12x13 cm; 0.6 kg
L/D/E/F/S

VE281

Adult Dentures
Tooth roots, spongiosa, vessels, and nerves are exposed. The lower jaw is movable. On base.
16x12x13 cm; 0.9 kg
L/D/E/F/S

D15

Giant Molar with Dental Caries, 15 times life-size, 6-part
This model depicts an upper triple-root molar and separates into 6 parts. It features a longitudinal section through the crown, two roots and the pulp cavity. Contains removable pulp and three tooth inserts with different stages of advanced caries. On stand. 24 cm; 1.5 kg
L/D/E/F

VE299

Upper Twin-Root Molar with Caries, 2-part
Half of tooth crown removable to show pulp and the onset of caries. On removable base.
23 cm; 0.9 kg
L/D/E/F/S/P/I/J/R/C www.

VE298

Upper Triple-Root Molar with Caries, 2-part
Longitudinal section of tooth crown and root to show pulp and the onset of caries. On removable base.
23 cm; 1.1 kg
L/D/F/S/P/E/I/J/R/C www.

D26

Dental Disease, magnified 2 times, 21 parts

With 16 removable adult teeth magnified two times. One half of the model shows eight healthy teeth and healthy gums. The other half of the model shows the following dental diseases:

- Dental plaque
- Dental calculus (tartar)
- Periodontitis
- Inflammation of the root
- Fissure, approximal and smooth surface caries.

One part of the front bone section can be removed to view the roots, vessels and nerves. Two molars are sectioned along the length to show the inside of the tooth. Delivered on a base. 25.5 x 18.5 x 18cm; 0.6 kg

📖 **E/D/F/S/P/I/J www.**

D16

Giant Dental Care Model, 3 times life-size

This model, large enough to seen from the back of a classroom, shows the upper and lower half of an adult's dentition. A flexible joint between the jaws allows easy movement. Teach children proper cleaning techniques using the giant toothbrush included with this model. 18x23x12 cm; 1.5 kg

Options and Replacement Parts for D16

XD002
Giant Toothbrush
36.5 cm

D10

Classic Tooth Model Series, 5 models

This series shows 5 representative types of adult dentition individually mounted on removable stands:

- 2-part lower incisor with longitudinal section (D10/1)
- 2-part lower canine with longitudinal section (D10/2)
- Lower single-root pre-molar (D10/2)
- 2-part lower twin-root molar with longitudinal section showing caries attack (D10/4)
- 3-part upper triple-root molar with longitudinal section and caries insert (D10/5)

Also available individually. 23 – 29 cm; 2.0 kg

📖 **L/D/E/F**

D10/1
Lower Incisor, 2-part

D10/2
Lower Canine, 2-part

D10/3
Lower Single-Root Pre-Molar

D10/4
Lower Twin-Root Molar Showing Caries Attack, 2-part

D10/5
Upper Triple-Root Molar, 3-part

D17

3B MICRO*anatomy*™ Tongue

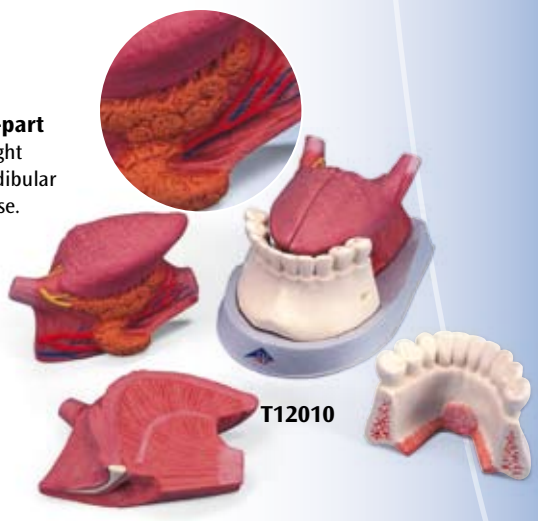
The latest model in our 3B MICRO*anatomy*™ series, the tongue, is fascinating in that it combines various enlargements of specific parts of the tongue in one model. It comprises a macroscopic view of the tongue in life size (dorsal view) and microscopic views of the various papillae of the tongue (10-20x life size) and of a taste bud (approx. 450x life size). All views are mounted on a base that also features an overview of the sensory and sensitive innervation of the tongue. A unique model for an intensive study of the tongue. 14,5x32,5x20 cm; 0.8 kg

📖 **L/D/E/F/I/S/P/J/R/C**

T12010

Tongue Model, 2.5 times life-size, 4-part

This model shows the right sublingual and submandibular gland. On removable base. 23x17x16 cm; 0.8 kg



C07

C06

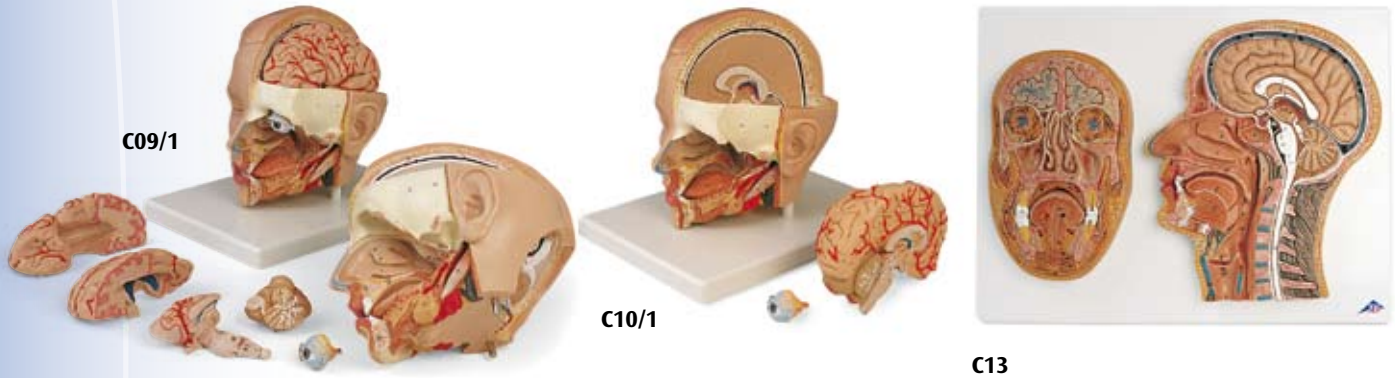
Neck C06/07

C07

Head with Neck, 4-part
The left half of this life-size model in midsagittal section shows the muscles, with nerves, vessels and bony structures and contains a removable brain half. The head is mounted on a detachable neck part which is sectioned both horizontally and diagonally. Supplied on baseboard.
28x19x23 cm; 2.2 kg
L/D/E/F/S/P/J www.

C06

Asian Deluxe Head with Neck, 4-part
Same as C07, but with Asian features.
28x19x23 cm; 2.2 kg
L/E/D/S/F/P/J www.



C09/1

C10/1

C13

C09/1

Head Model, 6-part
Our most detailed head model! This life-size 6-part head is mounted on a base and features a removable 4-part brain half with arteries. The eyeball with optic nerve is also removable and one side exposes the nose, mouth cavity, pharynx, occiput and skull base. On removable base.
19x23x22 cm; 1.0 kg
L/D/E/F

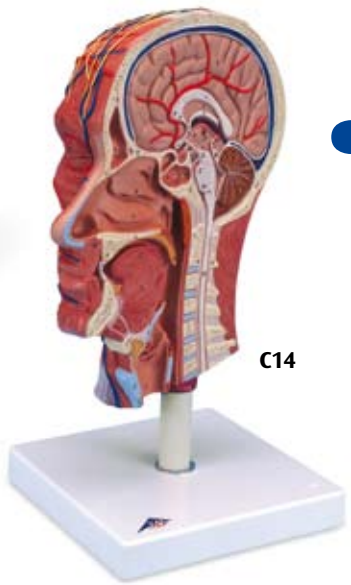
C10/1

Head Model, 3-part
This life-size 3-part head is mounted on a stand and features a removable brain half with arteries, eyeball and optic nerve and one side which exposes the nose, mouth cavity, pharynx, occiput and skull base. On removable base.
19x23x22 cm; 1.1 kg
L/D/E/F

C13

Median and Frontal Section of the Head
2 relief models on baseboard.
41x31x5 cm; 1.45 kg
L/D/E/F

C05



C14

C12

Median Section of the Head
This relief model shows all relevant structures of the human head in great detail. On baseboard.
26x33x5 cm; 1.0 kg
L/D/E/F

C14

Half Head with Musculature
Representation of the outer, superficial and the internal (median section) structures of head and neck. Delivered on removable stand.
22x18x46 cm; 1.1 kg
L/D/E/F

C05

Head and Neck Musculature, 5-part
Representation of the superficial musculature and deep muscles, nerves and vessels. Dissectible into skull cap and 3-part brain. Delivered on removable baseboard.
36x18x18 cm; 1.8 kg
L/D/E/F/S/P/I/J www.

VB127

VB128

VB129

VB127

Head Musculature
Representation of the superficial musculature of head and neck showing:
- Parotid gland
- Submandibular gland (right half)
- Deep musculature (left half)
- Lower jaw partially exposed

24x18x24 cm; 1.2 kg
📖 **L/D/E/F/S**

VB128

Head Musculature with Blood Vessels
Same features as VD127. Additionally displaying blood vessels.
24x18x24 cm; 1.2 kg
📖 **L/D/E/F/S**

VB129

Head Musculature with Nerves
Same features as VB127. Additionally displaying nerves.
24x18x24 cm; 1.2 kg
📖 **L/D/E/F/S**

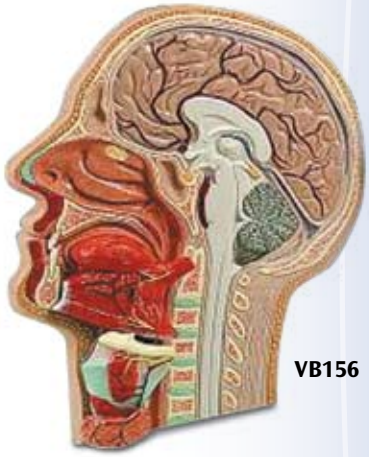
W42512

Head and Neck, 5-part
Representation of the head (differentiated in colour), medially divided. The skin and facial muscles of the right outer half are removed to show the deeper structures. Eyeball, bone cover over the sinus maxillaries and right tongue half are removable.
38x36x25 cm; 3.0 kg
📖 **E**

VB156

Median Section of the Head, 5-part
Relief model. Dissectible into:
- Tongue with sublingual gland and mouth floor musculature
- Thyroid cartilage with associated musculature
- Larynx
- Thyroid gland

2.5x23.5x27 cm; 1.2 kg
📖 **L/D/E/F/S**



VB156

W42512

C25

BESTseller

C25

Brain with Arteries on Base of Head, 8-part
This C20 deluxe brain comes with opened head to allow detailed study of the brain's position in the skull. The head is horizontally divided above the skull base. The deluxe brain model is medially opened to show the brain arteries as well as the removable basilar artery. Both halves can be disassembled into:
- Frontal with parietal lobes
- Temporal with occipital lobes
- Brain stem
- Cerebellum

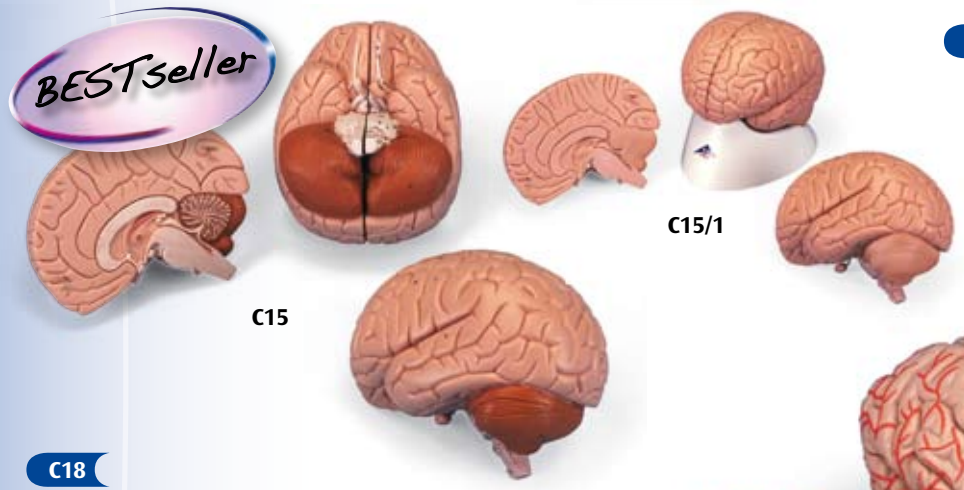
On base.
15x15x23 cm; 1.6 kg
📖 **L/D/E/F/S/P/I/J www.**

C17
Brain, 8-part
A very detailed model of the human brain which is medially divided. Both halves can be disassembled into:
- Frontal with parietal lobes
- Temporal with occipital lobes
- Half of brain stem
- Half of cerebellum

On removable base.
14x14x17.5 cm; 0.9 kg
L/D/E/F/S/P/I/J www.

C15
Brain, 2-part
A medially divided brain, perfect for beginning studies because of its affordable price. Delivered on removable base.
15x14x17.5 cm; 0.7 kg
L/D/E/F/S/P/I/J www.

C17



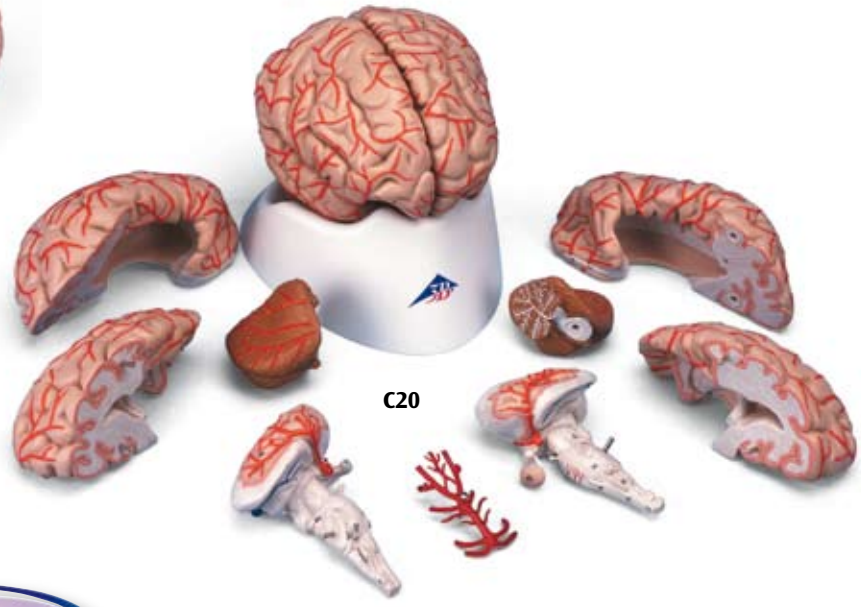
C15

C15/1

C15/1
Introductory Brain, 2-part
This brain is medially divided, structures are shown in one colour. On removable base.
15x14x17.5 cm; 0.7 kg

C18
Classic Brain, 5-part
This midsagittally sectioned model is an original anatomic cast of a real human brain. The components of its left half are:
- Frontal and parietal lobe
- Temporal and occipital lobe
- Encephalic trunk
- Cerebellum

Matches skull models A20, A20/N, A20/T, A21, A22, A22/1, A23, A24.
On removable base. 13x14x17.5 cm; 0.49 kg
L/D/E/F/S/P/I/J www.


C20


C18

C18 disassembled

C20
Brain with Arteries, 9-part
This medially divided deluxe brain model shows the brain arteries as well as the removable basilar artery. Both halves can be disassembled into:
- Frontal with parietal lobes
- Temporal with occipital lobes
- Half of brain stem
- Half of cerebellum

On removable base.
15x14x16 cm; 0.9 kg
L/D/E/F/S/P/I/J www.

C22

VH405

C22

Neuro-Anatomical Brain, 8-part

This deluxe brain is medially divided. On the right half, you will find a coloured, systematic grouping and representation of the cerebral lobe. The left half shows:

- Pre and post-central region
- Broca and Wernicke areas
- Heschl's gyrus
- Brain nerves
- Ventricles

Both halves can be disassembled into:

- Frontal with parietal lobes
- Temporal with occipital lobes
- Half of brain stem
- Half of cerebellum

On removable base.
14x14x17.5 cm; 0.95 kg
📖 **L/D/E/F**

VH409

Giant Brain, 2.5 times full-size, 14-part

A comprehensive brain model that is also a very useful teaching aid, especially for large groups of students. All structures of the brain and the ventricles are visible through median, frontal and horizontal sections. Delivered on removable base.
34x30x37 cm; 5.6 kg
📖 **L/D/E/F/S**

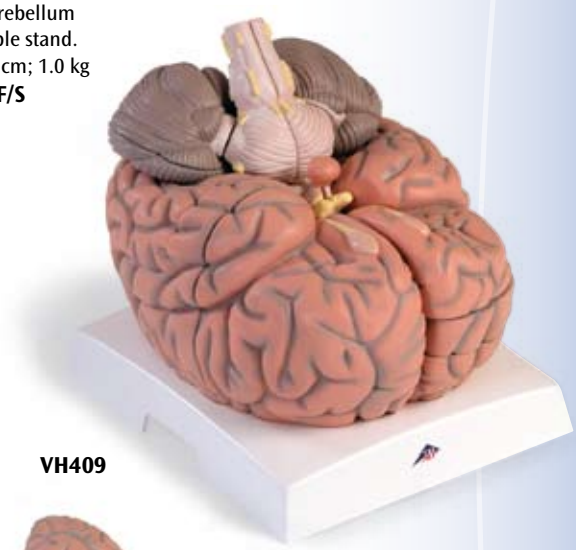
VH405

Brain with Arteries, 5-part

Medially divided with the right half showing arteries. The left half can be disassembled into:

- Frontal with parietal lobes
- Temporal with occipital lobes
- Half of brain stem
- Half of cerebellum

On removable stand.
15.5x13x15 cm; 1.0 kg
📖 **L/D/E/F/S**



VH409

C16

C16

Brain, 4-part

This brain is medially divided. All structures are hand-painted, numbered and identified in a product manual. The right half can be disassembled into:

- Frontal with parietal lobes
- Brain stem with temporal and occipital lobes
- Half of cerebellum

On removable base.
14x14x17.5 cm; 0.9 kg
📖 **L/D/E/F/S/P/I/J www.**

W19026

Brain Section

An enlarged and very detailed section through the right half of the brain, including a portion of the skull. The pia mater has been removed. This model is double sided and finely coloured. One surface is on the median line, including a section of the falx cerebri. A sagittal cut on the reverse exposes the lateral ventricle. There are 49 references on the model, identified in English in an accompanying key card. Mounted on a stand.
25x18x12 cm; 0.9 kg
📖 **E**

W19026

W19027

W42565

W42565

Regional Brain, 4-part

The following lobes and regions of this 2-times life-size brain are represented in different colours and labeled in English:
- Frontal lobe, parietal lobe, occipital lobe, temporal lobe
- Motor cortex, somatosensory cortex, limbic cortex
- Cerebellum, Brain stem

The twelve cranial nerves and additional features are numbered. Supplied with wooden stand.
23x20x30 cm; 2.38 kg
📖 **E**

C29

Rat Brain Comparative Anatomy

The C29 model shows a rat brain in approx. 6-fold enlargement. Sectioned medially, it can be disassembled into two halves. The right half of the model shows the structures of the cerebrum, cerebellum and brain stem, each of which is colour-coded for didactic purposes (cerebrum = pink, cerebellum = blue, brain stem = yellow), both externally and in the median section. The left half of the model is largely transparent, thus revealing a view of the coloured left lateral ventricle and hippocampus, which can also be seen in the median section. For purposes of comparison, a natural cast of a rat brain and a didactic, small-scale illustration of a human brain in median section are shown on the base, with the same colour coding used for the various regions.
14x10x16 cm; 0.24 kg
📖 **L/D/E/F/S/P/I/J www.**

W19027

Cerebrospinal Fluid Circulation

Enlarged, detailed model of a section through the right half of the brain showing the cut pia mater, arachnoid and dura mater. The model has the cerebrospinal fluid areas clearly identified and the direction of flow indicated by arrows. Bright colours to distinguish important features; identified in English in an accompanying key card. Mounted on stand.
25x18x12 cm; 0.9 kg
📖 **E**

C29

C30

Nervous System, 1/2 life-size

This relief model shows a schematic representation of the central and peripheral nervous system. An excellent model to study the structure of the human nervous system. Delivered on baseboard.
80x33x6 cm; 3.5 kg
📖 **L/E/D/S/F/P/I/J www.**

C30

VH410

Brain Ventricle

This model shows both side ventricles, the 3rd and 4th ventricle and the Aquaeductus cerebri (Sylvius). On stand.
14x11x14 cm; 0.6 kg
📖 **L/D/E/F/S/P/I/J www.**

VH410

C40/1

C40/2

C40/3

C40

C40/5 C40/4

C41

C40

"Physiology of Nerves" Series, 5 Magnetic Models on Illustrated Metal Board

Displaying the basic structures of the human nervous system. Each of the five sections shows a plastic coloured relief model of the main synapse variations. All sections can magnetically attach to the illustrated base which depicts the neural components in vivid colours. Each section is also available separately.

68x51x10 cm; 4.2 kg

📖 **E/D/S/F/P www.**

C40/1

Neuron Cell Body

Typical neuron body with cell organelles, for example mitochondria and many other characteristics of human cell, are visible through a removable transparent cover. The edge of the cell body also shows the synapses of connected neurons.

12.2x11.7x6.2 cm; 0.2 kg

C40/2

Myelin Sheaths of the CNS

This model shows the glial cells which build the insulating layer around the axons of the central nervous system.

12.2x11.7x3.6 cm; 0.2 kg

C40/3

Schwann Cells of the PNS

Depicts a Schwann cell with sectioned core.

12.2x11.7x3.2 cm; 0.2 kg

C40/4

Motor End Plate

Neuromuscular junction with striated muscle fibre is depicted.

12.0x11.5x3.2 cm; 0.2 kg

C40/5

Synapse

Featuring the endoplasmic reticulum, mitochondria and the membranes of the synaptic gap. Also depicts 5 smaller relief models of the main synapse variations.

12.0x11.5x2.7 cm; 0.2 kg

C41

Spinal Cord with Nerve Endings

The model illustrates the composition of the spinal cord, magnified to a scale of about 5:1.The spinal cord is formed by a central channel surrounded by "grey matter" with an outer layer of "white matter". The base features illustrations of various cross-sections through the white and grey matter at the neck, torso, lumbar and sacral regions. Supplied on a base.

26x19x13 cm, 0.4 kg

📖 **L/D/E/S/F/P/I/J www.**

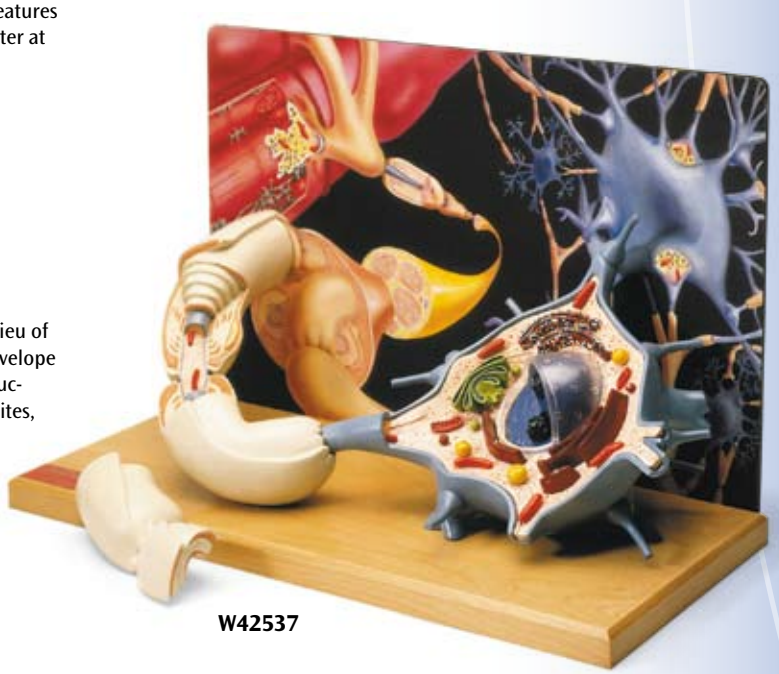
W42537

Motor Neuron Diorama

Magnified more than 2,500 times, this model represents a fully three dimensional reproduction of a motor nerve cell situated within a milieu of interacting neurons and a skeletal muscle fibre. The membranous envelope has been cut away from the neuron to expose the cytological ultrastructure, organelles and inclusions within the cell body. Branching dendrites, communicating synapses and a myelin-wrapped axon with node of Ranvier, project from the neuronal surface. A section of the axon lifts off to let you view the tightly wound layers of the enveloping myelin sheath and neurolemma, as well as the Schwann cell which formed them. Mounted on a wooden base.

43x20x28 cm

📖 **E**



W42537

F10

Eye, 5 times full-size, 6-part
Removable parts include:
- Upper half of the sclera with cornea and eye muscle attachments
- Both halves of the choroid with iris and retina
- Lens
- Vitreous humour

On base.
13x14x21 cm; 0.6 kg
📖 **L/E/D/S/F/P/I/J www.**

BESTseller

F10

F11

F11

Eye, 5 times full-size, 7-part
On base of bony orbit. Same features as F10.
18x18x20 cm; 1.0 kg
📖 **L/E/D/S/F/P/I/J www.**

F12

F13

F12

Eye, 5 times full-size, 8-part
Shows eyelid, lachrymal system, and other features around the eyeball, otherwise the same as F10. On base of bony orbit.
20x18x21 cm; 1.2 kg
📖 **L/D/E/F**

F13

Eye, 3 times full-size, 7-part
As F15, but additionally with the optic nerve in its natural position in the bony orbit of the eye (floor and medial wall). On base.
18x26x19 cm; 1.1 kg
📖 **L/D/E/F**

F15

Eye, 3 times full-size, 6-part
This model dissects into:
- Both halves of sclera with cornea and eye muscle attachments
- Both halves of the choroid with iris and retina
- Lens
- Vitreous humour

On base. 9x9x15 cm; 0.1 kg
📖 **L/E/D/S/F/P/I/J www.**

F15

BESTseller

VJ500A

VJ500A

Eye, 5 times full-size, 12-part

- Both halves of the sclera
- Optic nerve
- M. rectus superior
- M. rectus lateralis
- Cornea half
- Lens
- Lachrymal system
- Vitreous humour
- Tear gland
- Associated structures

33x30x38 cm; 4.9 kg

📖 **L/D/E/F/S**

VJ457

Eye in Orbit, 3.5 times full-size, 8-part

This model shows the eye with optic nerve in its position in the bone orbit (floor and medial wall). Dissectible into:

- Both halves of the sclera with optic nerve and eye muscles
- Cornea
- Lens
- Vitreous humour
- M. rectus superior
- M. rectus lateralis

On base.

19x20x28 cm; 1.5 kg

📖 **L/D/E/F/S**

VJ457

VJ500C

VJ500C

Eye, 5 times full-size, 6-part

Removable are:

- Upper half of the sclera with eye muscle attachments
- Upper half of the choroids with iris and retina
- Cornea
- Lens
- Vitreous humour

On base. 20x14x14 cm

📖 **L/E/D/S/F/P/I/J/R/C www.**

W11851

Physical Eye Model

This model can be used to demonstrate the optical functions of the eye, e.g. representation of an object on the retina, accommodation (change in the lens curvature), short-sightedness and far-sightedness. The model comprises:

- Half eyeball with adjustable iris diaphragm, lens holder and 2 convex lenses (f = 65 mm and 80 mm), on a rod
- Half eyeball with retina (transparent screen), on a rod
- Lens holder with one concave and one convex corrective lens, on a rod
- Candle holder with 2 candles, on a rod
- Aluminium rail, 50 cm long, with 4 clamp slides
- Storage case

49x5.5x18 cm; 2.0 kg

📖 **E/D**

W11851

W16002

Functional Eye

With this model the functions of the human eye can be taught very effectively. By moving the retina, the shape of the eye can be changed. The lens and ciliary body are made of silicone to allow the change of form and thickness of the lens. Pictures can be projected on the retina that allows you to demonstrate:

- Accommodation of the lens
- Near point of vision
- Myopia (near sightedness)
- Hypermetropia
- Presbyopia
- How to correct these problems with glasses

Supplied with detailed instruction manual.
45x30 cm; 2.0 kg
📖 **E**

W16002

W16003

W16003

Functional Eye – Small Version

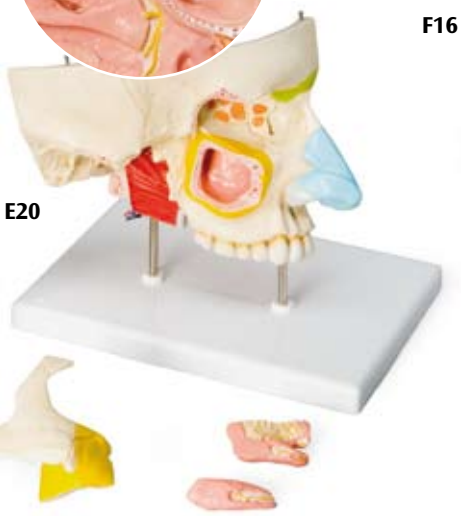
Same features as model W16002. 32x18 cm; 1.5 kg
📖 **E**

F16

3B MICRO*anatomy*™ Eye

This model illustrates the microscopic structure of the retina with choroid and sclera. The left block-like, layered side of the model side shows the complete structure of the retina including the vascular layer and parts of the sclera from a light microscopic view. The right part of the model is a sectional enlargement. It shows the microscopic structure of the photoreceptors and the cells of the pigmented layer.
25x23x18.5 cm; 1.2 kg
📖 **L/D/E/F/S/P/I/J www.**

F16



E20

E20

Nose with Paranasal Sinuses, 5-part

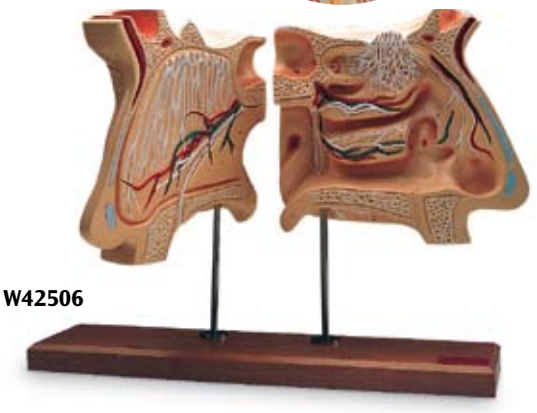
This model illustrates the structure of the nose with the paranasal sinuses in the upper right half of a face in 1.5-fold enlargement. The following structures can be seen from the outside, differentiated by colour (also visible through the removable transparent skin):

- The outer nasal cartilages
- The nasal, maxillary, frontal and sphenoidal sinuses
- The opened maxillary sinus when the zygomatic arch is removed

The following structures are shown in a median section:

- The nasal cavity, lined with mucosa, with the nasal conchae (removable)
- The arteries of the mucous membrane
- The olfactory nerves
- The innervation of the lateral wall of the nasal cavity, the nasal conchae and the roof of mouth (palate)

📖 **L/D/E/F/S/P/I/J www.**



W42506

W42506

Nose and Olfactory Organ, 4 times full-size

The nose halves are medially divided, from the base of the skull to the gum. This model shows the nasal septum with vessels and nerves (right side), all structures of the inner nasal cavity (left side), sinus and the opening of the Eustachian tube (left side). Parts are numbered and described on the outside. On a rotating base.
41x25.5x18 cm; 3.0 kg
📖 **E**

unique!

VJ510

VJ510

The World's Largest Ear, 15 times full-size, 3-part

At 15 times life-size, this 3-part ear is suitable for museums and special collections as well as large lecture halls and conferences. Representation of outer, middle and inner ear. The auditory ossicles and the labyrinth with cochlea and vestibulocochlear nerve can be removed and studied in detail. On base.

130x120x60 cm; 52 kg

L/E/D/S/F/P/I/J www.

VJ513

VJ513

Giant Ear, 5 times full-size, 3-part

This version is a whopping 5 times life-size for easy viewing from anywhere in the classroom! Representation of outer, middle and inner ear. Removable auditory ossicles and labyrinth with cochlea and vestibulocochlear nerve. Delivered on base.

25x41x25 cm; 3.0 kg

L/D/E/F/S

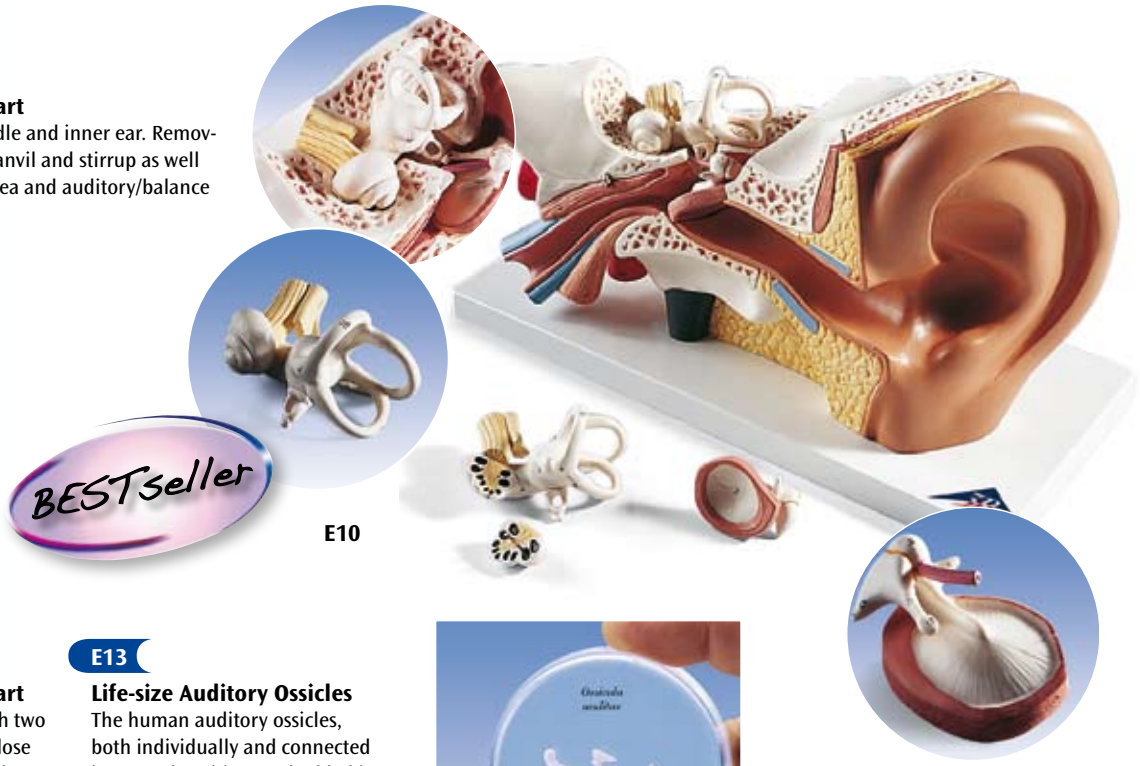
E10

Ear, 3 times life-size, 4 part

Representation of outer, middle and inner ear. Removable eardrum with hammer, anvil and stirrup as well as 2-part labyrinth with cochlea and auditory/balance nerve. On base.

34x16x19 cm; 1.25 kg

📖 **L/E/D/S/F/P/I/J www.**



E10

E11

Ear, 3 times life-size, 6 part

Same as E10, additionally with two removable bone sections to close the middle and inner ear. On base.

34x16x19 cm; 1.55 kg

📖 **L/E/D/S/F/P/I/J www.**

E13

Life-size Auditory Ossicles

The human auditory ossicles, both individually and connected in natural position, embedded in transparent plastic.

E13

E11

E12

W42514

Ear, 5 times full-size, 8-part

Representation of outer, middle and inner ear. Removable are:

- Outer ear
- Petrosal bone
- Mastoid process
- Tympanic membrane and auditory ossicles
- Labyrinth
- Cochlea and vestibulocochlear nerve (3-part)

The transparent semicircular canals are filled with fluid, each with one bubble to demonstrate their balance function. On wooden base.

43x25.5x20 cm; 4.1 kg

📖 **E**

W42514

E12

Desktop Ear Model, 1.5 times enlarged

Representation of the outer, middle, and inner ear. On base.

14x10x14.7 cm; 0.35 kg

📖 **L/E/D/S/F/P/I/J www.**

W16010

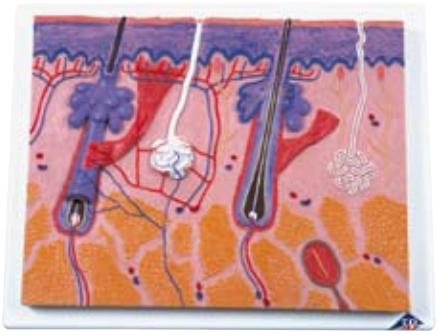
Functional Ear Model

This model shows how the tympanic membrane, ossicles, the complex internal ear with the cochlea and the oscillations of the basilar hearing membrane operate/interact. The enclosed mirror enables operation of the model for the studying of various ear-functions from different angles at the same time. One single model may be studied by several students simultaneously in an action-oriented learning situation. Includes a four-colour explanatory chart.

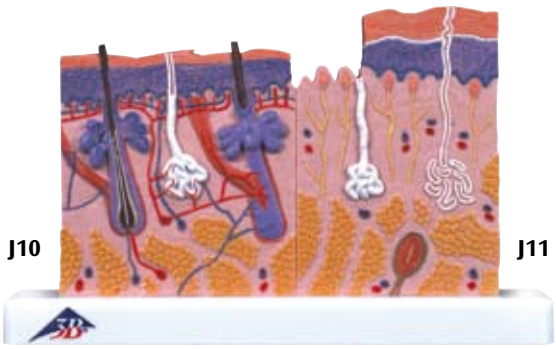
30x20x15 cm; 1.0 kg

📖 **E**

W16010



J10



J11

J14

J10

Skin Section, 70 times full-size

This relief model shows a section through the three layers of the hair-covered skin of the head. Delivered on base it shows:

- Representation of hair follicles with sebaceous glands
- Sweat glands
- Receptors
- Nerves
- Vessels

26x33x5 cm; 1.0 kg

L/E/D/S/F/P/J www.

J11

Skin Section, 40 times full-size

The two halves of this relief model show the three layers of hairy and hairless skin in order to make the differences clear. In detail with hair follicles, sebaceous glands, sweat glands, receptor, nerves and vessels. Delivered on base.

24x15x3.5 cm; 0.2 kg

L/E/D/S/F/P/J www.

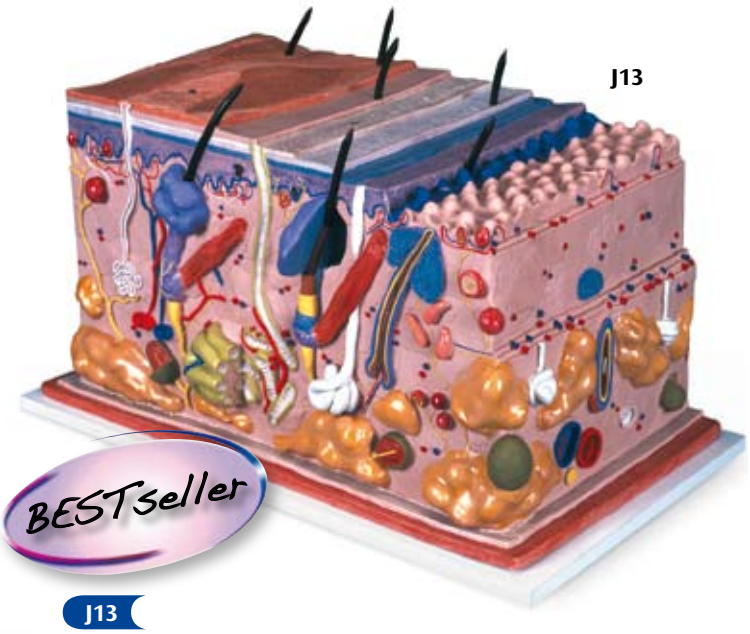
J14

Skin Section

This model shows the microscopic structure of the skin in great detail. With the help of the different skin sections of the hairless skin (for example palm of hand) and the hairy skin (for example forearm) the different cell layers as well as the embedded sweat glands, touch receptor, blood vessels, nerves and a hair with root can be seen. Furthermore a nail section model on the base shows the nail plate, nail bed and the nail root. The representation of a hair root with all its cell layers completes the skin model.

10x12.5x14 cm; 0.35 kg

L/E/D/S/F/P www.



J13

J13

Skin, Block Model, 70 times full-size

This unique model shows a section of human skin in three dimensional form. Individual skin layers are differentiated, and important structures such as hair, sebaceous and sweat glands, receptors, nerves and vessels are shown in detail. Mounted on baseboard.

44x24x23 cm; 3.6 kg

L/E/D/S/F/P/J www.

J15

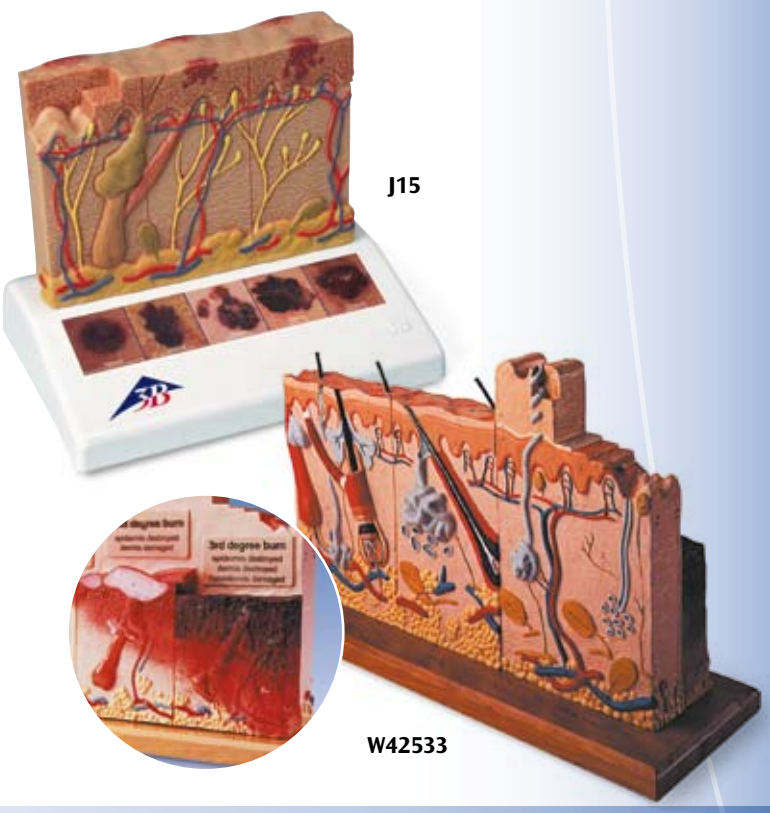
6 Different Stages of Skin Cancer Model, enlarged 8 times

- Healthy
- Malignant cells are found at the surface, within the epidermis
- Malignant cells fill the epidermis, a few invade the papillary layer
- Malignant cells fill the papillary layer
- Malignant cells invade the reticular layer
- Malignant cells have reached the subcutaneous fatty tissue, satellite cells approach a vein

In the top view, the individual stages of externally visible skin changes are shown, allowing for an assessment according to the “ABCDE” criteria. The sides of the model show the various levels of invasion into the skin layers according to Clark (I-V) and the tumour thickness according to Breslow (in mm). 5 original colour illustrations on the base show various types of malignant melanomas. Mounted on a base.

14x10x11.5 cm; 0.2 kg

E/D/S/F/P/J www.



J15

W42533

W42533

Human Skin Series with Burn Pathologies, 75 times life-size

Six models in one. The front face, compares and contrasts the normal healthy skin from three different body regions; the palm or sole (totally hairless), the axilla or armpit (sparsely endowed with hair), and the scalp (completely hirsute). The back of the model illustrates the progressive severity of injury caused by burns – from the painful reddening and transitory damage of the first degree burn, to the blistering, often permanent damage of the second degree burn, to the deep charring and permanent tissue destruction of the third degree burn. 46 features are coded for identification in accompanying key. Delivered on wooden stand.

46x25x8 cm; 2.75 kg

E

Cross sections of real specimens provide insight into the perfect interplay between the systems and structures of the human body. Embracing everything from an aesthetic overview to the finest detail, every single plastinate reveals an unaltered and credible basic understanding of life science and anatomical contexts.

The "Tissue Tracing Technique" allows us to view complex anatomical structures and provides a completely new understanding of fundamental functional interconnections. High-grade plastic materials, each with a defined refraction index adapted to the respective tissue, are applied to penetrate the tissue, making it transparent.

To ensure practically unlimited durability, the plastinated slices are cast between acrylic protection layers. Each acrylic layer is 10 mm thick and protects the plastinate against UV rays, scratches and other damage.

Customized items are available upon request.

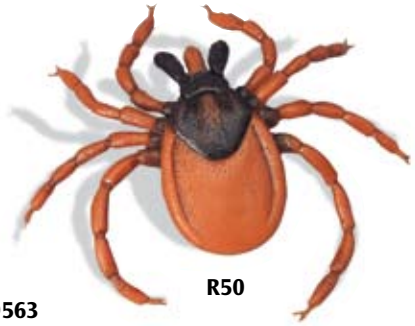
W29000
Plastinated slices – horse's hoof

W29001
Plastinated slices – pig's foot

W29002
Plastinated slices – chick

W29003
Plastinated slices – fish

W29004
Plastinated slices – rat



R50
Castor-Bean Tick (Ixodes ricinus)
Accurately detailed replica of the castor-bean tick; scale: 25:1. 12x12x2 cm; 0.035 kg

W59568
Monarch - Danaus genutia (Cramer)
Monarchs are the only butterflies that migrate. They fly south each autumn and return north in spring when the weather is warmer. This is why they are also called "wanderers". A monarch butterfly has large, colourful wings and small front legs. Its wingspan is about 10 cm across. Monarchs are brown or orange-brown, with black and white markings. These Real Monarch Butterfly specimens (10 cm) are encased in a clear circular acrylic. Supplied with storage box.
100x25 mm; 150 g

W59563
Crab - Nectocarcinus intigrifrons
Real Crab specimen encased in a rectangular block of acrylic. You can study the crab from every angle. Clear enough for microscope observation it is an ideal learning aid. Length of the Crab is 43 mm. Supplied with a cardboard box for easy storage.
110x43x30 mm; 150 g

W40238
32 Full Colour Dissectograms
Large laminated sets provide detailed information for the following standard lab study animals:
- Frog
- Crayfish
- Perch
- Clam
- Earthworm
- Foetal Pig
- Grasshopper
- Cat

Students are guided step-by-step through the dissection process. Each dissectogram depicts correct dissection procedures, necessary dissection tools, as well as proper scientific terminogy. Exceptional aid for reviewing dissection.
Description in English.
48x28 cm

W59550

Case with 27 Different Embedded Specimens

This high quality set is an excellent substitute for original living specimens. The natural appearance, shimmering colours and lifelike 3D view makes working with these unique and inexpensive specimens a fascinating experience for your students. These fine specimens are not generally hunted or caught by us, but originate from legal breeding or pest control sources. Each specimen is prepared with great care before encasement in a high quality transparent acrylic block. Teaching can hardly get more fascinating and true-to-life!

Common Name	Scientific Name
1- Chafer Beetle	Anomala Cuprea Hope
2- Lady bug	Synonycha grandis (Thunberg)
3- Mole Cricket	Gryllotalpa orientalis Burmeister
4- Praying Mantis	Hierodula petellifera (Serville)
5- Paper Wasp	Polistes olivaceus (De Geer)
6- Honey bee	Apis cerana
7- Ant	Pheidologeton latinodus Zhou et Zeng
8- Dung beetle	Catharsius molossus (Linnaeus)
9- Rhinoceros beetles	Xylotrupes Gideon (Linnaeus)
10- Monarch	Danaus genutia (Cramer)
11- Long-horned Beetle	Anoplophora chinensis (Forster)
12- Cicada	Cryptotympana atrata (Fabricius)
13- Shield bug	Eusthennes cupreus (Westwood)
14- Wespspin Spider	Argiope bruennichii (Scopoli)
15- Dragonfly	Brochythemis coutaminata
16- Cricket	Teleogryllus emma (Ohmachi et Mastsumura)
17- Cockroach	Periplaneta australasiae (Fabricius)
18- Scorpion	Urodaus novae-hollandiae
19- Centipede	Scolopendra
20- Walking stick	Diapheromera femorata
21- Onion Fly	Delia antqua Meigen
22- Chinese shrimp	Penaeus chinensis (Osbeck)
23- Silkworm	Bombyx mandarina moore
24- Crab	Nectocarcinus intigrifrons
25- Star fish	Asterias amurensis Lutken
26- Grasshopper	Catantops splendens
27- Stag beetle	Odontolabis cuvera fallaciosa

42x33x8cm; 5 kg

W59550

NEW

W59558

The Life of the Honeybee - Apis cerana

These vividly illustrative embedded specimens give your students an excellent insight into the world of the honeybee. Included are high quality specimens of 1. Egg, 2. Larva, 3. Pupa, 4 Adult (Worker), 5 Adult (Drone), 6. Adult (Queen), 7. The Base of Nest, 8. Worker Comb, 9. Queen Comb, 10. Bee Pollen, 11. Honey, 12. Wax.
165x80x25 mm; 150 g

W59558

T30046

Fish Skeleton – African Catfish (Clarias lazera)

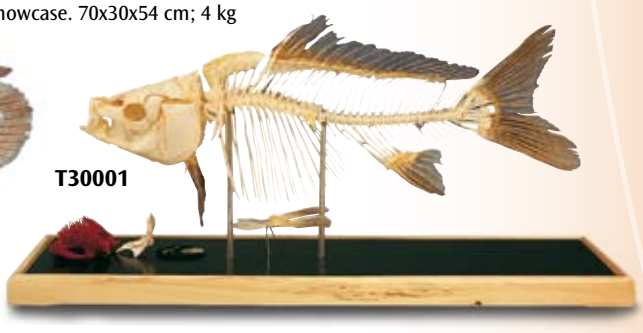
On wooden base. 70x30x30 cm; 6 kg

T30046

T30001

Fish Skeleton – Carp (Cyprinus carpio)

In showcase. 70x30x54 cm; 4 kg



T30001

The following 3B Scientific® Products depict common amphibians and reptiles in their natural size and are great supporting aids for an exciting Biology lesson. Each is modelled and detailed as if moving through their natural habitat. The smallest details of making and colouration allows students to recognize the characteristics of the different species on these amazingly realistic works of art. Unless otherwise stated, all models are mounted on a nature like base.

hand-painted true to nature!

VN701/1
Tree Frog, male
(Hyla arborea)

VN701/2
Tree Frog, female
(Hyla arborea)

VN709/1
Common Spadefoot Toad,
male (Pelobates fuscus)

VN709/2
Common Spadefoot Toad,
female (Pelobates fuscus)

VN703
Moor Frog (Rana arvalis)

VN712
Fire-Bellied Toad
(Bombina bombina)

VN708/1
Common Toad, male
(Bufo bufo)

VN708/2
Common Toad, female
(Bufo bufo)

VN702/1
Common Frog, male
(Rana temporaria)

VN702/2
Common Frog, female
(Rana temporaria)

VN710/1
Green Toad, male
(Bufo viridis)

VN710/2
Green Toad, female
(Bufo viridis)

VN704/1
Edible Frog, male
(Rana esculenta)

VN704/2
Edible Frog, female
(Rana esculenta)

VN711
Natterjack Toad
(Bufo calamita)

VN707
Agile Frog
(Rana dalmatina)

Vertebrates: Amphibians & Reptiles

VN705
Midwife Toad
(Alytes obstetricans)

VN700
Fire Salamander
(Salamandra salamandra)

VN719
Viviparous Lizard
(Lacerta vivpara)

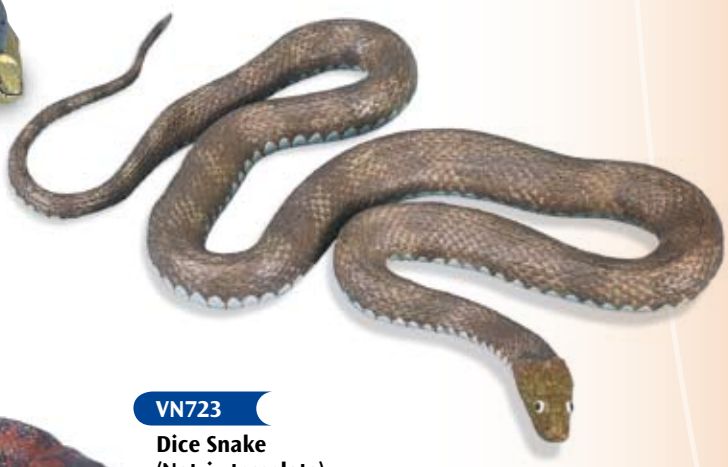
VN720/1
Sun Lizard, male
(Lacerta agilis)

VN720/2
Sun Lizard, female
(Lacerta agilis)

VN715
Slow Worm (Anguis fragilis)

VN724
Smooth Snake
(Coronella austriaca)

VN721
Grass Snake
(Natrix natrix)



VN723
Dice Snake
(Natrix tesselata)

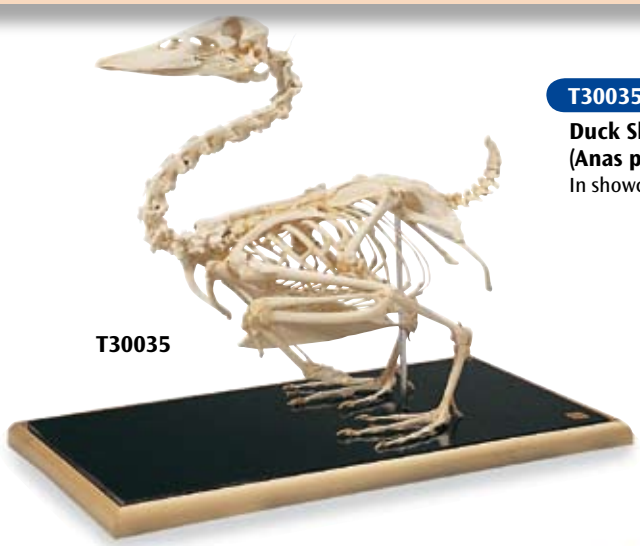
VN722
Common Viper or Adder
(Vipera berus)

Unless otherwise stated all animal skeletons are constructed from natural bones. The individual bones of the animal skeletons are sturdily mounted and durable. Some animal skeletons have flexibly mounted joints and thus all natural postures can be seen and demonstrated.

All animal skeletons have been obtained legally and may occasionally require longer delivery times due to supply and demand.

T30002

Chicken Skeleton (Gallus gallus)
In showcase.



T30035

Duck Skeleton (Anas platyrhynchos)
In showcase.

T31005

Dove Skeleton and Stuffed Dove (Columba palumbus)
In showcase.

T30007

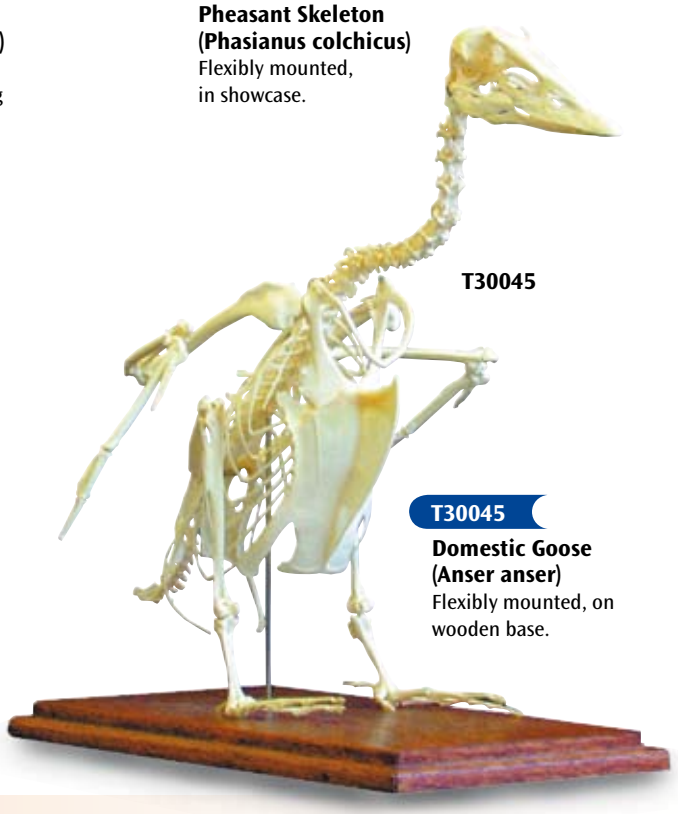
Dove Skeleton (Columba palumbus)
In showcase.
32,5x31,5x32,5 cm; 2 kg

T30044

Pheasant Skeleton (Phasianus colchicus)
Flexibly mounted, in showcase.

T30033

Wing and Feathers of a Dove (Columba palumbus)
In showcase, labelling in English.



T30045

Domestic Goose (Anser anser)
Flexibly mounted, on wooden base.

T31001

Mouse Skeleton and Stuffed Mouse
In showcase.

T30027

Rat Skull (Tattus rattus)

T30019

Hare Skull (Lepus europaeus)
Flexibly mounted.

T30008

Hare Skeleton (Lepus europaeus)
In showcase.

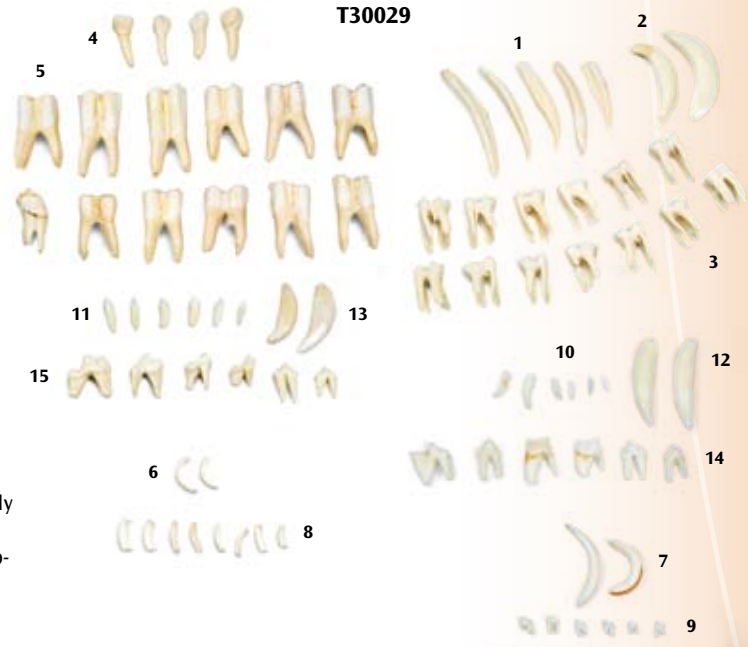
T30011

Rat Skeleton (Tattus rattus)
In showcase.

T30029

Types of Animal Teeth
This series shows the different types of teeth of cows (ruminant), pigs, dogs, cats (terrestrial carnivores), rabbits, rats (rodents).

1. Pig: Incisors
2. Pig: Canine teeth
3. Pig: Molars
4. Cow: Incisors
5. Cow: Molars
6. Hare: Incisors
7. Rat: Incisors
8. Hare Molars
9. Rat: Molars
10. Cat: Incisors
11. Dog: Incisors
12. Cat: Canine teeth
13. Dog: Canine teeth
14. Cat: Molars
15. Dog: Molars



T30024

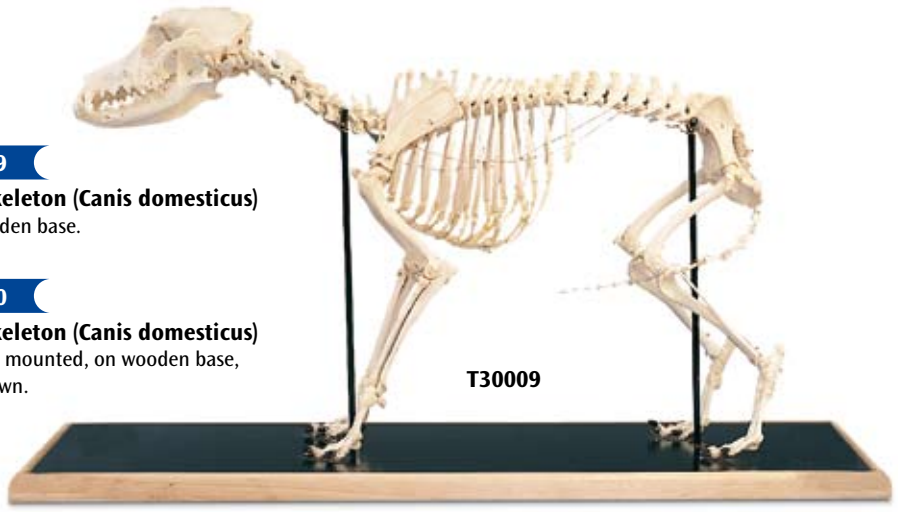
Mammal Feet
This series graphically shows the different types of mammalian feet. Consisting of foot skeletons of: Horse or cow, pig and sheep with separately mounted hooves as well as leg skeletons with shoulder blade of: cat, hare and dog. Mounted on a wooden base. Please note that the leg may be supplied without the scapula bone.
72x44x60 cm; 7 kg

W19010

W19010
Dog Skull (Canis domesticus)
Medium sized dog skull, cast from nature, with removable lower jaw. Made of unbreakable plastic.
📖 E

T30009
Dog Skeleton (Canis domesticus)
On wooden base.

T30040
Dog Skeleton (Canis domesticus)
Flexibly mounted, on wooden base, not shown.



T30009

T30028

T30028
Cat Skeleton (Felis catus)
On wooden base.

T30039
Cat Skeleton (Felis catus)
Flexibly mounted, in showcase, not shown.

T30020
Cat Skull (Felis catus)
Flexibly mounted.

T30020

T30021

T30032

T30032
Dog Leg (Canis domesticus)
Please note that the dog leg may be supplied without the scapula bone.

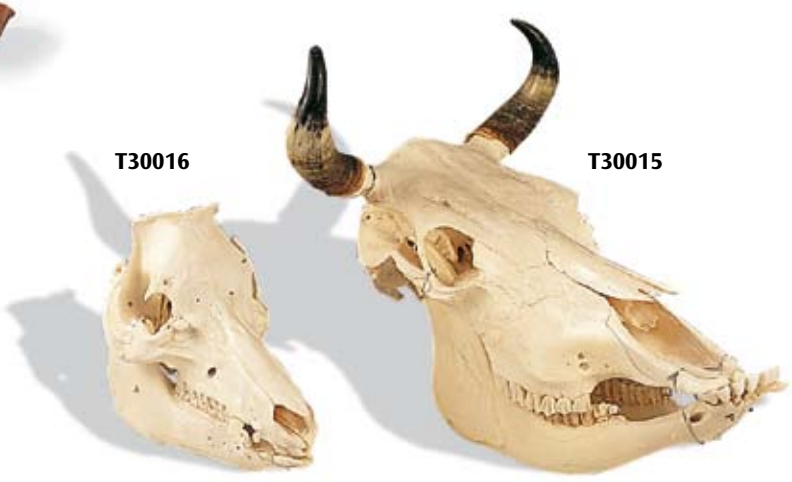
T30021
Dog Skull (Canis domesticus)
Flexibly mounted.

T30023 T30031

T30015
Cow Skull (Bos taurus)

T30012
Cow Skeleton (Bos taurus)
On wooden base, not shown.

T30016
Pig Skull (Sus scrofa)
Flexibly mounted.



T30016 T30015

T30023
Horse Foot (Equus caballus)

T30031
Cow Foot (Bos taurus)

T30022
Pig Foot (Sus scrofa)
Not shown.

T30014

Horse Skeleton (Equus caballus)
On wooden base, delivery time on demand.

T30017

Horse Skull (Equus caballus)
Delivery time on demand.

T30017

T30018

T30018

Sheep Skull (Ovis aries)
Flexibly mounted.

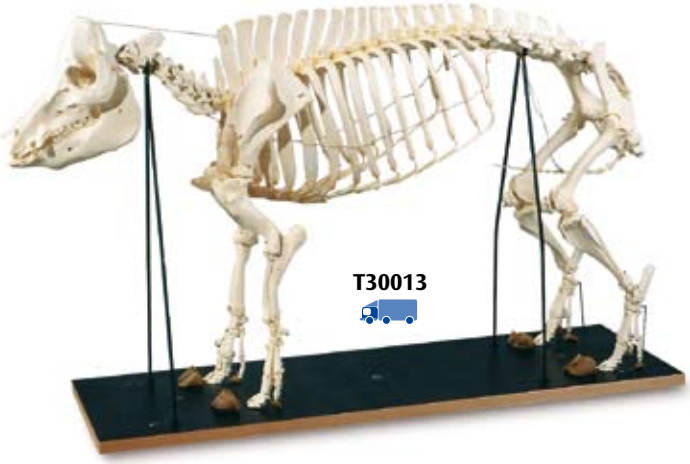
W19011

Sheep Skull (Ovis aries)
Fully developed sheep skull, cast from nature, with removable lower jaw. Made of unbreakable plastic.
E

T30036

Sheep Skeleton (Ovis aries)
On wooden base.

W19011



T30013

Pig Skeleton (Sus scrofa)
On wooden base.

VP760/1

Chimpanzee Skull (Pantroglodytes), female
This model was cast from an original from the Collection of the Johann Wolfgang Goethe University of Frankfurt am Main, Institute of Anthropology and Human Genetics for Biologists.
17x11,5x14 cm; 0.5 kg

VP761/1

Orang-Outang Skull (Pongopygmaeus), male
This model was cast from a replica of the original skull from the Senckenberg Research Institute and Natural History Museum in Frankfurt/Main.
22x16x18 cm; 0.6 kg

VP761/1 VP760/1 VP762/1

VP762/1

Gorilla Skull (Gorilla gorilla), male
Cast from nature, with movable lower jaw.
26x16.5x19.5 cm; 0.8 kg

Monocotyledonous Plants

The family of monocotyledonous plants includes grasses, orchids, lily plants and palms. There are more than 66,000 different species worldwide.

Grasses
The narrow, sharp and parallel running leaves are typical of the germineae genus. The air pollinated and generally androgynous flowers are arranged in heads.

Lily Grasses (Liliaceae)
Lilly grasses are characterized by bulbs and their large, funnel shaped flowers.

T21009

T21009

Wheat (Triticum aestivum)
Model of a spicule magnified 15 times, with removable and dissectible single flower.
52 cm; 0.8 kg

T21010

T21010

Tulip (Tulipa gesneriana)
The section of stamen and pistils is removable, 3 times magnification.
51 cm; 0.4 kg

Dicotyledonous Plants

The family of dicotyledonous plants includes the majority of angiosperms and all woody plants. There are more than 174,000 species world-wide.

W42519

W42519

Dicotyledonous Flower
The pollination of the angiosperms can be taught using this magnified model of an idealized flower with, torus, ovary, and style. Removable are:
- 3 petals
- 4 sepals
- 4 filaments

2 anthers and the ovary are cut partly to show the inner structures. 6 pollen grains that are mounted on the style can be easily identified.
E

Composite Flowers (Asteroideae)
Typical of the asteroideae species is the torus mostly featuring many single flowers, which are surrounded by a mutual involucre. Asteroideaes are often useful or medicinal plants.

T21022

T21023

T21013

T21022

Dandelion (Taraxum officinale)
These models show:
- The inflorescence at 10 times magnification
- One seed with flight organ
- One single flower

📖 **E/D/S/F/P/I/J**

T21013

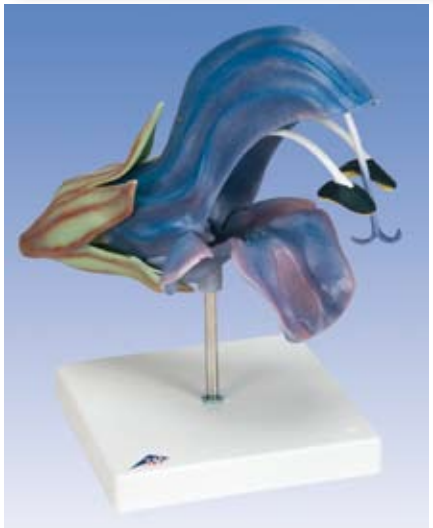
Sunflower (Helianthus annuus)
The model shows the inner tubular corolla magnified 10 times and the outer ray flower magnified 3 times. The tubular corolla can be dissected into 2 halves. 24 cm; 0,5 kg

📖 **E/D/H**

T21023

Genuine Chamomile (Matricaria chamomilla)
Model of the inflorescence (10 x lifesize) with a single tubular floret (approx. 50 x lifesize).
23x25x30 cm

Labiates (Lamiaceae)
The four sided stalks and the lip shaped flowers are characteristic of the labiates species. Labiates often are spice, perfume or medicinal flowers.



T21024

T21024

Meadow clary (Salvia pratensis)
This model shows the detailed structure of a single flower with its pollination mechanism (magnified approx. 15 times). For purposes of better illustration, it is possible to detach the detailed model into four components. The typical barrier mechanism can be moved mechanically.
18x28x30 cm

Fabaceae (Papilionaceae)
The name of the papilionaceae species is attributed to their butterfly shaped corolla. The corolla consists of petals, 2 wings and the keel comes from two petals which have grown together.

Crowfoot Plants (Ranunculaceae)
The crowfoot species includes many herbs. The flowers are often yellow.

T21026

Pea
(Pisum sativum)
This model shows the detailed structure of a single flower with its pollination mechanism (magnified approx. 8-fold). For purposes of better illustration, it is possible to detach the detailed model into 12 components. In addition, the cross-section of a ripe pea pod (magnified 8-fold) is depicted on the base of the model.

T21017

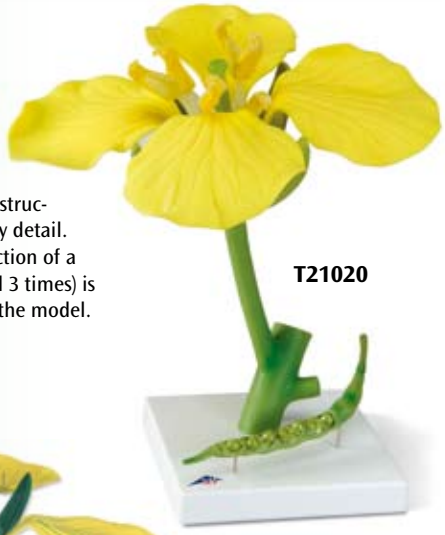
Celandine
(Ficaria verna)
Magnified 10 times.
39 cm; 0.4 kg

Cruciferous Plants (Capparaceae)
The cruciferous plants species have earned their name because of the grape shaped flowers with 4 cross shaped sepals and petals. The fruit is often a silique.

Primrose Plants (Primulaceae)
Hardies featuring rosette like, ground petals, a leafless stalk and umbel like flowers are typical of primrose species. The sepals and petals are partly grown together.

T21020

Oilseed Rape
(Brassica napus ssp. oleifera)
This model of a single flower (magnified 12 times) shows the typical structure of a crucifer in every detail. In addition, the cross-section of a ripe rape pod (magnified 3 times) is depicted on the base of the model.
18x18x36 cm



T21012

Wild Rape
(Sinapis arvenis)
Model at 12 times magnification. The 2-part carpel area can be taken out for detailed study.
35 cm; 0.3 kg

T21008

Primrose
(Primula veris)
This model shows the complete flower and a longitudinal section.
39 cm; 1.2 kg

Woody Plants (Hamamelididae) and Rose Plants (Rosaceae)
The species of woody plants and rose plants include trees, bushes and hardies. The rosaceae species are subdivided into 4 subfamilies: Spiraeoideae, Rosoideae, Maloideae (pomaceous fruit, e.g. apple) and Prunoideae (stone fruits, e.g. cherry). The flowers mostly feature a pentameric perianth and numerous stamen.

T21019

T21016

T21019

Cherry Blossom with Fruit (Prunus Avium)
This model shows the blossom of the sweet cherry (3-parts) enlarged 7 times as well as a cherry fruit enlarged 3 times. The cherry blossom can be split into two halves to reveal the removable ovary with style and stigma.
32.5 cm; 0.6 kg
E/D

T21016

Apple Flower (Malus pumila)
Model at 5 times magnification showing sepals, petals, carpels and stamen.
40 cm; 0.4 kg

T21011

Oak Tree Stem (Quercus robur)
This model shows male and female flowers at 25 times magnification, the section of stamen and pistils is removable.
30 cm; 1.2 kg

T21011

Solanum (Solanaceae)
The solanum species usually features large, bell-shaped flowers in different colours.

T21014

T21014

Potato Flower (Solanum tuberosum)
8 times magnified. The part that features petals and stamen can be removed for a detailed view of the carpel.
39 cm; 0.25 kg

W19206

W19206

Relief Model of Leaf Structure
Representation of the histological structure of a leaf (Ligustrum), magnified 500 times.
6.5x24x26 cm; 1.4 kg
📖 **E**

T21001

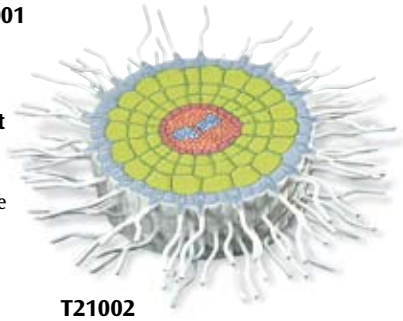
T21001

Block Model of Leaf Sructure
Cube-shaped detail of the pedate, bifacial deciduous leaf of the Christmas Rose (Helleborus niger) enlarged by a factor of 1500, with stoma on the underside.
30x30x9cm 1,4kg
📖 **L/D/E/F/I/S/P/J/R/C**

T21003

T21003

Dicotyledons – stem cross-section
Cross-section of a Creeping Buttercup stem with collateral open vascular bundles. The model shows the typical stem structure of a dicotyledon enlarged by a factor of 250.
28x7cm 0,8kg
📖 **L/D/E/F/I/S/P/J/R/C**



T21002

T21002

Absorption Zone of the Root
With the example of the white mustard (sinapis alba) this relief model shows the absorption zone of a dicotyledonous plant.
43x43x8 cm; 1.5 kg
📖 **E/D/H**

W19208

W19208

Tissue Structure of the Buttercup Root (Ranunculus)
Longitudinal and lateral view at 400 times magnification.
📖 **E**

W19207

W19207

Tissue Structure of the Sunflower Stem (Helianthus annuus)
Detailed longitudinal and lateral view 200 times magnified.
📖 **E**

R05

The Plant Cell, magnified 500,000-1,000,000 times
The two-piece model presents the structure of a typical plant cell with cytoplasm and cell organelles, as viewed from an electron microscope. For better illustration, all important organelles are raised and displayed in colour, e.g.:
- Cell wall
- Cell membrane
- Nucleus
- Smooth Endoplasmic Reticulum
- Rough Endoplasmic Reticulum
- Ribosomes
- Chloroplasts
- Mitochondria
- Dictyosomes/Golgi apparatus

20x14x32 cm; 0.8 kg
📖 **E/D/S/F/P/I/J**

R05

R04

The Animal Cell
The two-piece model shows the form and structure of a typical animal cell as viewed from an electron microscope. For better illustration, all important organelles are raised and displayed in colour, e.g.:
- Nucleus
- Mitochondrion
- Smooth Endoplasmic Reticulum (ER)
- Rough Endoplasmic Reticulum (ER)
- Basal membrane
- Collagen fibres
- Golgi apparatus
- Microvilli
- Lysosome

21x11x31 cm; 0.8 kg
📖 **E/D/S/F/P/I/J**

R04

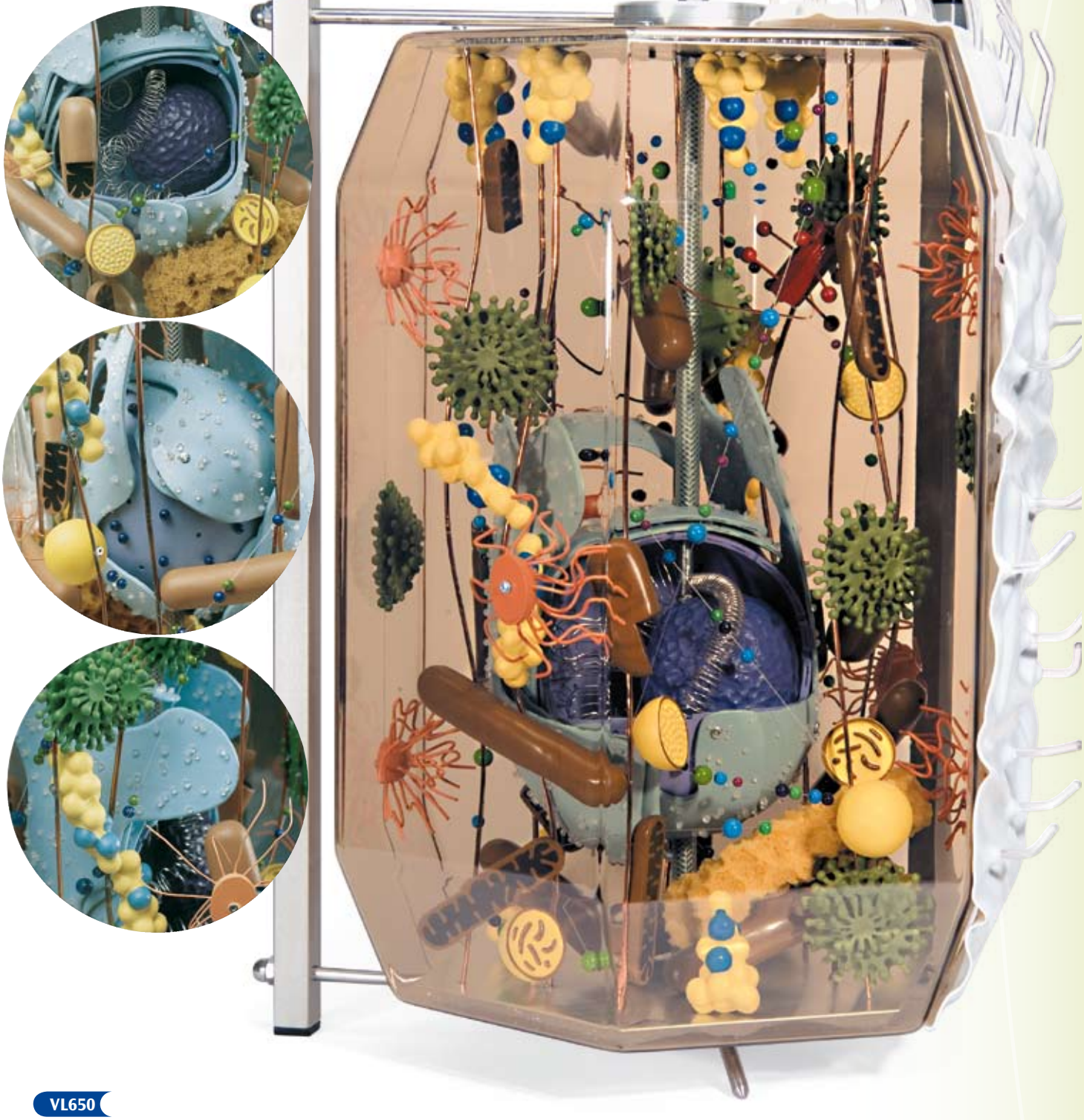
W19201

W19201

Comparison Models Animal and Plant Cell
These enlarged models of an animal cell and a plant cell enable visual teaching about their structures, as well as their similarities and differences. The cell structures are numbered and identified, and the product manual also includes reproducible illustrations for use in testing. Furthermore, the set contains 12 electron microscopic illustrations of different cell structures. Supplied with teacher's notes in English. 16x15x9 cm; 1 kg
📖 **E**

unique!

VL650



VL650

Glass Cell, 40,000 times full-size

This worldwide unique model represents an undifferentiated human cell at an enlargement of 40,000 times. It provides a means of studying the structure of the smallest unit of any living creature capable of independent life, as seen through an electron microscope. The model shows the essential function bearing cell organelles. Their arrangement in the model provides a momentary snapshot of the dynamic balance of a cell. The cell nucleus, a few mitochondria and the lysosomes are shown in section, so that their internal structure is visible. The glass cell is an eye-catcher for exhibitions and has received several distinctions such as "World Didac Gold Award 1990". Mounted on bar stand.

60x46x46 cm; 13 kg

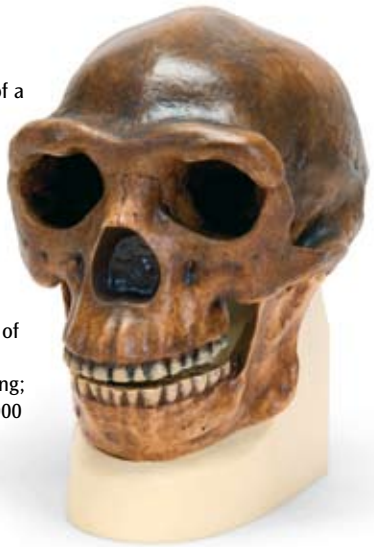
📖 **D/E/F/S**

worlddidac Gold Award

New Anthropological Skulls from 3B Scientific®
These models are finest castings produced from scientifically made copies of specimens featured in the collection at the Institute of Anthropology and Human Genetics for Biologists at the Johann-Wolfgang-Goethe University, Frankfurt/Main, Germany. This means that all the details are reproduced absolutely accurately. The unique replicas are enhanced by being displayed on a pedestal that contains a relief map* of the geographical area where the specimen was found.

VP750/1

Anthropological Skull – Sinanthropus
This skull is an accurate casting of a Sinanthropus skull reconstructed by Weinert and modelled from drawings by Black and Weidenreich after all the original bone specimens had been lost. Sinanthropus belongs to the genus Homo erectus pekinensis (Sinanthropus pekinensis) and can be seen as a typical example of early man. Discovered at: Zhoukoudian 40 km south west of Peking; Discovery: 1929-1936; Age: 400,000 years.
21x14.5x21.5 cm; 0.9 kg
L/D/E/F/P/S/I/J



VP751/1

Anthropological Skull – La Chapelle-aux-Saints
Cast from a reconstruction of the La Chapelle-aux-Saints skull, the model skull is an accurate copy of one belonging to a 50-55 year old male Neanderthal from ancient Europe of the species des Homo (sapiens) neanderthalensis. Early man. Discovered at: southern France Discovery: 1908; Age: Approximately 35,000 to 45,000 years.
22x16x22.5 cm; 0.9 kg
L/D/E/F/P/S/I/J

VP752/1

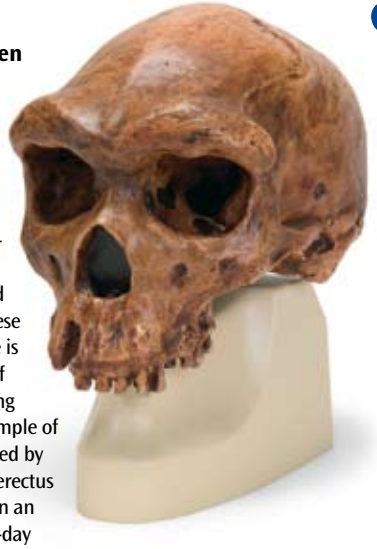
Anthropological Skull – Crô-Magnon
This wonderful casting is a reconstruction of an early hominid called Crô-Magnon man. The age of the original is dated to be 20,000 to 30,000 years old. The skull itself belonged to an early modern man of the species Homo sapiens sapiens from the ice age of the neo-Palaeolithic era. Early man (neo-Palaeolithic). Discovered at: a cave in Vézèretal / southern France; Discovery: 1868; Age: 20,000 to 30,000 years.
21.5x15x24.5 cm; 0.9 kg
L/D/E/F/P/S/I/J

VP753/1

Anthropological Skull – Steinheim
This Steinheim model is a detailed casting from Berkhemer's reconstruction (1936, skull with no jawbone). The original of this skull from a forerunner of Neanderthal man was a Homo (sapiens) steinheimensis aged between about 25 and 35 and was discovered in a gravel in Steinheim, southern Germany, in 1933. Forerunner of a Neanderthal man or an ancient Homo sapiens. Discovered at: a gravel pit near Steinheim an der Mur, Germany; Discovery: 1933; Age: approximately 250,000 years.
19x12.5x21.5 cm; 0.7 kg
L/D/E/F/P/S/I/J

VP754/1

Anthropological Skull – Broken Hill or Kabwe
An accurate casting of a skull reconstructed from an original that was discovered in a iron ore working at Broken Hill, in north west Rhodesia (modern-day Kabwe in Zambia). It is an example of the early man, Homo sapiens rhodesiensis or a Homo erectus rhodesiensis, and indications exist to point to both these classifications. For this reason, there is also a wide range in the estimates of the specimen's age based on differing scientific assumptions. An early example of an ancient Homo sapiens (as classified by Henke and Rothe 1994) or a Homo erectus rhodesiensis. Discovered at: a cave in an ore working at Broken Hill, modern-day Kabwe in Zambia. Discovery: 1921. Age: probably 150,000 to 300,000 years old. Previous estimates were of 40,000 to 60,000 years. 21x15.5x23.5 cm; 0.8 kg
L/D/E/F/P/S/I/J



VP755/1

Anthropological Skull – KNM-ER 406, Omo L. 7a-125
This model is a high-quality casting of a reconstruction of the Kalvarium skull (KMN-ER 406) with a partial mandible (Omo L. 7a-125). The Kalvarium skull is approximately 1.7 million years old and was discovered at Lake Rudolph (now called Lake Turkana) in 1970. The partial mandible comes from a different dig but is clearly from the same species. The classification of the species has not yet been indisputably clarified. Discussions continue as to whether the specimen is an Australopithecus boisei or a Paranthropus boisei. Example of a pre-human hominid. Discovered at: Lake Turkana, formerly Lake Rudolph; Discovery: 1970; Age: about 1.7 million years.
18x18x22.5 cm; 0.8 kg
L/D/E/F/P/S/I/J

3B Scientific® Model Series
The three dimensional relief models are painted according to the usual colouring methods of microscopy, making the process of cell division easy to understand. The cell organelles are shown as if opened up in the lower part of the models. The models are equipped with magnets on the back so that for teaching purposes they can be easily arranged on a magnetic board in the classroom. The model series is supplied in a storage system (40 x 60 cm) which can be fastened to the wall. A detailed description and handouts for your lessons are included.

R01

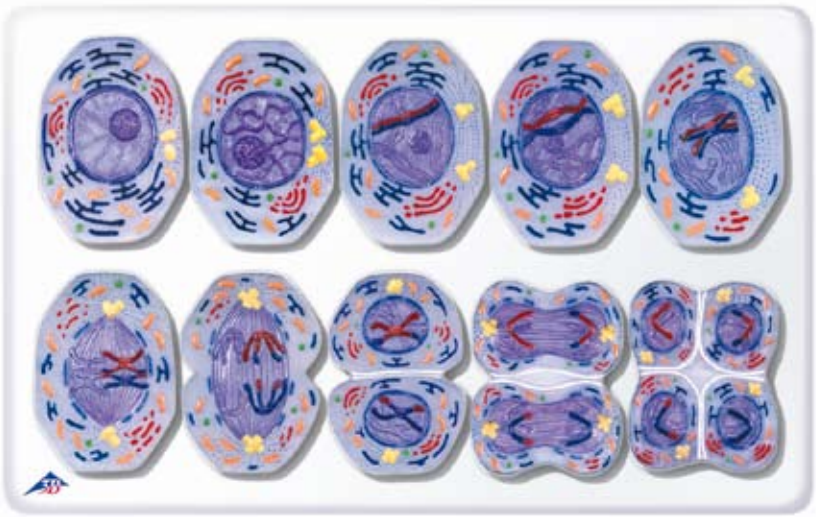
Mitosis Model

This newly developed 3B Scientific® model series shows the following 9 phases of mitosis on the basis of a typical mammal cell at an enlargement of approx. 10,000 times:
1. Interphase
2. Prophase
3. Early prometaphase
4. Later prometaphase
5. Metaphase
6. Early anaphase
7. Later anaphase
8. Telophase
9. Cytokinesis

60x40x6 cm; 1.5 kg
📖 **E/D/S/F/P/J**

Tip: As a useful addition and permanent eye catcher in the classroom we recommend the matching wall chart “Mitosis” (page 136, product number V2049M, V2049U).

R02



R02

Meiosis Model

This newly developed 3B Scientific® model series shows the 10 stages of meiosis on the basis of a typical mammal cell at an enlargement of approx. 10,000 times:
1. Interphase (stage of G1-phase)
2. Prophase I (leptotene)
3. Prophase I (zygotene and pachytene)
4. Prophase I (diplotene)
5. Prophase I (diakinesis)
6. Metaphase I
7. Anaphase I
8. Telophase I, cytokinesis I, interkinesis, prophase II and metaphase II
9. Anaphase II
10. Telophase II and cytokinesis II

60x40x6 cm; 1.7 kg
📖 **E/D/S/F/P/J**

Tip: As a useful addition and permanent eye catcher in the classroom we recommend the matching wall chart “Meiosis” (page 136, (V2051M, V2051U).

W19203

W19203

Meiosis, 10 Models

With 10 models the stages of meiosis are explained. Supplied with teacher’s notes in English.
16x2x12 cm; 1 kg
📖 **E**

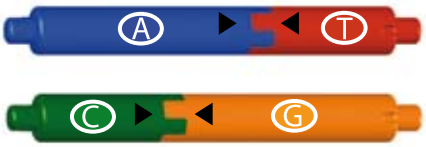
W19202

Mitosis, 8 Models

This set explains the stages of mitosis with 8 enlarged models. Supplied with teacher’s notes in English.
16x15x9 cm; 1 kg
📖 **E**

W19202

W19780



Matched corresponding shapes

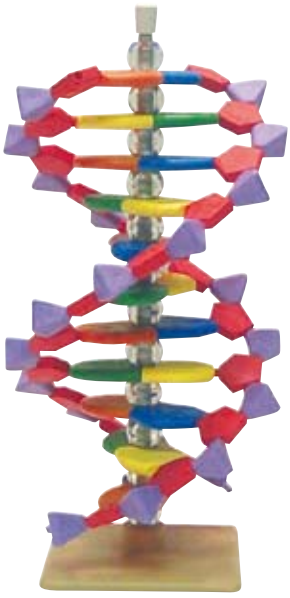
W19780

DNA Double Helix Structure Model

- When assembled, students can understand the basic structure of DNA.
- By assembling the model, students will understand the biological terms.
- Easy to assemble and disassemble and can even be used as a decorative model
- The model is grouped by 6 colours
- One can observe the complete product by spinning the model.
- Deoxyribose & 4 bases (A:Adenine, G:Guanine, C:Cytosine & T:Thymine) model types are properly used.
- The description of colours and symbols of sugar, phosphoric acid & 4 bases are well defined and distinguished.
- Size of the purine base (Adenine, Guanine) and the pyrimidine base (Cytosine, Thymine) are different.
- Assembled bases pairs (Adenine - Thymine, Guanine - Cytosine) are well defined.
- In one turn of the DNA, 10 pairs of base are seen.

Size 12,5 x 35cm

W19760



W19759

W19760

miniDNA™ 22 Layer Molecular Model

The miniDNA™ system comprises abstract shaped colour coded parts to represent the nitrogenous bases, pentagonal sugar & pyramidal phosphate parts required to make the Double helix model of DNA.

Contents:

11 Thymine (orange)
11 Adenine (blue)
11 Guanine (green)
11 Cytosine (yellow)
44 Deoxyribose (red)
44 Phosphate (purple)

Supplied with assembly instructions and its own stand. Packed in a plastic box.

44 cm; diam 11 cm

E

W19759

miniDNA™ 12 Layer Molecular Model

The miniDNA™ system comprises abstract shaped colour coded parts to represent the nitrogenous bases, pentagonal sugar & pyramidal phosphate parts required to make the Double helix model of DNA.

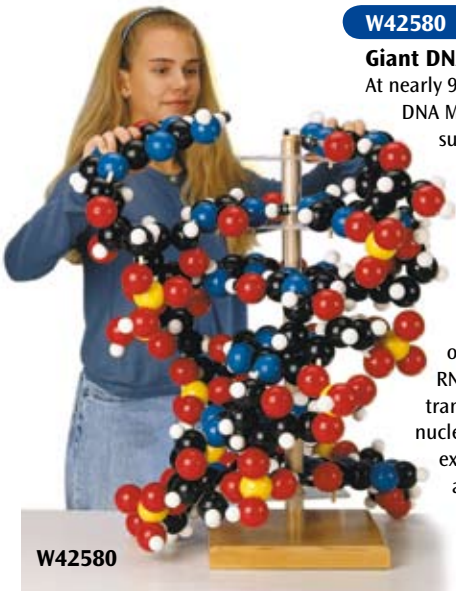
Contents:

6 Thymine (orange)
6 Adenine (blue)
6 Guanine (green)
6 Cytosine (yellow)
24 Deoxyribose (red)
24 Phosphate (purple)

Supplied with assembly instructions and its own stand. Packed in a plastic box.

24 cm; diam. 11 cm

E


W42580

W42580

Giant DNA Model

At nearly 90 cm in height, this DNA Molecule is ideally suited to the classroom environment. Magnetic connectors, representing hydrogen bonds, permit the two strands of the double helix to unzip completely, evoking the mechanism of DNA replication, and RNA synthesis (genetic transcription). Removable nucleotides let students experience first hand why a larger purine base must always pair with a smaller pyrimidine base, and that base pairs are complementary – adenine pairing with thymine and guanine pairing with cytosine. Non-separable atoms connected by permanent flexible "bonds" form the sugar-phosphate backbone of the molecule. Encompassing six base pairs the double helix is mounted on a wooden base and can be rotated.
86x41 cm; 8.0
E

W19205

DNA Double Helix

3 coils of the DNA double helix, consisting of nucleic acids, to demonstrate base pairing. At the top end is attached one RNA cord, to show the basis of transcription. On base.
31x9x9 cm; 0.2 kg
E


W19205


W19762


W19763

This right handed double helix self assembly kit with 12/22 (1/2 turns) base pairs can be used to model DNA REPLICATION and complementary base pairing. It contains colour coded parts to represent the nitrogenous bases, pentose sugars and phosphate components that make up DNA.
Special features:
- Connected by 2 and 3 Hydrogen bonds for Thymine/Adenine & Cytosine/Guanine respectively
- Clearly demonstrating the major and minor grooves
- Differently sized pyrimidines to purines

Special features of the Advanced kit
- Connected by 2 and 3 Hydrogen bonds for Thymine/Adenine & Cytosine/Guanine respectively
- Clearly demonstrating the major and minor grooves
- Differently sized pyrimidines to purines

Delivered with instructions and stand.

W19764

Advanced miniDNA™ 12 Base RNA

Easily assemble this single strand molecule which consists of the 4 bases, as in DNA, and Uracil. This kit contains 12 bases, equivalent to 4 codons in a single strand model of messenger RNA as well as 2 "clover leaf" shaped Transfer RNA parts and 2 amino-acid parts. Together with the 12 layer Advanced miniDNATM kit it can be used to model the creation of RNA by TRANSCRIPTION. Furthermore, it provides hands-on investigation into protein synthesis known as TRANSLATION.
Contents:
3 Uracil (light blue)
3 Adenine (blue)
3 Guanine (green)
3 Cytosine (yellow)
12 Ribose (red)
12 Phosphate (purple)
14.5x14.5x3 cm; 0.13 kg
E


W19764

W19762

Advanced miniDNA™ (22 layer)

Contents: 11 Thymine (orange), 11 Adenine (blue), 11 Guanine (green), 11 Cytosine (yellow), 44 Deoxyribose (red), 44 Phosphate (purple).
17x23.5x6 cm; 0.7 kg

W19763

Advanced miniDNA™ (12 layer)

Contents: 6 Thymine (orange), 6 Adenine (blue), 6 Guanine (green), 6 Cytosine (yellow), 24 Deoxyribose (red), 24 Phosphate (purple)
17x23.5x3 cm; 0.5 kg

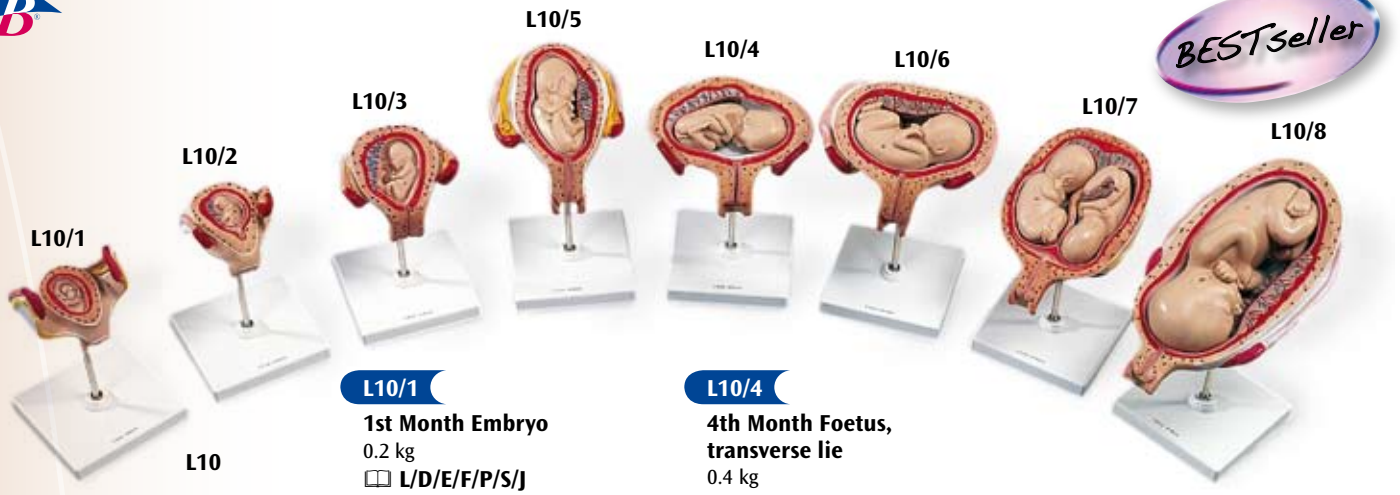

W19204

W19204

Nucleic Acid Building Blocks

Coloured units (representing phosphoric acids, purines and pyrimidines) for constructing DNA, t-RNA and RNA helices. Also useful for explaining replication and transcription. 31.5x24x5 cm; 1 kg
E

BESTseller



L10
3B Scientific® Pregnancy Series
Our most popular series includes 8 models to show the complete stages of development. All models are mounted separately on a stand.
12x12x19 cm; 3.2 kg
L/D/E/F/P/S/J

L10/1
1st Month Embryo
0.2 kg
L/D/E/F/P/S/J

L10/2
2nd Month Embryo
0.3 kg
L/D/E/F/P/S/J

L10/3
3rd Month Embryo
0.3 kg
L/D/E/F/P/S/J

L10/4
4th Month Foetus, transverse lie
0.4 kg
L/D/E/F/P/S/J

L10/5
5th Month Foetus, breech position
0.4 kg
L/D/E/F/P/S/J

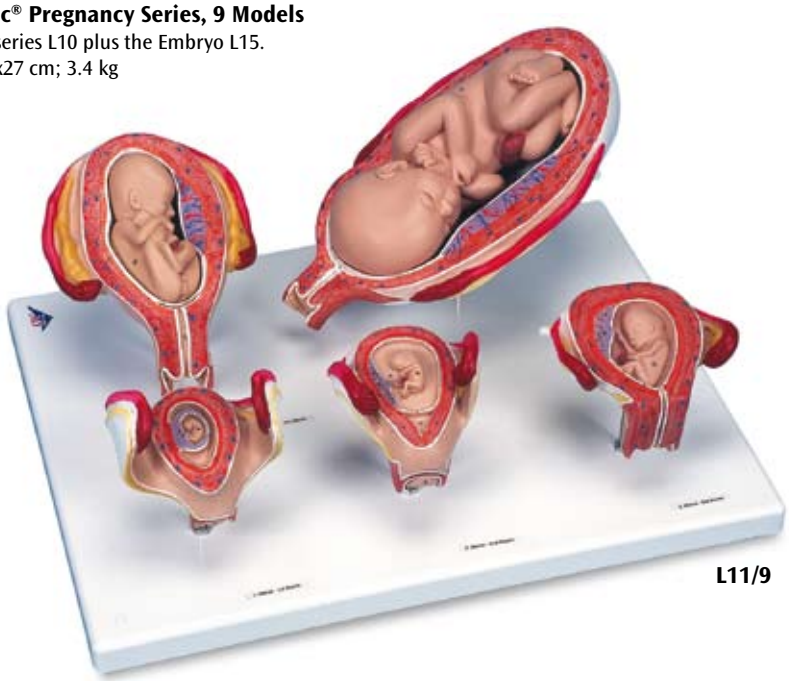
L10/6
5th Month Foetus, transverse lie
0.4 kg
L/D/E/F/P/S/J

L10/7
5th Month Twin Foetuses, normal position
0.6 kg
L/D/E/F/P/S/J

L10/8
7th Month Foetus 15x32x27 cm
0.6 kg
L/D/E/F/P/S/J

L15
Embryo, 25 times life-size
Showing embryo approx. 4 weeks old.
12x12x23 cm; 0.3 kg
L/D/E/F/P/S/J

L11
Deluxe 3B Scientific® Pregnancy Series, 9 Models
All features from our series L10 plus the Embryo L15.
12x12x19 cm – 15x32x27 cm; 3.4 kg
L/D/E/F/P/S/J



L20
Pregnancy Pelvis, 3-part
Representation of a median section through the female pelvis during the 40th week of pregnancy with a removable foetus. A model to study the normal position of child before birth. A uterus with embryo in 3rd month of pregnancy mounted on base for added detail.
38x25x40 cm; 3.8 kg
L/D/E/F/P/S/J

L11/9
3B Scientific® Pregnancy Series, 5 Models
This series consists of L10/1, L10/2, L10/3, L10/5 and L10/8 with embryo or foetus to show the most important stages of development in the womb. All models are mounted together on a base.
13x41x31 cm; 2.1 kg
L/D/E/F/P/S/J

VG390

Embryonic Development, 12 stages

This enlarged model represents the following stages of embryo development:

- Ovule shortly after fertilization
- Two-cell stage
- Four-cell stage
- Seven-cell stage
- Morula stage
- Blastocyst with trophoblast and embryoblast
- Blastocyst with early formation of embryo process
- Blastocyst with start of implantation
- Embryo (approx. 12th day)
- Embryo (approx. 20th day)
- Embryo (approx. 28th day)
- Embryo (approx. 2nd month)

The first 8 models are enlarged approx. 4,000 times, the other 4 models are enlarged approx. 4-5 times. The first 8 stages can be removed from the baseboard for closer study. Delivered in storage carton. 12x59x41 cm; 3.35 kg

📖 **L/D/E/F/S**

VG390

VG393

T12009

T12009

Embryo Development, 12 stages

With the common frog as an example (Rana temporaria), the different stages of the embryo development are shown 30 times magnified.

VG393

Labour Stages Model

As VG392, but reduced 50% in size. Supplied on baseboard. 5 stages, mounted individually on bases:

- Foetus in womb, cervix closed.
- Foetus in womb, cervix open.
- Foetus in womb, start of head passage.
- Foetus in womb and pelvis, finish of head passage.
- Placenta in the womb

40x31x13 cm; 1.4 kg

W10604

W10604

Placenta

The corrosion cast specimen of a human placenta is embedded into crystal-clear plastic. Detailed spatial portrayal of vessel arborisation and progression as well as the placental villi is achieved by injecting different coloured plastics in the placental vessels: red in the placental arteries and blue in the placental veins. The specimens vary in shape as each is unique. 21x17x4 cm; ca. 0.5 kg

L42
Condom Training Model, white skin tone
This model of an erect penis with testicles can be used to learn how to use a condom safely. The anatomical structures and its firmness are absolutely realistic, so that your students can practice putting on and removing a condom in a realistic way. Supplied with 12 dry training condoms and a carrying bag. 7.5x7.5x19.5 cm; 0.35 kg
📖 **E/D/S/F/P/I/J www.**

W43001
Condom Training Model
Demonstrate the proper use of condoms by using this realistic model. Consists of an erect penis, 12 condoms, syringe and artificial semen (UV-fluorescent fluid) to simulate ejaculation. Mounted on a stand with suction cups and delivered with carrying bag.
35.5x15x16.5 cm; 2.3 kg
📖 **E**

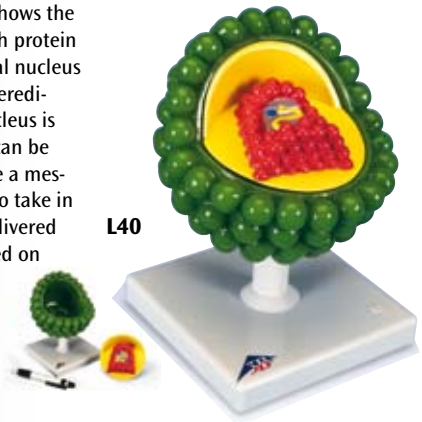
W19101
Condom Training Models
This economic set consists of 20 Styrofoam penis models, and provides a means of practicing the correct use of condoms, even in large groups. The reusable models can be fixed to the desktop with adhesive tape, so that both hands are free for rolling the condom into position. Supplied without condoms.
14.5 cm

L41
Training Model for a Female Condom
This model shows the labia and vagina up to the cervix in a very simplified representation for didactic reasons, and serves for demonstrating and learning the insertion of a female condom. The model is supplied without condoms.
12 cm; 0.15 kg

W45154
Female Condom Model
This model represents an anteverted uterus in a simulated pelvic cavity with soft vulva and vagina and a soft plastic stomach cover. A perfect tool to demonstrate the use of a female condom, contraceptive sponge and cervical cap. Supplied with carrying bag.
17.8x24x14 cm
📖 **E**

L40
AIDS Virus
This model of the HI-Virus, enlarged millions of times, shows the outer lipid membrane with protein structures, and the internal nucleus which contains the viral hereditary matter (RNA). The nucleus is removable and condoms can be put underneath to provide a message regarding measures to take in protecting against HIV. Delivered without condoms. Mounted on base.
18x13x13 cm; 0.7 kg

L43
Condom Training Model, coloured skin tone
Like L42



Options and Replacements for L42, L43, W19101 and W43001

W43003
12 Dry Condoms

Options and Replacements for W43001 and W45009

W43002
Artificial Semen
(UV-fluorescent fluid)

W44615
I.U.D Trainer
Hand held trainer which is a suitable aid for understanding correct positioning of I.U.D. (Intrauterine Device) in the uterus. Made of durable plastic, the trainer features a transparent cover which allows easy visualization of insertion and placement of I.U.D. (I.U.D. not included).
6x40x45 cm
📖 **E**

W45152
I.U.D Trainer
This anatomically accurate model represents a section of the uterus, ovaries and fimbrae. The uterus is covered by a clear plastic window to allow easy visualization of insertion and placement of I.U.D. (I.U.D. not included).
📖 **E**

W45009
Family Planning Educator
Desktop simulator for training and demonstration of:
- Introduction and removal of a diaphragm, an IUD or sponge contraceptive devices
- Normal and abnormal uterine positions
- Bi-manual examination technique

Supplied with:
- One anteverted uterus with clear upper half to illustrate correct position of IUD
- One uterus to illustrate normal anteversion and retroversion
- Cervix with patent os attaches to uterus suspended within pelvic cavity
- Soft plastic stomach cover
- Carrying bag

25.4x25.4x25.4 cm; 2.3 kg
📖 **E**

W15020

W15020

Magnet board pelvis – sex education female/male

The magnet board with 37 magnets is ideal for your sex education course. You can explain the female sexual cycle, the anatomy of the penis, sexual intercourse or a variety of contraceptive methods (chemical, diaphragm, femidom, spiral) graphically and impressively with this table. You can also use it to explain the anatomy of the male and female reproductive organs, various stages of pregnancy (insertion of the egg up to the 40th week), the use of condoms and sterilisation.

Contents:
1 metal board
37 diagrams, magnetic
1 plastic model/diagram of the uterus with spiral (IUD), magnetic
1 display rack (wooden)
1 transport bag
37 x 49 cm

📖 **E/F**

W15002

W15001

Options for W15000

W15001
Plastic speculum

W15002
Material for menstruation hygiene

W15000

Contraceptive case

Graphic teaching material for sex education in schools, out of school youth employment and adult education. The contraceptive case was designed and developed from practical experience. It is suitable for educating about current contraceptives. Replacement teaching material can be ordered at any time. The contraceptive case contains the following items:

- Condom
- Steroper penis
- Diaphragm, gel, applicator
- Cervical cap
- Intrauterine device
- Sample packages of pills
- Tables for temperature methods
- „Nuvaring“

The components of the contraceptive case can deviate from the list on delivery because individual visual aids can be updated or replaced by other products.
45 x 32 x 11 cm

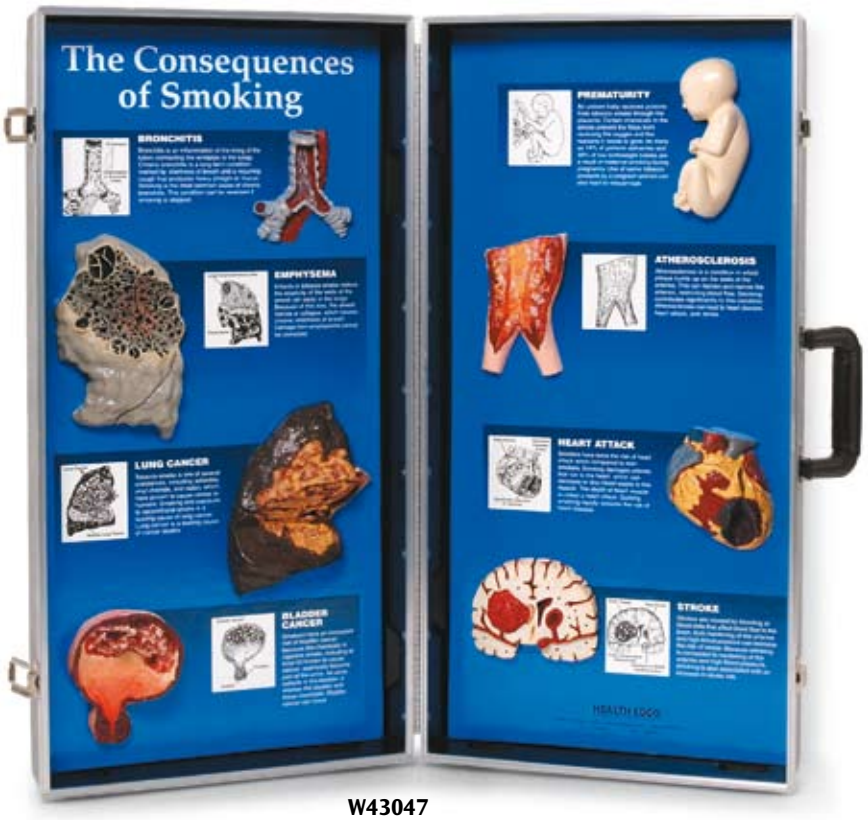
W15000

Drug Education

W43047

The Consequences of Smoking – 3D Display

Show the consequences of smoking on various organs of the body with life-sized, hand painted models. Each model is permanently mounted in a carrying case display, and the accompanying text clearly communicates its health message in simple terms. Ideal for health fairs, schools, hospitals, smoking-cessation programs, or the workplace, 71x67 cm.
71x34 cm; 8.3 kg



W43047

W43043

W43043

A Year's Worth of Tar

This graphic, sealed exhibit, containing a pack of cigarettes and cigarette butts submerged in gooey tar, represents the amount of carcinogenic liquid a one-pack-a-day smoker put into his/her lungs over the course of a year.
13.x14x8 cm
📖 E

W43010

W43010

Smokey Sue – The Dangers of Smoking

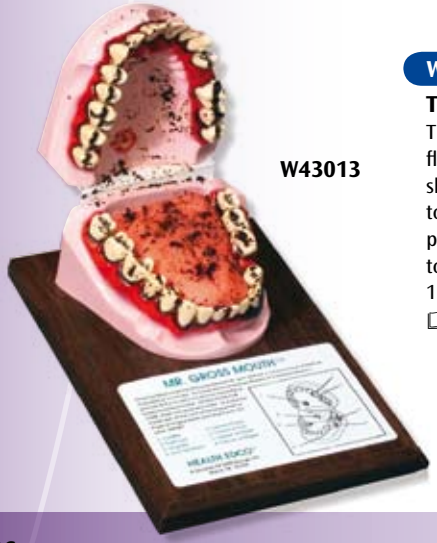
Smokey Sue dramatically demonstrates the quantity of tar collected in the lungs when one single cigarette is smoked. The tar, normally inhaled directly into the lung, is collected in a transparent tube, and thus shows the quantity of tar which reaches the lung with each cigarette very clearly. Delivered with stand, 3 collection tubes, and carrying bag.
15x36x17 cm; 1 kg
📖 E

W43042

Smoker Model

This small hand-held model actually smokes a cigarette and collects its tars and nicotine on a photo of a real chest X-ray of a lung cancer victim. Stained prints fit into plastic bags, keeping stains intact when they are passed around for closer inspection.
13x29x6 cm
📖 E

W43042



W43013

W43013

Tobacco Mouth

This hinged model of the teeth, flexible tongue and oral cavity shows the effects of smokeless tobacco. Mounted on base, supplied with a bottle of simulated tobacco juice.
15x20x10 cm
📖 E

W55723

Effects of Smoking Activity Model

Graphically demonstrate the impact of smoking on the lungs. Give your students a firsthand view of how tar and other pollutants accumulate in the lungs during smoking. Simply place a lit cigarette in the mouth of the "Smoking Man" and draw smoke into his "lungs" using the syringe pump included. The results will amaze you as you watch his lungs start to darken after only a few short puffs!
Includes detailed teacher and student guides that provide extensive background information on the dangers of smoking.
13x10x23 cm; 1 kg
📖 E

W55723

W43053

The Consequences of Alcohol Abuse – 3D Display

This display shows what actually happens to organs of the body when alcohol is abused. Permanently mounted life-size, hand painted models are graphic and accurate. Each model is described in easy-to-understand terms. Contained within its own sturdy wooden carrying case.
71x67 cm; 8.3 kg

W43053

W43041

Drunk & Dangerous Glasses

This teaching tool will give any alcohol education program an added dimension, allowing the instructor to deliver a powerful message quickly and clearly. Drinking and driving can be a deadly combination – a thesis graphically demonstrated, especially with young people, through the Drunk & Dangerous glasses. Because the glasses' simulation of drunkenness is so real and intense, wearers can't help but be struck by the reality that alcohol really does make driving dangerous. Supplied with case.

📖 **E**

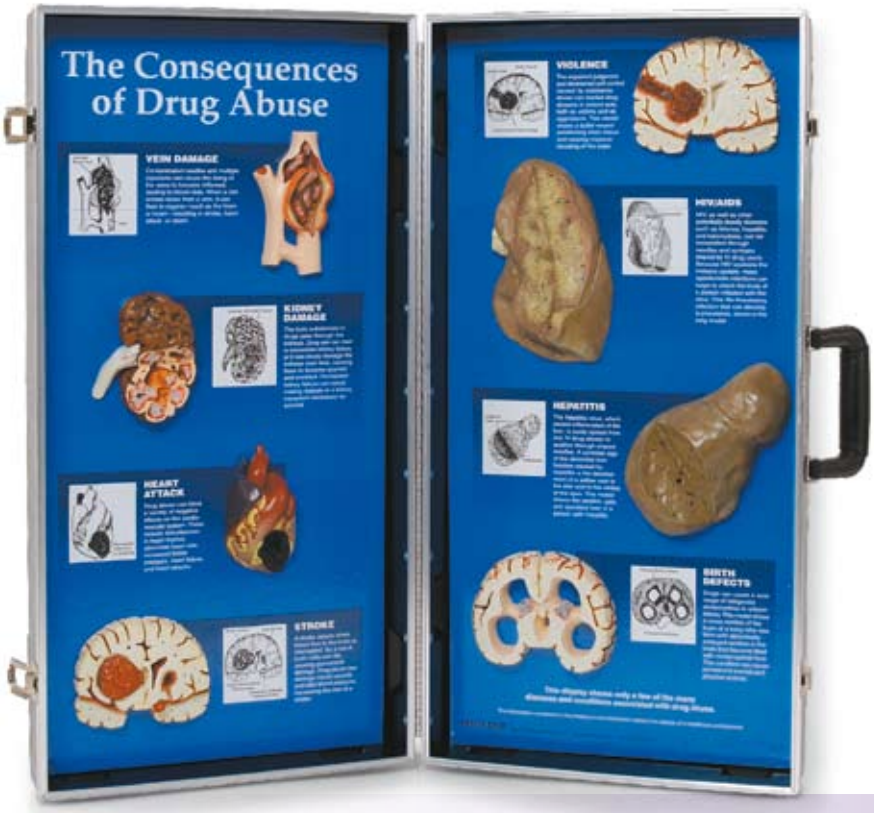
W43041

W43054

The Consequences of Drug Abuse – 3D Display

This detailed display shows what actually happens to the body when drugs are abused. Life-size, hand painted models of the body's organs are graphic and accurate. Brief descriptions make this educational tool ideal for health fairs and schools.
71x34 cm; 8.3 kg

W43054



W43048

Mr. Dip Lip™

This one-of-a-kind product makes anyone question what dipping is really about. The mouth opens and closes from the rear, and flesh-like lips may be retracted to show the effects dipping can have on the inner lip, gums, and teeth. Comes with carrying case.
15x13x15 cm; 0.2 kg

Information About Microscopes

Course Microscope
Course microscopes are robust, low-cost microscopes with basic optical features that are ideally suited for lessons in school or for beginners in microscopy.

Barrel
The barrel is the tube in which the oculars can be placed.
Monocular barrel: for observation with a single eye.
Binocular barrel: for stereo observation. This makes the work easier and less tiring than with a monocular microscope.
Trinocular barrel: for stereo observation but also allowing for addition of a camera.

Ocular
The ocular magnifies the real image thrown by the microscope's objective. The diameter of the field of vision, i.e. the area of the slide that can be viewed at one time, is calculated by dividing the field number by the scaling factor. Thus for a 10x 18 mm ocular, the viewing field has a diameter of 1.8 mm.

Objective Revolver
The objective revolver accommodates between 3 and 5 objectives and makes it possible to change the magnification rapidly when viewing a slide.

Objective
An objective produces a real image of the object. The size of the image is given by the scaling factor (e.g. 10x) and the resolution is determined by the numerical aperture (e.g. 0.65). The larger the numerical aperture the more detailed the image produced.
Achromatic objectives provide only a limited amount of correction for lens aberrations but this is nevertheless sufficient for most uses that arise in schools. Planar achromatic objectives eliminate image field curvature and throw an image that is uniformly focussed from the centre of the field of vision to the edge.

Resolution of Objectives
The resolution of an objective is given by the following formula

$$d = \frac{\lambda}{2 \cdot A}$$

where d = distance between two points, λ = wavelength of the light, A = numerical aperture
Example: numerical aperture = 0.65, λ = 0.55 µm, resolution d = 0.423 µm.

Object Stage
The object stage is the shelf upon which slides are placed for observation through a microscope. Using an x-y cross-table allows the slide to be moved by specific distances along the x and/or y axes. The scales mean that once a specific location on the slide has been found, it is easy to locate it again.

Condenser
The function of a condenser is to allow for careful adjustment of the aperture to ensure an optimum compromise between image contrast and resolution. As the aperture is made smaller, the contrast increases but the resolution is simultaneously reduced.

Coarse and Fine Focussing
Coarse and fine adjustment gears allow for optimum focussing of an image. They are mostly fitted along a common axis on either side of the column leading up from the base.

Illumination
Microscope slides can be illuminated by means of incandescent tungsten lamps, fluorescent tubes, LEDs or halogen lamps. Halogen lamps are best suited to the task because they provide such intense light. Fluorescent tubes and LEDs eliminate the problem of slides warming up due to the heat from the light during longer periods of observation.

U30722

U30723

Polarisation Microscopes

High-quality mechanics and optics along with ease of operation are the stand-out features of the polarisation microscopes U30722 and U30723. Their compact and ergonomic design makes it easier to work with them. The main application for these microscopes is in biology, for instance when studying the structure of starch grains, the texture of cellulose fibres in cell walls or the position of rod-like viruses in cells (e.g. tobacco mosaic virus). They are also used in mineralogy to study rock specimens, identify minerals and investigate crystals.

Product name	U30722 Monocular Polarisation Microscope	U30723 Binocular Polarisation Microscope
Stand	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective.	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective.
Tube	Monocular inclined 30°, head rotation 360°	Binocular Seidentopf head, 30° viewing angle, 360° rotatable head, viewing distance adjustable between 54 and 75 mm, ±5 dioptric compensation for both eyepieces
Polarisation equipment	Polariser with scale and analyser, which can be inserted into the tube.	Polariser with scale and analyser, which can be inserted into the tube.
Eyepieces	Wide field eyepiece WF 10x 18 mm	Pair of wide field eyepieces WF 10x 18 mm Pair of wide field eyepieces WF 10x 18 mm
Objectives	Inverted objective revolver with 3 achromatic objectives 4x / 0.10, 10x / 0.25, 40x / 0.65, (oil)	Inverted objective revolver with 3 achromatic objectives 4x / 0.10, 10x / 0.25, 40x / 0.65 (oil)
Enlargement	40x – 400x	40x – 400x
Object stage	Circular object stage 120 mm in diameter, which can be rotated 360°, scale with Vernier and 2 specimen clips	Circular object stage 120 mm in diameter, which can be rotated 360°, scale with Vernier and 2 specimen clips
Illumination	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply
Condenser	Abbe condenser N.A.1,25 with iris diaphragm, focussed via rack and pinion drive	Abbe condenser N.A.1,25 with iris diaphragm, focussed via rack and pinion drive
Dimensions	240 mm x 190 mm x 385 mm	240 mm x 190 mm x 425 mm
Weight	5,5 kg	6 kg
Supplied	Complete with dust cover	Complete with dust cover

Course microscopes

W30600-115 W30610-115 W30605-115

W30600-230 W30610-230 W30605-230

The monocular course microscopes W30600, W30605 and W30610 are distinguished by their robust construction and ease of operation. They are equipped with three achromatic objectives as used in common practice and have a simple object stage with two clips for holding slides. They can be supplemented by means of a variety of spare parts and accessories. The LED lighting of the W30605 and W30610 makes for uniform illumination of the object and avoids the problem of heat affecting the slide when viewed for extended periods. The microscopes are equipped with rechargeable batteries and can be used without a mains connection. Digital curriculum microscope W30605 is additionally equipped with a 300 kilopixel camera. The user-friendly "Photolib" software allows for…

- Full screen real time video
- Image processing
- Image plane processing
- Noise reduction filter for image enhancement, user-defined filter
- False colour image display
- 3D representation
- Extensive evaluation and measurement options

Product Name	**W30600-115, W30600-230** **Monocular Course Microscope Model 100**	**W30610-115, W30610-230** **Monocular Course Microscope Model 100, LED**
Product Name	– –	**W30605-115, W30605-230** **Digital Course Microscope Model 100, LED with built-in Camera**
Stand	All-metal stand, arm firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing	Basic apparatus as per W30600 with the following differences:
Tube	Monocular inclined 45°, head rotation 360°	**W30610 / W30605**
Eyepieces	Wide field eyepiece WF 10x 18 mm with pointer and eyepiece lock	**Illumination**: With adjustable LED lighting incorporated into the base and a focussing lens in the lighting shaft, power supplied by rechargeable battery, 115 V or 230 V, 50/60 Hz charger.
Objectives	Revolving nosepiece with 3 achromatic objectives 4x / 0.10, 10x / 0.25, 40x / 0.65,	
Enlargement	40x, 100x, 400x	**W30605**
Object stage	110 mm x 120 mm with 2 specimen clips	**Camera sensor**: 1/3˝ CMOS, 300 kpixel, colour prints
Illumination	115 V resp. 230 V, 20 W tungsten lamp integrated in base, with blue filter in lamp shaft and a converging lens, power supply 115 V resp. 230 V 50/60 Hz	**Power supply**: Via USB 2.0 **System Requirements**: WIN95, WIN98, WIN2000 and WINXP
Condenser	Bright-field condenser N.A. 0.65, iris diaphragm and filter holder	
Dimensions	175 mm x 135 mm x 370 mm	
Weight	2.9 kg	
Supplied	Complete with dust cover	

U30700-115

U30700-230

U30701-115

U30701-230

Course microscopes U30700 and U30701 are especially robust microscopes for educational purposes. They are simple to use and their mechanical and optical quality stands out. Separate adjustment knobs for fine and coarse setting allow the microscopes to be focussed quickly. The low-temperature lighting provides for uniform illumination of the object and avoids the problem of heat affecting the slide when observed for long periods. Seidentopf head and 30° viewing angle for comfortable observation of the object.

Product name	U30700-115, U30700-230 Monocular Course Microscope Model 200	U30701-115, U30701-230 Binocular Course Microscope Model 200
Stand	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with dovetail teeth, adjustable stopper for protecting the object stage and objective.	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with dovetail teeth, adjustable stopper for protecting the object stage and objective.
Tube	Monocular inclined 45°, head rotation 360°	Binocular Seidentopf head, 30° viewing angle, 360° rotatable head, viewing distance adjustable between 54 and 75 mm, ±5 dioptric compensation for both eyepieces
Eyepieces	Wide field eyepiece WF 10x 18 mm	Pair of wide field eyepieces WF 10x 18 mm
Objectives	Revolving nosepiece with 3 achromatic objectives 4x, 10x, 40x	Revolving nosepiece with 3 achromatic objectives 4x, 10x, 40x
Enlargement	40x, 100x, 400x	40x, 100x, 400x
Object stage	127 mm x 132 mm with 2 specimen clips	127 mm x 132 mm with 2 specimen clips
Illumination	5 W fluorescent lamp incorporated in the base, power supply 115 V resp. 230 V 50/60 Hz	5 W fluorescent lamp incorporated in the base, power supply 115 V resp. 230 V 50/60 Hz
Condenser	NA 0.65 with iris diaphragm , filter holder and blue filter	NA 0.65 with iris diaphragm , filter holder and blue filter
Dimensions	220 mm x 148 mm x 356 mm	282 mm x 148 mm x 357 mm
Weight	4 kg	4.69 kg
Supplied	Complete with dust cover	Complete with dust cover

Course microscopes for advanced users

U30705-115
U30705-230

U30706-115
U30706-230

Course microscopes U30705 and U30706 are suitable for any applications that may arise in the course of advanced biology lessons. The microscopes are equipped with a cross table, a 4-way objective revolver with DIN achromatic objectives, a focussing Abbe condenser and the coaxial drive knobs are arranged as per common practice. The low-temperature lighting provides for uniform illumination of the object and avoids the problem of heat affecting the slide when viewed for extended periods. Accessories include planar and semi-planar achromatic objectives and a dark-field condenser.

Product name	U30705-115, U30705-230 Monocular Course Microscope Model 300	U30706-115, U30706-230 Binocular Course Microscope Model 300
Stand	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings, adjustable stopper for protecting the object slides and objective.	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings, adjustable stopper for protecting the object slides and objective.
Tube	Monocular inclined 45°, head rotation 360°	Binocular Seidentopf head, 30° viewing angle, 360° rotatable head, viewing distance adjustable between 54 and 75 mm, ±5 dioptric compensation for both eyepieces
Eyepieces	Wide field eyepiece WF 10x 18 mm	Pair of wide field eyepieces WF 10x 18 mm
Objectives	Revolving nosepiece with 4 achromatic objectives 4x, 10x, 40x, 100x (oil)	Revolving nosepiece with 4 achromatic objectives 4x, 10x, 40x, 100x (oil)
Enlargement	40x, 100x, 400x, 1000x	40x, 100x, 400x, 1000x
Object stage	x-y cross table, 125 mm x 130 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 70 mm x 30 mm	x-y cross table, 125 mm x 130 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 70 mm x 30 mm
Illumination	5 W fluorescent lamp incorporated in the base, power supply 115 V resp. 230 V 50/60 Hz	5 W fluorescent lamp incorporated in the base, power supply 115 V resp. 230 V 50/60 Hz
Condenser	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive
Dimensions	220 mm x 154 mm x 359 mm	282 mm x 148 mm x 357 mm
Weight	4.5 kg	5.2 kg
Supplied	Complete with dust cover	Complete with dust cover

U30710

U30711

Microscopes U30710, U30711, U30712 and U30713 are characterised by their robust design, excellent mechanical and optical quality and ease of operation. They are equipped with a large cross-stage and a 4-way objective revolver with 4 DIN achromatic objectives. U30710, U30711 and U30712 are also supplied with a second wide-field WF15x eyepiece as standard, allowing for various magnifications of a slide. A halogen lamp incorporated into the base makes for bright and uniform illumination of the object. Seidentopf head and 30° viewing angle for comfortable observation of the object.

Product name	U30710 Monocular Microscope Model 400	U30711 Binocular Microscope Model 400
Stand	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective. Focus range: 15mm Resolution of fine focussing adjustment: 0.002 mm	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective. Focus range: 15mm Resolution of fine focussing adjustment: 0.002 mm
Tube	Monocular inclined 30°, head rotation 360°	Binocular Seidentopf head, 30° viewing angle, 360° rotatable head, viewing distance adjustable between 54 and 75 mm, ±5 dioptric compensation for both eyepieces
Eyepieces	Wide field eyepieces WF 10x 18 mm and WF 15x 13 mm	Pair of wide field eyepieces WF 10x 18 mm and WF 15x 13 mm
Objectives	Revolving nosepiece with 4 achromatic objectives 4x, 10x, 40x, 100x (oil)	Revolving nosepiece with 4 achromatic objectives 4x, 10x, 40x, 100x (oil)
Enlargement	40X – 1500X	40X – 1500X
Object stage	x-y mechanical stage, 132 mm x 145 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 50 mm x 76 mm	x-y mechanical stage, 132 mm x 145 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 50 mm x 76 mm
Illumination	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply
Condenser	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive
Dimensions	291 mm x 214 mm x 356 mm	328 mm x 214 mm x 394 mm
Weight	5.6 kg	6.1 kg
Supplied	Complete with dust cover	Complete with dust cover

Microscopes for advanced users

U30713

U30712

Microscopes U30712 and U30713 provide for binocular or monocular viewing as well as allowing simultaneous fitting of a camera for photographic or video recording of the image.

Product name	U30713 Monocular Microscope Model 400 with Vertical Viewing	U30712 Trinocular Microscope Model 400
Stand	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective. Focus range: 15 mm Resolution of fine focussing adjustment: 0.002 mm	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective. Focus range: 15 mm Resolution of fine focussing adjustment: 0.002 mm
Tube	Head with double viewing capability, one tube with 30° viewing angle, one with vertical viewing, head rotation 360°	Trinocular Seidentopf head, 360° rotatable, binocular tubus with 30° viewing angle, viewing distance adjustable between 54 and 75 mm, ±5 dioptric compensation for both eyepieces, one tube with vertical viewing angle
Eyepieces	Pair of wide field eyepieces WF 10x 18 mm	Pair of wide field eyepieces WF 10x 18 mm and WF 15x 13 mm
Objectives	Revolving nosepiece with 4 achromatic objectives 4x, 10x, 40x, 100x (oil)	Revolving nosepiece with 4 achromatic objectives 4x, 10x, 40x, 100x (oil)
Enlargement	40x, 100x, 400x, 1000x	40x – 1500x
Object stage	x-y mechanical stage, 132 mm x 145 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 50 mm x 76 mm	x-y mechanical stage, 132 mm x 145 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 50 mm x 76 mm
Illumination	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply
Condenser	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive
Dimensions	291 mm x 214 mm x 415 mm	328 mm x 214 mm x 449 mm
Weight	5.8 kg	6.2 kg
Supplied	Complete with dust cover	Complete with dust cover

U30720 U30721

Microscopes for advanced users

Microscopes U30720 and U30721 are suitable for any applications that may arise in the course of advanced biology lessons. Their compact and ergonomic design facilitates ease of working with the microscope. They are equipped as standard with a polarisation fitting and have a large cross table, 2 pairs of wide-field eyepieces (WF 10x, WF 15x) and a four-way objective revolver with planar achromatic objectives, for outstanding observation of tiny details with uniform focus from centre to edge of field of view.

Product name	U30720 Monocular Microscope Model 500 with Polarisation Equipment	U30721 Binocular Microscope Model 500 with Polarisation Equipment
Stand	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective. Focus range: 15 mm Resolution of fine focussing adjustment: 0.002 mm	Robust, all metal stand with arm permanently connected to the base. Focussing by means of separate knobs for coarse and fine adjustment located on either side of the stand and operated by rack and pinion drive with ball bearings and retaining lever, adjustable stopper for protecting the object slides and objective. Focus range: 15 mm Resolution of fine focussing adjustment: 0.002 mm
Tube	Monocular inclined 30°, head rotation 360°	Binocular Seidentopf head, 30° viewing angle, 360° rotatable head, viewing distance adjustable between 54 and 75 mm, ±5 dioptric compensation for both eyepieces
Polarisation equipment	Polariser and analyser	Polariser and analyser
Eyepieces	Wide field eyepieces WF 10x 18 mm and 15x 13 mm	Pair of wide field eyepieces WF 10x 18 mm and 15x 13 mm
Objectives	Inverted and angled objective revolver with 4 plan achromatic objectives 4x, 10x, 40x, 100x (oil)	Inverted and angled objective revolver with 4 plan achromatic objectives 4x, 10x, 40x, 100x (oil)
Enlargement	40x – 1500x	40x – 1500x
Object stage	x-y mechanical stage, 155 mm x 145 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 50 mm x 76 mm	x-y mechanical stage, 155 mm x 145 mm, with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 50 mm x 76 mm
Illumination	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply	Adjustable 6 V, 20 W halogen lamp incorporated into the base, universal 85 to 265 V, 50/60 Hz power supply
Condenser	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive	Abbé condenser N.A.1,25 NA 0.65 with iris diaphragm , filter holder and blue filter, focussed via rack and pinion drive
Dimensions	256 mm x 190 mm x 378 mm	306 mm x 190 mm x 407 mm
Weight	6 kg	6.6 kg
Supplied	Complete with dust cover	Complete with dust cover

Stereo microscopes

W30660-115 **W30660-230**

W30661-115 **W30661-230**

W30665-115 **W30665-230**

Stereo microscopes W30660 , W30661 and W30665 are robust microscopes that are distinguished by their ease of operation and excellent mechanical and optical quality. They can be used in numerous applications within the fields of biology and geology. They are equipped with quick-change fitting that allows for rapid replacement of the objective. With the aid of accessories, a magnification of up to 120x can be achieved. Model W30660 is lit from the top, while W30661 and W30665 can be illuminated by top light, by transmitted light, or by a combination of both. The large object stage of the W30661 and W30665 also allows large objects to be observed.

Stereo microscope W30665 features low temperature lighting (LED) to ensure even illumination of the object while preventing heat damage to the specimen during prolonged observations. It also eliminates the risk of burning if the lighting unit is touched inadvertently. Power is provided by rechargeable batteries so that the microscope can be used without needing to plug in a main lead

Product name	**W30660-115, W30660-230 Stereo Microscope, 20x, Top Light Illumination**	**W30661-115, W30661-230 Stereo Microscope, 20x, Top, Transmitted and Mixed Light Illumination**	**W30665-115, W30665-230 Stereo Microscope, 20x, LED**
Stand	Metal stand, column firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing	Metal stand, column firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing	Metal stand, column firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing
Tube	Binocular inclined 45°, interocular distance adjustable between 55 and 75 mm	Binocular inclined 45°, interocular distance adjustable between 55 and 75 mm	Binocular inclined 45°, interocular distance adjustable between 55 and 75 mm
Eyepieces	Exchangeable pair of wide field eyepiece WF 10x with eyepiece lock and rubber eyepiece cups, diopter compensation ±5 on the left eyepiece	Exchangeable pair of wide field eyepiece WF 10x with eyepiece lock and rubber eyepiece cups, diopter compensation ±5 on the left eyepiece	Exchangeable pair of wide field eyepiece WF 10x with eyepiece lock and rubber eyepiece cups, diopter compensation ±5 on the left eyepiece
Objectives	Lens 2x with slide and quick-change device	Lens 2x with slide and quick-change device	Lens 2x with slide and quick-change device
Enlargement	20x	20x	20x
Object plate	Base with detachable object plate (plastic, black/white) 60 mm Ø and 2 specimen clips	Base with detachable object plate (plastic, black/white and glass) 95 mm Ø and 2 specimen clips	Base with detachable object plate (plastic, black/white and glass) 95 mm dia. and 2 specimen clips
Illumination	Top light illumination,12 V/10 W, with toggle switch, power supply 115 V resp. 230 V 50/60 Hz	Top , transmitted and mixed light illumination, 12 V/10 W lamp, toggle switch to turn ON, rotary switch to select light combination, power supply 115 V resp. 230 V 50/60 Hz	LED, top , transmitted and mixed light illumination, toggle switch to turn ON, rotary switch to select light combination, power supplied by rechargeable battery, 115 V or 230 V, 50/60 Hz charger
Dimensions	170 mm x 300 mm x 115 mm	190 mm x 300 mm x 115 mm	190 mm x 300 mm x 115 mm
Weight	2.4 kg	2.9 kg	2.9 kg
Supplied	Complete with dust cover	Complete with dust cover	Complete with dust cover

W30662-115 **W30662-230**

W30663-115 **W30663-230**

W30664-115 **W30664-230**

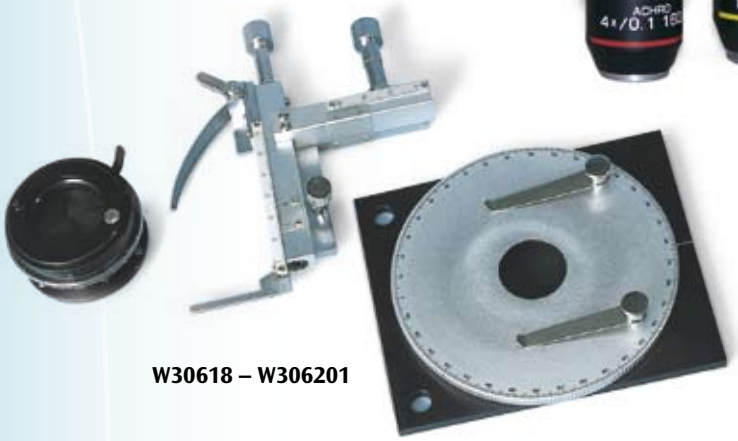
Stereo microscopes W30662, W30663 and W30664 are robust microscopes that are distinguished by their ease of operation and excellent mechanical and optical quality. They can be used in numerous applications within the fields of biology and geology. Simply by rotating the objective from the 2x setting to 4x, the overall magnification can be set to 20x or 40x. With the aid of accessories, a magnification of up to 80x can be achieved. Model W30662 is lit from the top, while W30663 and W30664 can be illuminated by top light, by transmitted light, or by a combination of both. The large object stage of W30663 and W30664 also allows large objects to be observed.
Stereo microscope W30664 differs from W30662 and W30663 in that its stereo head can be rotated by 360°.

Product name	**W30662-115, W30662-230** **Stereo Microscope, 40x, Top Light Illumination**	**W30663-115, W30663-230** **Stereo Microscope, 40x, Top, Transmitted and Mixed Light Illumination**	**W30664-115, W30664-230** **Stereo Mikroskop, 40x, Rotatable Head**
Stand	Metal stand, column firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing	Metal stand, column firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing	Metal stand, column firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing
Tube	Binocular inclined 45°, interocular distance adjustable between 55 and 75 mm	Binocular inclined 45°, interocular distance adjustable between 55 and 75 mm	Binocular inclined 45°, interocular distance adjustable between 55 and 75 mm, head rotatable by 360°
Eyepieces	Exchangeable pair of wide field eyepiece WF 10x with eyepiece lock and rubber eyepiece cups, diopter compensation ±5 on the left eyepiece	Exchangeable pair of wide field eyepiece WF 10x with eyepiece lock and rubber eyepiece cups, diopter compensation ±5 on the left eyepiece, one eyepiece with pointer	Exchangeable pair of wide field eyepiece WF 10x with eyepiece lock and rubber eyepiece cups, diopter compensation ±5 on the left eyepiece
Objectives	Revolving nosepiece with objective 2x / 4x	Revolving nosepiece with objective 2x / 4x	Revolving nosepiece with objective 2x / 4x
Enlargement	20x/40x	20x/40x	20x/40x
Object plate	Base with detachable object plate (plastic, black/white) 60 mm Ø and 2 specimen clips	Base with detachable object plate (plastic, black/white and glass) 95 mm Ø and 2 specimen clips	Base with detachable object plate (plastic, black/white and glass) 95 mm dia. and 2 specimen clips
Illumination	Top light illumination,12 V/10 W, with toggle switch, power supply 115 V resp. 230 V 50/60 Hz	Top , transmitted and mixed light illumination, 12 V/10 W lamp, toggle switch to turn ON, rotary switch to select light combination, power supply 115 V resp. 230 V 50/60 Hz	Top , transmitted and mixed light illumination, 12 V/10 W lamp, toggle switch to turn ON, rotary switch to select light combination, power supply 115 V resp. 230 V 50/60 Hz
Dimensions	170 mm x 300 mm x 115 mm	190 mm x 300 mm x 115 mm	190 mm x 300 mm x 115 mm
Weight	2.4 kg	2.9 kg	2.9 kg
Supplied	Complete with dust cover	Complete with dust cover	Complete with dust cover

W30640 – W30643

W30613 – W30617

U30748 – U30753



W30618 – W306201

U30730 – U30731

Options and Replacements for:

W30600, W30605 W30610

Art. No.	Designation	Specification
W30640	Wide field eyepieces	WF 10x 18 mm
W30641	Wide field eyepieces	WF 10x 18 mm with pointer
W30642	Wide field eyepieces	WF 15x 13 mm
W30643	Wide field eyepieces	WF 20x 11 mm
W30613	Achromatic objectives	4x / 0,10
W30614	Achromatic objectives	10x / 0,25
W30615	Achromatic objectives	40x / 0,65
W30616	Achromatic objectives	60x / 0,85
W30617	Achromatic objectives	100x / 1,25
W30618	Abbé condenser	N.A.1,25 and iris diaphragm
W30619	Object holder	Moveable
W306201	Polarization device	
W30621-115	Spare lamps	20 W for 115 V mains supply
W30621-230	Spare lamps	20 W for 230 V mains supply

U30700, U30701, U30705, U30706, U30710, U30711, U30712, U30713, U30720, U30721, U30722, U30723

U30730	Wide field eyepieces	WF 10x-18 mm with pointer
U30731	Wide field eyepieces	WF 10x-18 mm with scale
U30732	Wide field eyepieces	WF 10x-18 mm
U30733	Wide field eyepieces	WF 15x-13 mm
U30748	Achromatic objectives	4x
U30749	Achromatic objectives	10x
U30750	Achromatic objectives	20x
U30751	Achromatic objectives	40x
U30752	Achromatic objectives	60x
U30753	Achromatic objectives	100x (Oil)
U30735	Semiplan achromatic objectives	4x
U30736	Semiplan achromatic objectives	10x
U30737	Semiplan achromatic objectives	40x

U30735 – U30738

W30670 – W30673 and W30679

U30739 – U30743

U30746 – U30747

W30674 – W30678

U30745

Options and Replacements for:

U30700, U30701, U30705, U30706, U30710, U30711, U30712, U30713, U30720, U30721, U30722, U30723

Art. No.	Designation	Specification
U30738	Semiplan achromatic objectives	100x (Oil)
U30739	Plan achromatic objectives	4x
U30740	Plan achromatic objectives	10x
U30741	Plan achromatic objectives	20x
U30742	Plan achromatic objectives	40x
U30743	Plan achromatic objectives	60x
U30744	Plan achromatic objectives	100x (Oil)
U30745	Micrometer slide	76 mm x 26 mm 1 mm / 100 div. / 0,01 mm
U30700, U30701, U30705, U30706		
U30755-115	Spare fluorescent lamp	5 W for 115 V mains supply
U30755-230	Spare fluorescent lamp	5 W for 230 V mains supply
U30710, U30711, U30712, U30713, U30720, U30721		
U30746	Dark field condenser	
U30747	Dark field condenser (Oil)	
W30651	Spare lamps	Halogen, 6 V, 20 W
W30660, W30661, W30662, W30663, , W30664, W30665		
W30670	Wide field eyepiece, Pair	WF 5x 18 mm
W30671	Wide field eyepiece, Pair	WF 10x 20 mm
W30672	Wide field eyepiece, Pair	WF 15x 13 mm
W30673	Wide field eyepiece, Pair	WF 20x 10 mm
W30679	Eyepiece cups	Pair
W30682	Spare lamps	12 V, 10 W
W30660, W30661, W30665 , W30665		
W30674	Achromatic Objectives	1x
W30675	Achromatic Objectives	2x
W30676	Achromatic Objectives	3x
W30677	Achromatic Objectives	4x
W30678	Achromatic Objectives	6x

Cameras for Microscopes

Microscope
not included

U30110

U30100

U30110

Student Digital Camera for Microscope, 1.3 Mpixel

Inexpensive digital colour camera for use in class which can be placed directly on any modern microscope tube. The user friendly “MiniSee” software allows for real-time video and still pictures to be recorded and stored in all formats currently in use.

U30111

Student Digital Camera for Microscope Classroom Set, 1,3 Mpixel

The set consists of 10 x U30110 digital cameras.

U30100

Digital Camera for Microscope, 1.3 Mpixel

High resolution colour digital camera for connecting directly to a PC or laptop via the USB interface. The camera can be mounted directly onto the eyepiece of every conventional microscope. The camera is fed via the USB connection, thereby making external power supply superfluous. Separate software for image pickup and recording, display and processing. The software is characterised by being particularly user friendly and is responsible for making possible, among other things:

- Full screen real time video
- Still picture recording
- Recording films in AVI format
- Adjusting image sequence and recording time
- Zoom function
- Image processing (similar to conventional image processing programs)
- Brightness and contrast control
- Real-time image printing
- Memory function (jpeg, bmp, tiff etc.)
- Gradation curves
- Tonal value correction
- FFT function
- Image plane processing
- Comparison of two adjacent images
- Noise reduction filter for image enhancement, user-defined filter
- False colour image display
- 3D representation
- Extensive evaluation and measurement options

U30100C8

Digital Camera Classroom Set for Microscope, 1.3 Mpixel

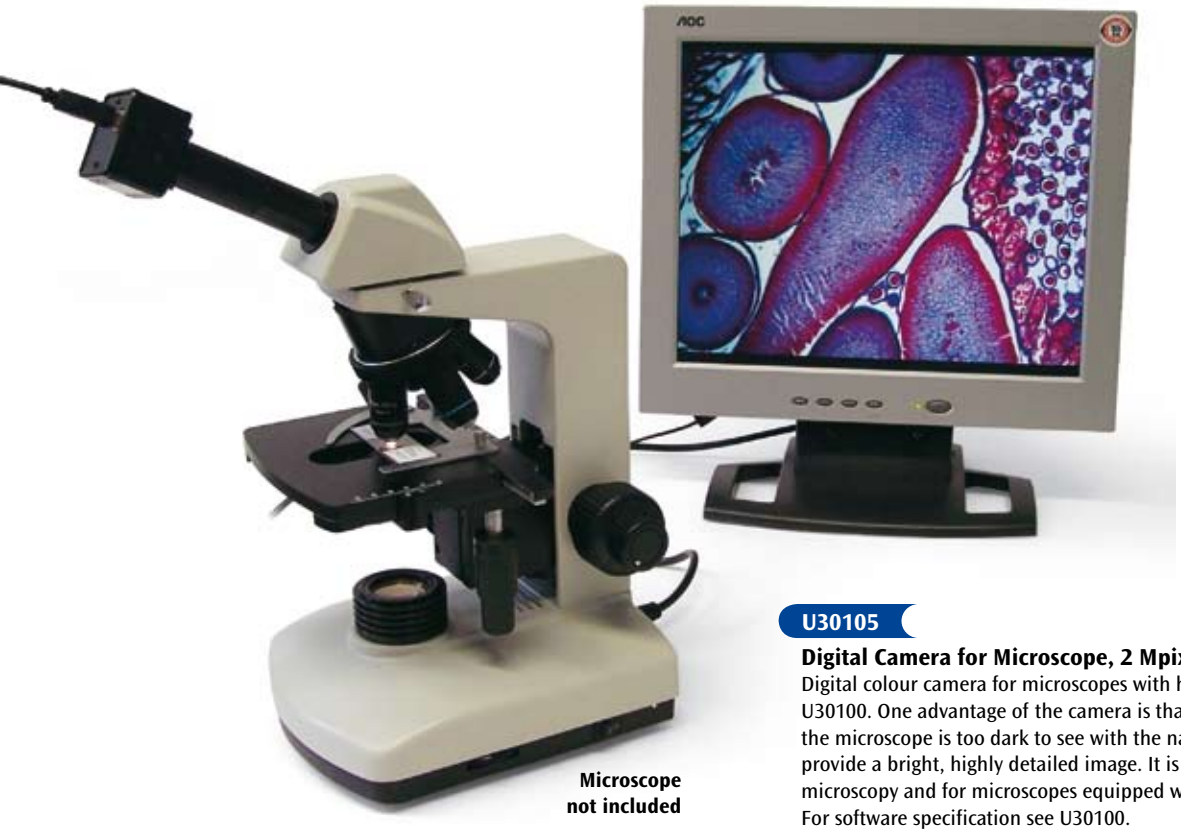
The set consists of 8 x U30100 digital cameras.

U30101-230

U30101-230 Video Camera for Microscope, PAL, 350 kpixel

Easy-to-use colour video camera which can be directly mounted onto the eyepiece of a conventional microscope. Image display takes place on a television screen. Television connection via a cinch connector. Power supply via mains supply unit. NTSC version available on request.

U30101



Microscope not included

U30105

Digital Camera for Microscope, 2 Mpixel

Digital colour camera for microscopes with higher resolution than U30100. One advantage of the camera is that when the viewing field of the microscope is too dark to see with the naked eye, the camera can still provide a bright, highly detailed image. It is thus highly suited to dark-field microscopy and for microscopes equipped with fluorescent illumination. For software specification see U30100.

U30105

	U30100	U30105	U30110	U30101-230
Camera sensor	1/2" CMOS, 1,3 Mpixel, colour image	1/2" CMOS, 2 Mpixel, colour image	1/4" CMOS, 1,3 Mpixel, colour image	VGA, colour image
Pixel size	5,2 µm X 5,2 µm	2,8 µm X 2,8 µm		–
Resolution	1280 X 1024 (1,3 Mpixel)	1600 X 1200 (2 Mpixel)	1280 X 1024 (1.3 Mpixel)	628X582 (350 kpixel)
Minimum illumination	–			< 5 lux @ F 1,4 3000 K
TV system	–			PAL
Output	–			AV
Application	Direct mounting onto the microscope eyepiece			
Data format	BMP, TIFF, JPG, PNG, PSD etc.			–
Exposure	Automatic			Automatic, Auto white balance via push button on camera housing
Shutter control	Automatic			–
Power supply	Via USB interface 2.0, USB cable 1.5 m in length			Via mains power supply unit 220 V, 50/60 Hz
System requirements	Windows 2000 / XP / Vista; USB connection 2.0			–
Camera housing	Cylindrical, oxidised metal housing	Oxidised metal housing	Cylindrical, oxidised metal housing	
Dimensions	98 mm x 55 mm dia	110 mm x 50 mm x 50 mm	27 mm x 45 mm dia	84 mm x 52 mm dia
Weight	160 g approx.	260 g approx.	40 g approx	180 g approx.
Accessories	2 Adapters 30 mm dia. and 30.5 mm dia			2 Adapters 30 mm dia. and 30.5 mm dia., mains power supply unit

U42100-230

Microscope not included

U42100-230

Video Flex®

High-resolution, desktop colour video camera for a variety of applications. Thanks to the ball-and-socket bearing, video head that can pivot and swivel via its flexible gooseneck, the camera can be easily and accurately connected, e.g. to microscopes and telescopes, or directed towards visual material, running processes or items of scientific or technical interest so that they can be viewed on a monitor or TV screen. The heavy, triangular base with the integrated controls ensures the necessary stability. Audio recordings are possible with the microphone integrated in the base. The high-quality optics cover a range from 6 mm to infinity, allowing for magnifications of up to 50:1. The camera has normal cinch sockets for video and audio outputs. It can be connected to a video recorder for recording or to a monitor or TV-set (PAL) for viewing. Includes microscope adapter, plug-in power supply, connecting leads and Euro-Scart plug.
NTSC version available on request.

U421051

Digital Video Flex®

Robust, ultra-high-resolution desktop digital colour camera for direct connection to a PC or notebook via a USB interface. The design of the Digital Video Flex® corresponds largely to that of the Video Flex®. U42100-230, and differs only in terms of the optical features. Audio recordings are possible via a microphone equipped computer. An external power supply is not necessary as the camera is powered via the USB connection. Includes microscope adapter, Discovery Scope Kit, Applied Vision™ software and carrying case. The Applied Vision™ software for picture recording, reproduction and processing is characterized by its user friendliness and features:

- Full-screen, real-time video
- Still frame recording
- Recording of films in AVI format
- Time-lapse recording
- Internet streaming
- Can be used in local network
- Zoom function
- Image processing
- Brightness, contrast control and positive/ negative image display
- Drawing tools
- Organiser/memo function
- Printout of real-time images
- Memory function (jpeg, bmp, tiff)
- Choice of background
- Creation of image collages
- Comparison of two adjacent images
- Measurement of the distance between 2 points or the area of a circle
- Exporting data to an Excel spreadsheet

U421051

U42103

U42103

Vision Viewer®

Lighter version of the Digital Video Flex® U421051 with similar optical properties and for similar applications. The difference is that the video head is directly attached to the swan-neck arm (with no universal joint). Includes a microscope adapter, observation set (Discovery Scope Kit), Applied Vision™ software and carry case.

U421101

PhysicsCAM

High-resolution, hand-held camera which can be connected directly via a USB interface to a PC or notebook. For a variety of applications in natural science classes, e.g. in experiments which are difficult to observe or which take place over long periods of time. The PhysicsCAM is equipped with a flexible adapter and can therefore be mounted on equipment with varying size of eye. The Applied Vision™ software offers a variety of functions for displaying and processing images (see U421051).

U421101

	U42100-230	U421051	U42103	U421101
Photosensitivity	1.5 lux	20 lux	20 lux	3 lux
Image digitization	¼" CCD	digital CMOS	digital CMOS	digital CMOS
Output signal	video	Digital / USB 2.0	digital	digital
Exposure	automatic	adjustable via software	adjustable via software	adjustable via software
Resolution	500 lines	1280x960 SXGA	1280x960 SXGA	640x480 VGA
Live video	--	up to 30 images per second	up to 30 images per second	up to 30 images per second
TV system	PAL	--	--	--
Audio	mono	--	--	--
Lens	8 mm Glass	8 mm Glass, C-Mount	6 mm Glass	6 mm Glass
Focal distance	6 mm to infinity	6 mm to infinity	8 mm to infinity	8 to infinity
Magnification	50:1	50:1	30:1	30:1
Microscope adapter	34,5 mm built-in and 28 mm	34,5 mm built-in and 28 mm	34,5 mm built-in and 28 mm	24 to 32 mm
Power supply	5 V DC/800 mA via plug-in power supply	via USB	via USB	via USB
Cable	A/V cable 365 cm	USB connecting cable, approx. 150 cm	USB connecting cable, approx. 150 cm	USB connecting cable, approx. 150 cm
Gooseneck	650 mm x 15 mm dia	650 mm x 15 mm dia	510 mm x 13 mm dia	510 mm x 13 mm dia
Base	180x180x180 mm	180x180x180 mm	180x180x180 mm	--
Weight	approx. 2.7 kg	approx. 2.7 kg	approx. 1.7 kg	approx. 400 g

Cameras for observations and for use with microscope

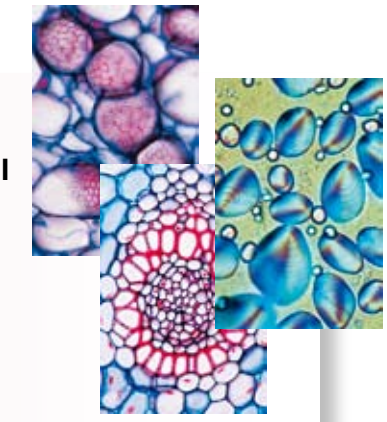
MICROSCOPE SLIDES

The individual slides are characterized by excellent workmanship, clear portrayal and long life. We have selected the most interesting and most popular ones for you. Order your favorite ones and delve into the fascinating world of the microcosm with your students!

Please note that microscope slides can only be supplied in our special storage boxes (see p. 118). Please add box to your purchase order.

When ordering, please include the appropriate language code in addition to the item number:
En = English, De = German, Fr = French, Pt = Portugese, Es = Spanish, p.ex. W13900-En

Minimum order quantity 25



W58433

ZOOLOGY

Art.-No.	Topic
W13900	Amoeba proteus, w.m. showing nucleus and pseudopodia
W13901	Euglena, a common flagellate with eyespot
W13902	Paramaecium, nuclei stained
W13903	Hydra, w.m. extended specimen to show foot, body, mouth, and tentacles
W13904	Hydra, t.s. of body in different levels. Ectoderm, entoderm
W13905	Lumbricus, earthworm, typical t.s. back of clitellum showing muscular wall, intestine, typhlosole, nephridia etc.
W13906	Daphnia and Cyclops, small crustaceans from fresh water
W13907	Musca domestica, house fly, head and mouth parts (proboscis) w.m.
W13908	Musca domestica, leg with clinging pads (pulvilli)
W13909	Apis mellifica, honey bee, anterior and posterior wing
W13910	Apis mellifica, honey bee, mouth parts of worker w.m.
W13911	Apis mellifica, hind leg of worker with pollen basket w.m.
W13912	Apis mellifica, sting and poison sac w.m.
W13913	Apis mellifica, honey bee, head with compound eyes and brain t.s.
W13914	Branchiostoma lanceolatum (Amphioxus), typical t.s. of body with gills, liver, and gonads

HISTOLOGY AND ANTHROPOLOGY

W13915	Compact bone, t.s. special stained for cells, lamellae, and canaliculi
W13916	Striated muscle, l.s. showing nuclei and striations
W13917	Human blood smear, stained for red and white corpuscles
W13918	Artery and vein of mammal, t.s.
W13919	Lung of cat, t.s. showing alveoli, bronchial tubes
W13920	Oesophagus of cat, t.s. with stratified squamous epithelium, muscular layers
W13921	Stomach of cat, t.s. through fundic region showing gastric glands
W13922	Small intestine of cat, t.s. showing mucous membrane
W13923	Large intestine (colon), t.s. special stained for the mucous cells
W13924	Liver of pig, t.s. showing well developed connective tissue
W13925	Pancreas of pig, sec. showing islets of Langerhans
W13926	Kidney of cat, t.s. through cortex and medulla
W13927	Ovary of cat, t.s. with primary, secondary, and Graafian follicles
W13928	Testis of mouse, t.s. showing spermatogenesis in all stages
W13929	Sperm of bull (spermatozoa), smear
W13930	Spinal cord of cat, t.s. showing white and grey matter, nerve cells
W13931	Cerebrum, human, t.s. of cortex showing pyramidal cells and fibrous region
W13932	Retina of cat, t.s. for detail of rods and cones
W13933	Tongue of rabbit, t.s. of papilla foliata with abundant taste buds
W13934	Human skin from palm, v.s. showing cornified epidermis, germinative zone, sweat glands

BACTERIA AND LOWER PLANTS

W13935	Bacteria from mouth, smear Gram stained showing bacilli, cocci, spirilli, spirochaetes

Art.-No.	Topic
W13936	Streptococcus lactis, milk souring organisms, smear showing chains
W13937	Diatoms, strewn slide of mixed species
W13938	Nostoc, blue green alga, filamentous colonies within gelatinous sheaths
W13939	Spirogyra, vegetative filaments with spiral chloroplasts
W13940	Volvox, with daughter colonies and sexual stages, w.m.
W13941	Saccharomyces, yeast, budding cells w.m.
W13942	Physcia, foliose lichen, thallus with symbiotic algae t.s.
W13943	Sphagnum, peat moss, w.m. of leaf showing chlorophyll-bearing and hyaline cells.

FLOWERING PLANTS

W13944	Lupinus, lupin, root nodules with symbiotic bacteria t.s.
W13945	Root tip and root hairs
W13946	Zea mays, corn, typical monocot root t.s.
W13947	Ranunculus, buttercup, typical dicot root t.s., central stele
W13948	Zea mays, corn, monocot stem with scattered bundles t.s.
W13949	Helianthus, sunflower, typical herbaceous dicot stem t.s.
W13950	Aristolochia, older stem t.s. shows secondary growth
W13951	Cucurbita, pumpkin, l.s. of stem with sieve tubes, annular and reticulate vessels, sclerenchyme fibres
W13952	Pinus, pine, three sections of wood: transverse, radial, tangential
W13953	Tilia, lime, three sections of wood: transverse, radial, tangential
W13954	Tulipa, tulip, epidermis of leaf with stomata and guard cells w.m., surface view
W13955	Iris, typical monocot isobilateral leaf, t.s.
W13956	Syringa, lilac, leaf t.s. showing epidermis, palisade parenchyma, spongy parenchyma, vascular bundles
W13957	Fagus, beech, sun and shade leaves, two t.s. for comparison
W13958	Nerium, oleander, xerophytic leaf with sunken stomata, t.s.
W13959	Lilium, lily, anthers with pollen grains and pollen sacs t.s.
W13960	Lilium, ovary t.s. showing arrangement of ovules
W13961	Triticum, wheat, grain (seed) sagittal l.s. with embryo and endosperm
W13962	Taraxacum, dandelion, composite flower l.s.
W13963	Pinus, pine, male cone with pollen l.s.
W13964	Pinus, female cone with ovules l.s.

Art.-No.	Topic

CYTOLOGY AND GENETICS, EMBRYOLOGY

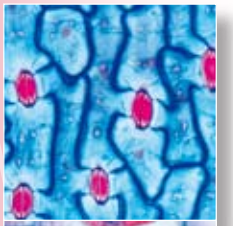
W13965	Mitochondria, in thin sec. through liver or kidney, special staining technique
W13966	DNA in cell nuclei, demonstrated by Feulgen staining technique
W13967	Giant chromosomes from the salivary gland of Chironomus. Individual genes and puffs can be observed
W13968	Human chromosomes, spread in the stage of metaphase, for counting chromosomes
W13969	Spinal cord of cat, t.s. silvered for nerve cells and fibres
W13970	Allium cepa, l.s. of root tips showing cell divisions (mitosis) in all stages, carefully stained
W13971	Chloroplasts, in leaf of Elodea or Mnium, special stained
W13972	Sea-urchin development (Psammechinus miliaris), composite slide with two cell, four cell and eight cell stages
W13973	Sea-urchin development (Psammechinus miliaris), composite slide with morula, blastula and gastrula stages
W13974	Frog embryology (Rana spec.), sec. trough the blastula stage showing the blastocoel
W13975	Frog embryology (Rana spec.), sag. sec. through young larva in the tail bud stage, with primordia of organs
W13976	Chicken embryo, 48 hour, t.s. with neural tube and chorda
W13977	Embryo of mouse, sagittal l.s. of entire specimen showing all organs in situ

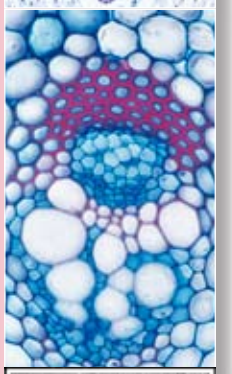
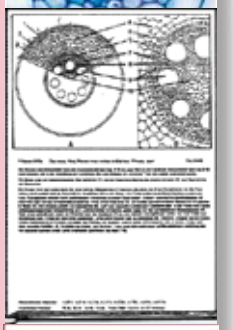
PARASITES AND PATHOGENS

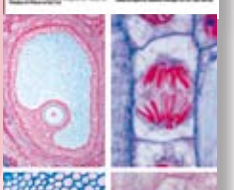
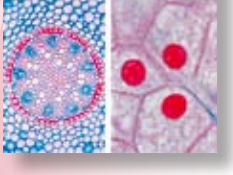
W13978	Escherichia coli, bacteria from colon, probably pathogenic, smear Gram stained
W13979	Eberthella typhi, causing typhoid fever, smear from culture, Gram stained
W13980	Plasmodium berghei, malaria parasite, blood smear
W13981	Trypanosoma gambiense, causing sleeping disease, blood smear
W13982	Culex pipiens, mosquito, head and piercing-sucking mouth parts of female, w.m.
W13983	Tuberculous lung, t.s. of diseased human lung showing miliary tubercles in tissue
W13984	Coal dust lung (Anthracosis pulmonum), t.s. of human smoker's lung
W13985	Liver cirrhosis of man caused by alcohol abuse, t.s. showing degeneration of liver cells
W13986	Arteriosclerosis, t.s. of diseased human coronary artery showing sclerotic changes in the arterial wall

ECOLOGY AND ENVIRONMENT, PESTS IN AGRICULTURE

W13987	Varroa, parasitic mite of bees w.m.
W13988	Leaf (needle) of fir (Abies), two t.s. of leaves, healthy and damaged by environmental influences (acid rain)
W13989	Leaf of beech (Fagus), two t.s. of leaves, healthy and damaged by environmental influences (acid rain)



SCHOOL SETS

The biology school sets consist of four series – A, B, C and D – that are arranged in a systematic way and are based on each other. Of course, each part of a series can be used individually. The multimedia program comprises the following media:

1. Microscopic preparations (School Sets A, B, C, D)
2. Accompanying manual with texts and graphic illustrations
3. Transparent atlas with colour photos of the micropreparations
4. CD ROM for interactive learning (next page)

W13336	W13436	W13336F	W13336S	W13336P	
German	English	French	Spanish	Portuguese	

School Set A (General Biology)

25 Slides

Zoology: 1(e) Amoeba proteus, w.m. showing nucleus and pseudopodia 2(e) Hydra, w.m. extended specimen to show foot, body, mouth, and tentacles 3(c) Lumbricus, earthworm, typical t.s. back of clitellum showing muscular wall, intestine, typhlosole, nephridia etc. 4(c) Daphnia and Cyclops, small crustaceans from fresh water 5(d) Musca domestica, house fly, head and mouth parts (proboscis) w.m 6(b) Musca domestica, leg with clinging pads (pulvilli) 7(c) Apis mellifica, honey bee, anterior and posterior wing **Histology of Man and Mammals**: 8(c) Squamous epithelium, isolated cells from human mouth 9(d) Striated muscle, l.s. showing nuclei and striations 10(d) Compact bone, t.s. special stained for cells, lamellae, and canaliculi 11(d)Human scalp, vertical section showing l.s. of hair follicles, sebaceous glands, epidermis 12(c) Human blood smear, stained for red and white corpuscles **Bacteria and Cryptogams**: 13(d) Bacteria from mouth, smear Gram stained showing bacilli cocci, spirilli, spirochaetes 14(c) Diatoms, strewn slide of mixed species, 15(c) Spirogyra, vegetative filaments with spiral chloroplasts 16(c) Mucor or Rhizopus, mold, w.m. of mycelium and sporangia 17(c) Moss stem with leaves w.m. **Phanerogams**: 18(c) Ranunculus, buttercup, typical dicot root t.s., central stele 19(c) Zeamays, corn, monocot stem with scattered bundles t.s. 20(c) Helianthus, sunflower, typical herbaceous dicot stem t.s. 21(c) Syringa, lilac, leaf t.s. showing epidermis, palisade parenchyma, spongy parenchyma, vascular bundles 22(d) Lilium, lily, anthers with pollen grains and pollen sacs t.s. 23(d) Lilium, ovary t.s. showing arrangement of ovules 24(c) Allium cepa, onion, w.m. of epidermis shows simple plant cells with cell walls, nuclei, and cytoplasm 25(d) Allium cepa, l.s. of root tips showing cell divisions (mitosis) in all stages, carefully stained

W13337	W13437	W13337F	W13337S	W13337P	
German	English	French	Spanish	Portuguese	

School Set B (Supplement for A)

50 preparations on the subject areas of zoology, histology and anthropology, spermatophytes. For details, please go to www.3bscientific.co.uk.

W13338	W13438	W13338F	W13338S	W13338P	
German	English	French	Spanish	Portuguese	

School Set C (Supplement for A and B)

50 preparations on the subject areas of zoology, histology and anthropology, spermatophytes.
For details, please go to www.3bscientific.co.uk.

W13339	W13439	W13339F	W13339S	W13339P	
German	English	French	Spanish	Portuguese	

School Set D (Supplement for A, B, C and D)

50 preparations on the subject areas of histology and anthropology, zoology, cytology and genetics, pathogens and diseased organs, embryology, ecology and the environment, botany. For details, please go to www.3bscientific.co.uk.

W13133	W13233	W13133F	W13133S	W13133P	
German	English	French	Spanish	Portuguese	

Manual for School Set with 175 Drawings

W13126	W13226	
German	English	

Transparency-Atlas with the Pictures of Sets A, B, C, D

New, extended version 2002. Contents: 45 overhead transparencies sized 22 x 28 cm, now with 252 pictures of microscopic preparations, matching the micropreparations school sets A, B, C and D as part of the “Media System”. Includes a detailed 80-page guide and 175 semi-diagrammatic illustrations. Comes in a durable plastic ring binder.
Text: Dr. Karl-Heinrich Meyer on the subject areas of: zoology, histology and anthropology, bacteria and flowerless plants, seed plants, cytology and genetics, embryology, pathogens and diseased organs, ecology and the environment.

4. CD with Micro Images

This CD contains colour images of all micro sections and additional specimens at various enlargements and detail views contained in the matching school series.

- Identification of important structures and explanatory texts (can be hidden for test purposes)
- A "virtual microscope" can be used for 3 – 5 different enlargements
- Colour drawings help to quickly find the structures in the specimen
- Additional representation of anatomic and diagrammatic illustrations and photos
- Drawing sheets and worksheets can be printed out
- An image database can be used to select individual combinations
- Test program with recorded grade assignment
- Index of all images
- Images can be displayed in full screen size
- All images and texts can be printed out
- 5-language version: English, German, Spanish, Portuguese, French

System requirements: Pentium PC, WINDOWS 95/98 or NT, at least 16 MB RAM, double-speed CD ROM drive, VGA graphic card (65000 colours). Will also run on a PowerMac G4 (or later) with WINDOWS emulation.

W13450

CD with Micro Images for School Series A
Contains approx. 440 images
Text not in French.

W13451

CD with Micro Images for School Series B
Contains approx. 700 images

W13452

CD with Micro Images for School Series C
Contains approx. 700 images

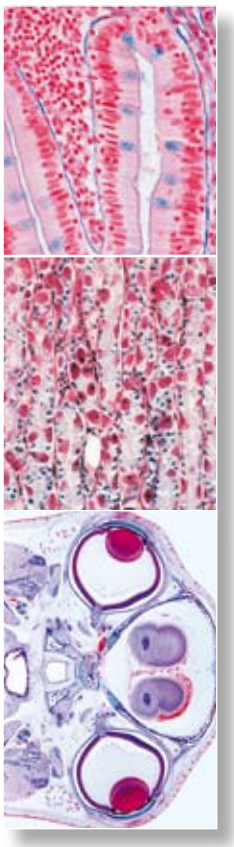
W13453

CD with Micro images for School Series D
Contains approx. 700 images

MICROSCOPE SLIDES

Our microscope slides are made under rigorous scientific control. They are the product of long experience combined with the most up to date techniques. The prerequisite for excellent preparations is good material, well preserved and fixed so that the finer structures are as life-like as possible. Microtome sections are cut from this material by highly skilled and experienced staff. They are of a thickness which will result in slides from which the maximum resolution of the structural components can be obtained. Particular attention is paid to the staining technique and in each case the selected method for a particular specimen will ensure the best possible differentiation combined with clear definition and permanency of staining. These prepared microscope slides are supplied on the best glass with fine ground edges of the size 26x76 mm (1 x 3″) and are mailed in rigid boxes. Most sets are supplied with comprehensive explanatory brochures. All slides can be purchased either in complete sets and series or individually at a minimum quantity of 25 mixed slides. We reserve the right to make minor alterations to the sets and compilations. The delivery time is between 6 – 8 weeks.

SERIES FOR SECONDARY SCHOOLS



W13300	W13400	W13300F	W13300S	W13300P	
German	English	French	Spanish	Portuguese	

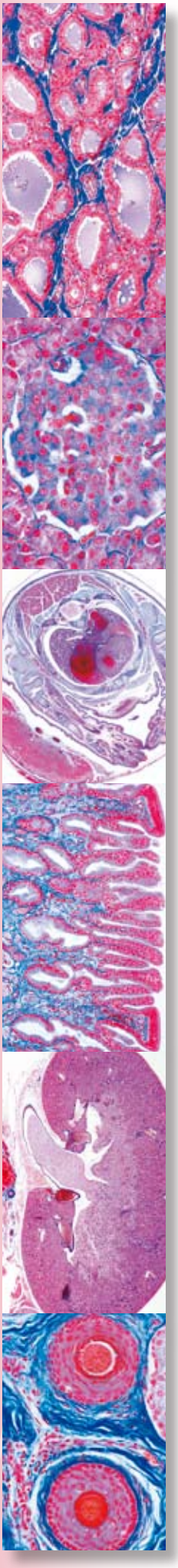
Series I. Cells, Tissues and Organs
13 Microscope Slides
1(d). Simple animal cells in sec. of salamander liver 2(d). Mitosis, l.s. from Allium root tips 3(c). Ranunculus, buttercup, t.s. of a typical dicot root 4(e). Monocot and dicot stems, two t.s. for comparison 5(c). Syringa, lilac, t.s. of a typical mesophytic dicot leaf 6(c). Columnar epithelium, t.s of blind gut from rabbit 7(e). Bone and hyaline cartilage, t.s. 8(d). Striated muscles of mammal, l.s. 9(d). Smooth muscles of mammal, l.s. and t.s. 10(c). Lung of cat, t.s. 11(c). Human blood smear 12(d). Human body skin, l.s. 13(f). Young mouse, sag. s. of entire specimen for all structures.

W13301	W13401	W13301F	W13301S	W13301P	
German	English	French	Spanish	Portuguese	

Series II. Metabolism
15 Microscope Slides
1(e). Hydra, fresh water polyp, t.s. with ectoderm and entoderm 2(d). Carabus, ground beetle, gizzard 3(c). Salivary gland of cat, t.s. 4(c). Oesophagus of cat, t.s. 5(d). Fundic stomach of cat, t.s. 6(c). Small intestine of cat, t.s. routine stained 7(f). Small intestine, t.s. blood vessels injected 8(d). Appendix of human, t.s. 9(c). Large intestine of cat, t.s. 10(c). Liver of pig, t.s. 11(f). Malpighian tubules of insect, t.s. 12(c). Primordial kidney (mesonephros) of frog, t.s. 13(d). Hind-kidney (metanephros) of rabbit, t.s. 14(d). Kidney of mouse with pelvis, l.s. 15(f). Kidney of mouse, t.s. injected to show storage

W13302	W13402	W13302F	W13302S	W13302P	
German	English	French	Spanish	Portuguese	

Series III. Organs of Sense
16 Microscope Slides
1(e). Paramaecium, silvered to show the neuroformative system 2(d). Lumbricus, earthworm, t.s. with ventral nerve cord 3(e). Insect brain, frontal l.s. 4(e). Planaria, sec. through ocelli 5(f). Haliotis, marine snail, pinhole camera eye l.s. 6(e). Helix, snail, eye l.s. 7(e). Alloteuthis, cuttlefish, camera eye l.s. 8(e). Compound eye of an insect, l.s. 9(e). Young rat, head with eyes t.s. 10(d). Retina of cat, t.s. showing rods and cones 11(e). Internal ear (cochlea) from guinea pig, l.s. 12(e). Taste buds from tongue of rabbit, t.s. 13(e). Peripheral nerve fibres, osmic acid material showing Ranvier's nodes 14(c). Spinal cord of cat t.s. with large motor nerve cells 15(c). Cerebellum of cat, t.s. routine stained 16(f). Cerebrum of cat, t.s. silvered to show the pyramid cells



W13303	W13403	W13303F	W13303S	W13303P	
German	English	French	Spanish	Portuguese	

Series IV. Hormone Organs and Hormonal Function

7 Microscope Slides

1(d). Ovary of cat, with follicles and corpus luteum t.s. 2(d). Testis of mouse, t.s. showing Leydig's cells 3(d). Adrenal (suprarenal) gland of cat, t.s. 4(d). Pancreas of cat, t.s. with islets of Langerhans, 5(f). Thyroid gland, normal function t.s. 6(f). Thyroid gland, over-activity of the gland t.s. 7(f). Hypophysis (pituitary body) sagittal l.s.

W13304	W13404	W13304F	W13304S	W13304P	
German	English	French	Spanish	Portuguese	

Series V. Genetics, Reproduction and Embryology

19 Microscope Slides

1(g). DNA and RNA stained in different colours, l.s. onion root tips 2(e). Lilium, young anthers, meiosis, early prophase stage, t.s. 3(e). Lilium, young anthers, diplotene stage, t.s. 4(d). Lilium, ovary with embryosac t.s. 5(d). Capsella bursa pastoris, l.s. of embryos 6(h). Human chromosomes, spread in the metaphase stage, w.m. 7(g). Lamp brush chromosomes 8(e). Hydra with testis t.s. 9(e). Hydra with ovaries t.s. 10(f). Tapeworm (Taenia), mature proglottid, w.m. 11(f). Ascaris, sec. of uteri showing maturation of ova 12(e). Cockchafer (Melolontha), ovaries t.s. 13(d). Frog (Rana), testis t.s. showing spermatogenesis 14(f). Frog embryology: four cell stage t.s. 15(f). Frog: morula stage l.s. 16(f). Frog: neurula stage t.s. 17(f). Chicken (Gallus) embryology: 24 hour t.s. 18(f). Chicken embryology: 72 hour t.s. 19(d). Mouse, uterus containing embryo t.s.

HISTOLOGY – DETAIL SETS

W13305	W13405	W13305F	W13305S	W13305P	
German	English	French	Spanish	Portuguese	

Histology of Vertebrata Excluding Mammalia

Fishes, Amphibians, Reptiles, Birds – 25 Microscope Slides

1(c). Cyprinus, carp, liver t.s. 2(c). Cyprinus, testis t.s. showing spermatozoa 3(c). Cyprinus, small intestine t.s. 4(c). Cyprinus, kidney t.s. 5(c). Cyprinus, gills t.s. 6(c). Cyprinus, skin t.s. 7(f). Fish scales, cycloid, ctenoid, and placoid scales w.m. 8(c). Salamandra, skin with poison glands t.s. 9(d). Salamandra, t.s. through thorax and forelegs of larva 10(c). Rana, frog, lung t.s., a simple bag-like lung 11(c). Rana, blood smear, with nucleated corpuscles 12(c). Rana, stomach t.s. 13(c). Rana, large intestine t.s., with goblet cells 14(c). Rana, liver t.s. showing bile ducts 15(c). Rana, kidney t.s. 16(c). Rana, testis t.s. to show spermatogenesis 17(c). Rana, skin t.s. showing glands 18(d). Lacerta, lizard, skin with scales, sagittal l.s. 19(c). Gallus, chicken, blood smear, with nucleate red corpuscles 20(c). Gallus, lung t.s. 21(c). Gallus, glandular stomach t.s. 22(d). Gallus, ovary with developing eggs t.s. 23(d). Gallus, skin with developing feathers t.s. or l.s. 24(c). Gallus, unfeathered skin of foot t.s. 25(c). Gallus, wing and down feathers w.m.

W13306	W13406	W13306F	W13306S	W13306P	
German	English	French	Spanish	Portuguese	

Histology of Mammalia, Elementary Set

25 Microscope Slides

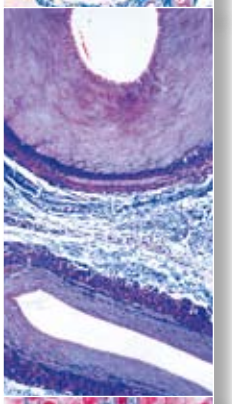
1(c). Squamous epithelium, isolated cells 2(e). Fibrous connective tissue, w.m. from pig mesentery 3(e). Adipose tissue of mammal, fat stained 4(c). Hyaline cartilage of calf, t.s. 5(e). Compact bone of cow, t.s. 6(d). Striated muscles of cat, l.s. 7(d). Smooth muscles of cat, t.s. and l.s. 8(c). Blood smear, human 9(d). Artery of cat or rabbit, t.s. 10(d). Vein of cat or rabbit, t.s. 11(c). Lung of cat, t.s. 12(c). Pancreas of pig with islets of Langerhans t.s. 13(c). Tongue of cat, t.s. with cornified papillae 14(d). Stomach of cat, fundic region t.s. 15(c). Small intestine of cat or rabbit, t.s. 16(d). Liver of pig, t.s. 17(d). Kidney of cat, t.s. 18(d). Ovary of rabbit, t.s., developing follicles 19(d). Testis of mouse, t.s., spermatogenesis 20(d). Cerebrum of cat, t.s. 21(d). Cerebellum of cat, t.s. 22(c). Spinal cord of cat, t.s. 23(e). Nerve fibres isolated, Ranvier's nodes 24(e). Motor nerve cells, smear from spinal cord 25(d). Scalp, human, l.s. of hair follicles

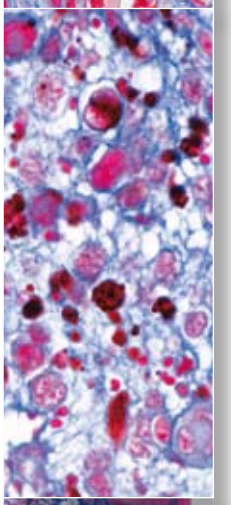
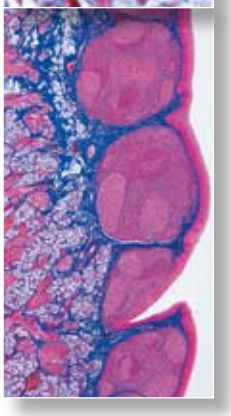
W13307	W13407	W13307F	W13307S	W13307P	
German	English	French	Spanish	Portuguese	

Histology of Mammalia, Supplementary Set

50 Microscope Slides

1(c). Columnar epithelium of mammal 2(c). Ciliated epithelium of mammal 3(d). White fibrous tissue, l.s. of tendon of cow 4(d). Mucous tissue, t.s. of navel string 5(d). Elastic cartilage, sec. stained for elastic fibres 6(d). Bone development, l.s. of foetal finger 7(d). Striated muscle of cat, t.s. 8(c). Heart muscle of cat, l.s. and t.s. 9(d). Red bone marrow of cow, sec. or smear 10(f). Heart of mouse, sagittal l.s. 11(d). Trachea of rabbit, t.s. 12(c). Spleen of cat, t.s. 13(c). Lymph gland of cat or rabbit, t.s. 14(d). Adrenal (suprarenal) gland of rabbit, t.s. 15(e). Epiphysis (pineal body) of cow or pig, t.s. 16(e). Hypophysis (pituitary body) of cow or pig, l.s. 17(d). Thyroid gland of cow, t.s. 18(d). Thymus gland of cow, t.s. with Hassall bodies 19(d). Parotid gland of cat, t.s. 20(d). Tooth, t.s. through root or crown 21(c). Oesophagus of rabbit, t.s. 22(c). Vermiform appendix of rabbit, t.s. 23(c). Large intestine (colon) of rabbit, t.s. 24(c). Gall bladder of rabbit, t.s. 25(f). Kidney t.s., vital stained with trypan blue showing storage 26(c). Ureter of rabbit, t.s. 27(c). Urinary bladder of rabbit, t.s. 28(d). Ovary with corpus luteum t.s. 29(c). Fallopian tube of pig, t.s. 30(c). Uterus of rabbit, t.s. 31(c). Placenta of rabbit, t.s. 32(d). Uterus of rat, containing embryo t.s. 33(d). Vagina of rabbit, t.s. 34(c). Epididymis of rabbit, t.s. 35(d). Sperm smear of bull 36(d). Penis of rabbit, t.s. 37(d). Prostate gland of pig, t.s. 38(e). Brain of mouse, entire organ l.s. 39(f). Cerebellum, t.s. silver stained for Purkinje cells 40(e). Sympathetic ganglion, t.s. multipolar nerve cells 41(c). Peripheral nerve of cat or rabbit, l.s. 42(e). Eye of cat, anterior part with cornea t.s. 43(e). Eye of cat, posterior part with retina t.s. 44(e). Cochlea (internal ear) of Guinea pig, l.s. shows organ of Corti 45(d). Olfactory region of dog or rabbit, t.s 46(e). Taste buds in tongue of rabbit (Papilla foliata), t.s. 47(d). Skin of human palm, t.s. 48(d). Scalp, human, t.s. of hair follicles 49(d). Nail development of embryo, sagittal l.s. 50(c). Mammary gland of cow, t.s.

W13308	W13408	W13308F	W13308S	W13308P	
German	English	French	Spanish	Portuguese	

Normal Human Histology, Basic Set

40 Microscope Slides

When compiling the series only top quality, histologically fixed material was used for the preparation of the slides. The cutting thickness of the microtome sections is normally 6 – 8 mm. The use of special staining methods guarantees a clear, multicoloured representation of all tissue structures. This slide series occupies a special position due both to the quality of the original material because of the carefulness of the preparation. 1(c). Squamous epithelium, human, isolated cells 2(f). Areolar connective tissue, human w.m. 3(f). Hyaline cartilage, human t.s. 4(f). Compact bone, human t.s. 5(f). Striated muscle, human l.s. 6(f). Heart muscle, human l.s. and t.s. 7(f). Artery, human t.s. 8(f). Vein, human t.s. 9(f). Lung, human t.s. 10(c). Blood smear, human 11(f). Spleen, human t.s. 12(f). Thyroid gland, human t.s. 13(f). Thymus gland from human child t.s. 14(f). Tongue, human t.s. 15(f). Tooth, human l.s. 16(f). Parotid, human gland t.s. 17(f). Oesophagus, human t.s. 18(f). Stomach, human, fundic region t.s. 19(f). Duodenum, human t.s. (small intestine) 20(f). Colon, human t.s. (large intestine) 21(f). Pancreas, human t.s. 22(f). Liver, human t.s. 23(e). Vermiform appendix, human t.s. 24(f). Kidney, human t.s. 25(f). Adrenal (suprarenal) gland, human t.s. 26(f). Ovary, human t.s. 27(f). Uterus, human t.s. 28(f). Placenta, human t.s. 29(f). Testis, human t.s. 30(f). Epididymis, human t.s. 31(f). Cerebrum, human t.s. 32(f). Cerebellum, human t.s. 33(f). Spinal cord, human t.s34(f). Sympathetic ganglion, human t.s. 35(e). Skin of palm, human t.s. 36(e). Scalp, human, l.s. of hair follicles 37(e). Scalp, human, t.s. of hair follicles 38(f). Retina, human t.s. 39(e). Finger tip from foetus with nail development l.s.

W13309	W13409	W13309F	W13309S	W13309P	
German	English	French	Spanish	Portuguese	

Normal Human Histology, Large Set, Part I.

50 Microscope Slides

1(c). Isolated squamous epithelium, human 2(e). Connective tissue, human, sec. 3(e). Columnar epithelium, human gall bladder, t.s. 4(e). Ciliated epithelium, human trachea, t.s. 5(e). Smooth muscles, human, l.s. and t.s. 6(e). Striated muscles, human, l.s. 7(e). Heart muscles, human, l.s. and t.s. 8(e). Hyaline cartilage, human, sec. 9(e). Elastic cartilage of epiglottis, human, t.s. 10(e). Bone, compact substance, human, t.s. 11(e). White fibrous tissue (tendon), human, l.s. 12(e). Red bone marrow, human, t.s. 13(d). Scalp, human, l.s. of hair follicles 14(e). Artery, human, t.s. 15(e). Vein, human, t.s. 16(c). Blood smear, human, Giemsa stain 17(e). Lung, human, t.s. 18(f). Larynx of human foetus, t.s. 19(e). Lymph gland, human, t.s. 20(e). Thyroid gland, human, t.s. 21(f). Pituitary gland, human, t.s. 22(e). Spleen, human, t.s. 23(e). Tongue, human, t.s. 24(e). Oesophagus, human, t.s. 25(e). Sublingual gland, human, t.s. 26(e). Stomach, pyloric region, human, t.s. 27(e). Pancreas, human, t.s. 28(e). Small intestine, human, t.s. 29(e). Large intestine, human, t.s. 30(e). Liver, human, t.s. 31(e). Kidney, human, t.s. 32(f). Adrenal gland, human, t.s. 33(e). Ureter, human, t.s. 34(e). Urinary bladder, human, t.s. 35(f). Ovary, human, t.s. 36(e). Uterus, human, t.s. 37(e). Uterine tube, human, t.s. 38(e). Placenta, human, t.s. 39(e). Umbilical cord, human, t.s. 40(e). Mammary gland, human, sec. 41(f). Testis, human, t.s. 42(e). Epididymis, human, t.s. 43(f). Olfactory epithelium, human, t.s. 44(f). Retina, human, t.s. 45(g). Internal ear, human foetal, t.s. 46(f). Touch corpuscles in human skin, t.s. 47(e). Nerve, human, l.s. 48(e). Spinal cord, human, t.s. 49(e). Cerebellum, human, t.s. 50(e). Cerebrum, cortex, human, t.s.

W13310	W13410	W13310F	W13310S	W13310P	
German	English	French	Spanish	Portuguese	

Normal Human Histology, Large Set, Part II.

50 Microscope Slides

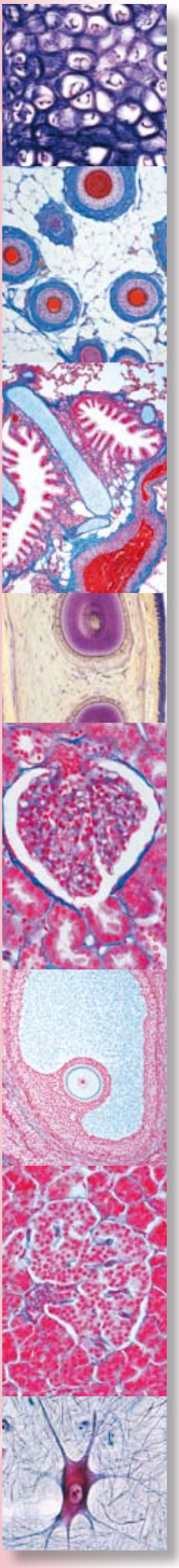
1(e). Soft palate, human t.s. 2(e). Adipose tissue, human, sec. stained for fat 3(f). White fibrous cartilage, human intervertebral disc, sec. 4(e). Striated (skeletal) muscle, human t.s. 5(e). Spongy (cancellous) bone, human t.s. 6(e). Bone development, vertical l.s. of foetal skull-cap 7(e). Bone development, l.s. of foetal finger 8(e). Joint of human foetus, l.s. 9(e). Tooth, human, t.s. of crown 10(f). Tooth, human, complete l.s. 11(f). Tooth development from human foetus, l.s. 12(e). Aorta, human, t.s. routine stained 13(e). Trachea from human foetus t.s. 14(f). Thymus from human child, t.s. 15(f). Parathyroid gland (Gl. parathyreoidea), human t.s. 16(e). Tonsil (Tonsilla palatina), human t.s. 17(e). Parotid gland (Gl. parotis), human t.s. 18(e). Submaxillary gland (Gl. submandibularis), human t.s. 19(e). Stomach, fundic region, human t.s. 20(e). Stomach, cardiac region, human t.s. 21(e). Jejunum, human t.s. 22(f). Small intestine (Duodenum) t.s. colouring of goblet cells, PAS-HE 23(e). Vermiform appendix, human t.s. 24(e). Rectum, human t.s. 25(e). Gall bladder, human t.s. 26(e). Liver of human foetus sec., developing blood cells 27(e). Urethra, human, t.s. 28(e). Seminal vesicle (Gl. vesiculosa), human t.s. 29(e). Spermatic cord (Ductus deferens), human t.s. 30(e). Prostate, human, t.s. 31(e). Sperm smear, human 32(f). Corpus luteum in t.s. of human ovary 33(e). Vagina, human t.s. 34(g). Cerebral cortex, human, t.s. silvered (Golgi or Palmgren) 35(g). Cerebral cortex, human, t.s. stained for neuroglial cells after Held 36(g). Cerebellum, human, t.s. silvered (Golgi or Palmgren) 37(f). Thalamus, human, stained after KlŸver – Barrera 38(f). Medulla oblongata, human, t.s. routine stained 39(g). Spinal cord, human, t.s. silvered (Golgi or Palmgren) 40(f). Sympathetic ganglion, human t.s. routine stained 41(e). Peripheral nerve, human t.s. 42(e). Optic nerve, human t.s. 43(e). Cornea from eye, human t.s. 44(e). Eyelid, human, t.s. 45(e). Skin from finger tip, human, vertical l.s. 46(d). Scalp, human, horizontal l.s. shows t.s. of hair follicles, 47(e). Nail development, sagittal l.s. finger tip of human foetus 48(h). Human chromosomes in smear from culture of blood, male 49(i). Human chromosomes in smear from culture of blood, female 50(f). Barr bodies (human sex chromatin) in smear from female squamous epithelium

W13311	W13411	W13311F	W13311S	W13311P	
German	English	French	Spanish	Portuguese	

Human Pathology

50 Microscope Slides

1(e). Parenchymatous and fatty degeneration of liver 2(e). Hemosiderosis of liver 3(e). Glycogenosis of liver 4(e). Pigmentary cirrhosis of liver 5(e). Necrotic oesophagitis 6(e). Foreign body granuloma with hemosiderin and giant cells 7(e). Tonsillitis 8(e). Liver cirrhosis Injury of circulatory organs and blood-forming organs 9(e). Adiposis of heart 10(e). Cardiac callosity 11(e). Myocarditis chronica acute recidivans 12(e). Organized venous thrombosis of muscle 13(e). Infarct of spleen 14(e). Chronic myeloid leukemia of spleen 15(g). Malarial melanemia of spleen Pathologic alterations of lung and liver, tuberculosis, pneumonia 16(e). Anthracosis of lung 17(e). Hemorrhagic infarct of lung 18(e). Influenzal pneumonia 19(e). Croupous pneumonia 20(e). Chronic pneumonia 21(e). Necrotic (cheesy) pneumonia 22(e). Miliary tuberculosis of lung 23(e). Chronic tuberculous pulmonary cavity with bacteria 24(e). Icterus hepatis Reaction of kidney after arteriosclerosis, disturbance of metabolism, and inflammation; colitis 25(e). Glomerular atrophy of kidney 26(e). Amyloid degeneration of kidney 27(e). Acute hemorrhagic nephritis 28(e). Chronic glomerulonephritis 29(e). Septic embolic nephritis 30(e). Colitis dysenterica Shiga-Kruse Specific inflammations after infection with syphilis spirochaetes 31(g). Congenital syphilis of liver, spirochaetes silvered after Levaditi 32(f). Congenital syphilis of liver (feuerstein liver), routine stained 33(f). Gumma of testicle Progressive alteration of injured tissues and organs (Hypertrophy and hyperplasia) 34(e). Atheroma of head 35(e). Struma colloides 36(f). Undescended testicle showing hyperplasia of Leydig's cells 37(e). Hypertrophy of prostate Benignant and malignant tumors 38(f). Giant cell sarcoma of maxilla 39(e). Chondroma of pubic bone 40(e). Myoma of uterus 41(e). Fibroadenoma of breast 42(e). Fibroepithelial mixed tumor of parotid gland 43(e). Melanosarcoma of skin 44(e). Spindle cell sarcoma 45(e). Carcinoma cervicis uteri 46(e). Sarcoma of testicle 47(e). Cystadenoma papilliferum of ovary 48(e). Gelatinous carcinoma of rectum 49(e). Lymphosarcoma mediastini 50(e). Metastatic carcinoma of liver



HISTOLOGY – COMPREHENSIVE SET

W13312	W13412	W13312F	W13312S	W13312P	
German	English	French	Spanish	Portuguese	

Tissues

15 Microscope Slides

1(c). Squamous epithelium, scrapings from human mouth, w.m. 2(e). Columnar epithelium, human gall bladder, t.s. 3(e). Ciliated epithelium, human trachea, t.s. 4(d). Skin, human, from general body surface showing sweat glands 5(d). Human scalp, l.s. of hair 6(d). Developing of nail, human embryo, l.s. 7(e). Hyaline cartilage, human, t.s. 8(d). Elastic cartilage, ear of pig, t.s. 9(e). Developing cartilaginous bone, joint of human foetus, l.s. 10(e). Compact bone, c.s. and l.s. 11(f). Striated muscle, human, l.s., staining of striations 12(e). Striated muscle, human, t.s. 13(e). Smooth muscle, human, t.s. and l.s. 14(e). White fibrous tissue, human tendon, l.s. 15(e). Adipose tissue, human, t.s.

W13343	W13443	W13343F	W13343S	W13343P	
German	English	French	Spanish	Portuguese	

Human Scalp and Hair.

12 preparations. For details, please go to www.3bscientific.co.uk.

W13313	W13413	W13313F	W13313S	W13313P	
German	English	French	Spanish	Portuguese	

Respiratory and Circulatory System

10 Microscope Slides

1(d). Trachea, cat, t.s. 2(e). Lung, human t.s. 3(c). Blood, human, Wright stained smear 4(c). Artery, human, t.s., elastica stained 5(e). Vein, human, t.s., elastica stained 6(e). Artery and vein, human, t.s., elastica stained 7(e). Aorta, human, t.s. 8(e). Heart muscle, human t.s. and l.s. intercalated discs 9(e). Lymph gland, human, t.s. 10(e). Red bone marrow, human rib, t.s. Giemsa stained

W13314	W13414	W13314F	W13314S	W13314P	
German	English	French	Spanish	Portuguese	

Digestive System

11 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13315	W13415	W13315F	W13315S	W13315P	
German	English	French	Spanish	Portuguese	

Urinary System

10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13316	W13416	W13316F	W13316S	W13316P	
German	English	French	Spanish	Portuguese	

Genital System

14 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13317	W13417	W13317F	W13317S	W13317P	
German	English	French	Spanish	Portuguese	

Endocrine System

6 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13318	W13418	W13318F	W13318S	W13318P	
German	English	French	Spanish	Portuguese	

Sensory Organs

10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13319	W13419	W13319F	W13319S	W13319P	
German	English	French	Spanish	Portuguese	

Nervous System

11 Microscope Slides

1(e). Cerebrum, human, cortex, t.s. 2(e). Cerebellum, human, t.s. 3(f). Cerebellum, human, t.s., Weigert stained 4(e). Spinal cord, human, t.s. for general structure 5(e). Nerve, human, l.s. 6(e). Nerve, human, t.s. 7(f). Spinal cord, cat, t.s., KlŸver-Barrera stained 8(e). Spinal cord, cow, t.s., Nissl stained 9(f). Cerebrum, cat, t.s., Golgi stained 10(e). Brain, rat, median l.s. 11(d). Vertebra with spinal cord, rat, t.s.

ZOOLOGY – DETAIL SETS

W13320	W13420	W13320F	W13320S	W13320P	
German	English	French	Spanish	Portuguese	

Invertebrata, Elementary Set

25 Microscope Slides

The most important representatives of Protozoa, Sponges, Coelenterata, Vermes, Arthropoda, Insecta, Mollusca, Echinodermata, Acrania. 1(e). Amoeba proteus, w.m. 2(c). Euglena, a common flagellate with eye spot 3(d). Paramaecium, a common ciliate 4(c). Sycon, marine sponge, t.s. of body 5(e). Hydra, extended specimen w.m. 6(e). Dicrocoelium lanceolatum, sheep liver fluke, w.m. 7(c). Planaria, t.s. of body 8(c). Taenia saginata, tapeworm, proglottids in different stages t.s. 9(d). Trichinella spiralis, l.s. of muscle with encysted larvae 10(c). Lumbricus, earthworm, t.s. of body in region of typhlosole 11(c). Daphnia, water flea w.m. 12(c). Cyclops, copepod w.m. 13(b). Spider, leg with comb w.m. 14(c). Spider, spinneret w.m. 15(c). Musca domestica, house fly, head and mouth parts w.m. 16(e). Periplaneta, cockroach, biting mouth parts w.m. 17(e). Apis mellifica, honey bee, mouth parts of worker w.m. 18(b). Musca domestica, house fly, leg with pulvilli w.m. 19(b). Apis mellifica, wings w.m. 20(b). Trachea from insect w.m. 21(b). Spiracle from insect w.m. 22(d). Drosophila, fruit fly, sagittal l.s. of adult specimen 23(d). Snail, radula w.m. or section 24(d). Snail, t.s. through body 25(d). Asterias, starfish, t.s. of arm (ray)

W13321	W13421	W13321F	W13321S	W13321P	
German	English	French	Spanish	Portuguese	

Invertebrata, Supplementary Set

50 Microscope Slides

1(d). Radiolaria, mixed species 2(d). Foraminifera, mixed species 3(c). Ceratium, dinoflagellates 4(f). Trypanosoma, causing sleeping disease, blood smear 5(f). Plasmodium, malaria parasite, blood smear 6(d). Eimeria stiedae, in t.s. of rabbit liver with parasites 7(b). Spongilla, fresh water sponge, gemmulae (winter bodies) 8(c). Hydra, t.s. of body 9(d). Obelia hydroid, w.m. of colony 10(e). Obelia medusa, jellyfish. w.m. 11(d). Actinia, sea anemone, t.s. young specimen 12(c). Fasciola hepatica, beef liver fluke, t.s. of body 13(c). Fasciola, ova w.m. 4(d). Ascaris, roundworm, t.s. of female in region of gonads 15(d). Ascaris, t.s. of male in region of gonads 16(e). Lumbricus, earthworm, l.s. of anterior region with gonads 17(c). Lumbricus, sperm smear 18(d). Hirudo medicinalis, leech, t.s. of body 19(d). Sagitta, arrow worm, entire specimen w.m. 20(c). Astacus, crayfish, gills t.s. 21(c). Astacus, liver t.s. 22(e). Astacus, testis t.s. showing spermatogenesis 23(d). Astacus, ovary t.s. showing developing ova 24(c). Astacus, intestine t.s. 25(d). Spider, abdomen with internal organs l.s. 26(d). Dermanyssus gallinae, chicken mite w.m. 27(e). Pieris, butterfly, head and mouth parts w.m. 28(e). Vespa, wasp, biting mouth parts w.m. 29(f). Carabus, ground beetle, biting mouth parts w.m. 30(d). Culex pipiens, mosquito, piercing-sucking mouth parts w.m. 31(b). Melolontha, cockchafer, antenna w.m. 32(b). Apis mellifica, honey bee, anterior leg with eye brush w.m. 33(b). Apis mellifica, posterior leg with pollen basket w.m. 34(b). Pieris, butterfly, portion of wing with scales w.m. 35(b). Apis mellifica, cornea from eye w.m. 36(d). Apis mellifica, sting with poison sac w.m. 37(d). Culex pipiens, mosquito, t.s. of abdomen 38(e). Apis mellifica, honey bee, head with compound eyes t.s. 39(d). Apis mellifica, abdomen of worker t.s. 40(e). Ctenocephalus, dog flea, w.m. of adult 41(c). Chironomus, gnat, larva w.m. 42(d). Bombyx mori, silkworm, t.s. of caterpillar, spinning glands 43(d). Helix, snail, hermaphrodite gland (ovotestis) t.s. 44(c). Helix, snail, liver t.s. 45(e). Helix, snail, eye l.s. 46(d). Mya arenaria, clam, gills t.s. and l.s. 47(e). Asterias, starfish, horizontal section of young specimen 48(d). Psammechinus, sea urchin, pluteus larva w.m. 49(d). Branchiostoma lanceolatum (Amphioxus), t.s. of body with testis 50(d). Branchiostoma , t.s. of body with ovaries.

ZOOLOGY – COMPREHENSIVE SETS

W13001	W13030	W13001F	W13001S	W13001P	
German	English	French	Spanish	Portuguese	

Protozoa

10 Microscope Slides

1(e). Amoeba proteus, Rhizopoda, w.m. 2(d). Radiolaria, mixed species, fossil 3(d). Foraminifera from Mediterranean sea, mixed species, recent 4(c). Euglena viridis, a green flagellate, w.m. 5(c). Ceratium hirundinella, fresh-water dinoflagellate w.m. 6(f). Trypanosoma gambiense, causes African sleeping sickness, blood smear 7(f). Plasmodium, causes human malaria, blood smear 8(d). Eimeria stiedae, causing coccidiosis, t.s. of infected liver 9(d). Paramecium, a common ciliate, nuclei stained 10(e). Vorticella, a coloniate ciliate.

W13002	W13031	W13002F	W13002S	W13002P	
German	English	French	Spanish	Portuguese	

Coelenterata and Porifera

10 Microscope Slides

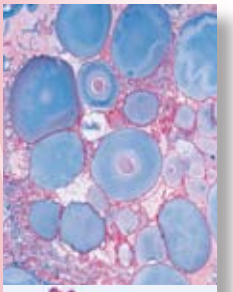
1(e). Sycon, a small marine sponge of the sycon type, l.s. and t.s. on one slide 2(d). Spongilla, fresh-water sponge, t.s. 3(d). Euspongia, commercial sponge, t.s. 4(c). Sponge spicules of different kinds, mixed w.m. 5(e). Hydra, fresh water polyp, extended and w.m. 6(d). Hydra, t.s. in different levels 7(d). Laomedea, w.m. of colony, vegetative and reproductive polyps 8(e). Obelia, w.m. of medusa 9(e). Aurelia, jellyfish, w.m. of ephyra 10(e). Actinia, sea anemone, l.s. and t.s.

W13003	W13032	W13003F	W13003S	W13003P	
German	English	French	Spanish	Portuguese	

Vermes (Helminthes)

20 Microscope Slides

1(f). Planaria, (Turbellaria) w.m. 2(c). Planaria, t.s. for general structure 3(f). Fasciola hepatica, large liver fluke, w.m. 4(c). Fasciola, t.s. of middle region of body 5(f). Taenia sp., tapeworm, proglottids, w.m. 6(c). Taenia sp., mature proglottids, t.s. 7(g). Taenia or Moniezia, tapeworm, scolex and proglottides, w.m. 8(f). Echinococcus multilocularis, infected liver, sec. 9(f). Enterobius vermicularis, pinworm, w.m. 10(d). Trichinella spiralis, encysted larvae in muscles, l.s. 11(e). Ascaris, roundworm, adult male and female, t.s. 12(d). Nemertine, marine species, t.s. of body 13(d). Nereis, sea-worm, t.s. 14(d). Tubifex, oligochaete, w.m. 15(d). Hirudo medicinalis, leech, t.s. 16(e). Lumbricus, earthworm, anterior end, l.s. 17(c). Lumbricus, region of seminal vesicles, t.s. 18(d). Lumbricus, t.s. with stomach 19(c). Lumbricus, t.s. with intestine and nephridia 20(d). Lumbricus, t.s. with setae.



W13004	W13033	W13004F	W13004S	W13004P	
German	English	French	Spanish	Portuguese	

Crustacea

10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13005	W13034	W13005F	W13005S	W13005P	
German	English	French	Spanish	Portuguese	

Arachnoidea and Myriapoda

12 preparations with accompanying guide. For details, please go towww.3bscientific.co.uk.

W13006	W13035	W13006F	W13006S	W13006P	
German	English	French	Spanish	Portuguese	

Insect (Insecta)

40 Microscope Slides

1(d). Musca domestica, housefly, leaking-sucking mouth parts w.m. 2(e). Pieris, butterfly, sucking mouth parts w.m. 3(f). Carabus, ground beetle, biting mouth parts (carnivore) w.m. 4(f). Melolontha, cockchafer, chewing mouth parts (herbivore) w.m. 5(e). Pyrrhocoris, bug, piercing sucking mouth parts w.m. 6(d). Bombyx mori, silkworm moth, chewing mouth parts 7(e). Apis mellifica, honey bee, leaking sucking mouth parts of worker w.m. 8(e). Vespa vulgaris, wasp, biting mouth parts of carnivore w.m. 9(f). Periplaneta or Blatta, cockroach, chewing biting mouth parts w.m. 10(e). Culex pipiens, mosquito, piercing sucking mouth parts w.m. 11(b). Melolontha, cockchafer, antenna with sense organs w.m. 12(b). Bombyx mori, silkworm moth, feathered antenna w.m. 13(b). Pieris, butterfly, clubbed antenna w.m. 14(b). Apis mellifica, anterior leg with eye brush w.m. 15(b). Apis mellifica, posterior leg with pollen basket w.m. 16(b). Musca domestica, house fly, leg with pulvilli w.m. 17(c). Apis mellifica, wings w.m. 18(b). Pieris, butterfly, portion of wings with scales w.m. 19(b). Trachea from insect w.m. 20(b). Spiracle from insect w.m. 21(b). Cornea isolated from insect eye w.m. 22(d). Apis mellifica, honey bee, sting and poison sac w.m. 23(e). Apis mellifica, head with compound eyes and brain t.s. 24(d). Bombyx mori, silkworm, t.s. showing silk spinning glands 25(d). Carausius, walking stick, abdomen t.s. 26(e). Melolontha, cockchafer, ovaries of insect, sec. shows developing ova 27(f). Grasshopper, testis t.s. to show spermatogenesis and cell division 28(f). Drosophila, fruit fly, sagittal l.s. for general insect anatomy 29(d). Drosophila, fruit fly, w.m. of adult 30(e). Ctenocephalus canis, dog flea, w.m. of adult 31(d). Caenis, May fly, larva with tracheal gills w.m. 32(f). Pediculus humanus, human louse, adult w.m. 33(d). Thysanoptera, thrips, adult w.m. 34(c). Aphidae, plant lice adults and larvae w.m. 35(f). Cimex lectularius, bed bug, w.m. of adult 36(d). Culex pipiens, mosquito, w.m. of larva 37(d). Culex pipiens, mosquito, w.m. of pupa 38(f). Culex pipiens, mosquito, w.m. of adult female 39(f). Culex pipiens, mosquito, w.m. of adult male 40(d). Chironomus, gnat, w.m. of larva.

W13340	W13440	W13340F	W13340S	W13340P	
German	English	French	Spanish	Portuguese	

The Honey Bee (Apis mellifica).

18 preparations. For details, please go to www.3bscientific.co.uk.

W13007	W13036	W13007F	W13007S	W13007P	
German	English	French	Spanish	Portuguese	

Mollusca

15 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13008	W13037	W13008F	W13008S	W13008P	
German	English	French	Spanish	Portuguese	

Echinodermata, Bryozoa and Brachiopoda

10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13009	W13038	W13009F	W13009S	W13009P	
German	English	French	Spanish	Portuguese	

Cephalochordata (Acrania)

10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13322	W13422	W13322F	W13322S	W13322P	
German	English	French	Spanish	Portuguese	

The Paramaecium (Caudatum)

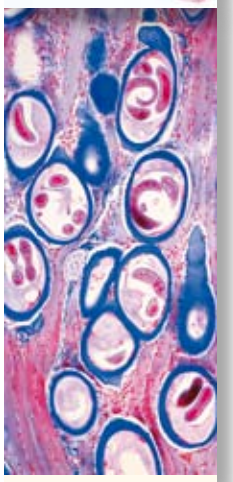
8 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13323	W13423	W13323F	W13323S	W13323P	
German	English	French	Spanish	Portuguese	

General Parasitology

50 Microscope Slides

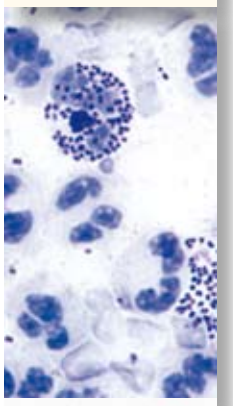
Domestic and tropical parasites of humans and animals 1(f). Entamoeba histolytica, amoebic dysentery, smear or section 2(f). Leishmania donovani, causes Kala-Azar, smear or section 3(f). Trypanosoma gambiense, sleeping disease, blood smear 4(f). Trypanosoma cruzi, Chagas disease, blood smear 5(f). Plasmodium falciparum, human malaria, blood smear with ring stages 6(f). Plasmodium berghei, blood smear with vegetative forms and schizogony stages 7(g). Plasmodium sp., malaria melanemia in human spleen 8(f). Toxoplasma gondii, causing toxoplasmosis, smear or section of cyst 9(f). Babesia canis, blood smear 10(f). Sarcocystis sp., section of muscle showing the parasites in Miescher's tubes 11(e). Nosema apis, honey bee dysentery, t.s. of bee intestine 12(d). Monocystis agilis, from earthworm seminal vesicle 13(d). Eimeria stiedae, causes coccidiosis in rabbit liver, t.s. 14(f). Fasciola hepatica, beef liver fluke, w.m. of adult flat mount 15(c). Fasciola, typical t.s. of body in different regions 16(d). Fasciola, ova w.m. 17(h). Fasciola, miracidia w.m. * 18(h). Schistosoma mansoni, bilharziosis, adult male or female w.m. 19(g). Schistosoma, t.s. of snail liver with redia and cercaria * 20(e). Schistosoma mansoni, ova in faeces 21(t). Taenia or Moniezia, tapeworm, scolex w.m. 22(f). Taenia pisiformis, dwarf tapeworm, mature proglottids w.m. 23(d). Taenia saginata, tapeworm, proglottids in different stages t.s. 24(d). Taenia saginata, ova in faeces w.m. 25(f). Hymenolepis nana, proglottids w.m. 26(f). Echinococcus granulosus, dog tapeworm, scolices from cyst w.m. 27(f). Echinococcus, cyst wall and scolices t.s.. 28(d). Ascaris lumbricoides, roundworm of human, adult female t.s. in region of gonads 29(d). Ascaris lumbricoides, adult male t.s. in region of gonads 30(d). Ascaris lumbricoides, ova from faeces w.m. 31(f). Enterobius vermicularis (Oxyuris), pin worm, adult specimen w.m. 32(d). Trichinella spiralis, muscle with encysted larvae l.s. 33(h). Ancylostoma, hookworm, adult w.m. 34(d). Trichuris trichiura, whip worm, ova w.m. 35(e). Strongyloides, larvae w.m. 36(f). Heterakis spumosa, intestinal parasite of rat, adult 37(g). Ixodes sp., tick, adult w.m. Carrier of relapsing fever and borreliosis 38(d). Dermanyssus gallinae, chicken mite w.m. 39(e). Acarapis woodi, varroa, parasitic mite of honey bee, w.m. 40(e). Sarcoptes scabiei, section of diseased skin with parasites 41(e). Stomoxys calcitrans, stable fly, piercing sucking mouth parts w.m. 42(f). Anopheles, malaria mosquito, mouth parts of female w.m. 43(e). Culex pipiens, common mosquito, mouth parts of female w.m. 44(f). Anopheles, larva w.m. 45(d). Culex pipiens, larva w.m. 46(d). Culex pipiens, pupa w.m. 47(f). Cimex lectularius, bed bug, w.m. 48(f). Pediculus humanus, human louse, w.m. 49(e). Pediculus humanus, louse eggs attached to the hair, w.m. 50(e). Ctenocephalus canis, dog flea, adult w.m.



W13341	W13441	W13341F	W13341S	W13341P	
German	English	French	Spanish	Portuguese	

General Parasitology, Short Set

25 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.



W13324	W13424	W13324F	W13324S	W13324P	
German	English	French	Spanish	Portuguese	

Pathogenic Bacteria

25 Microscope Slides

1(e). Diplococcus pneumoniae, croupous pneumonia, smear 2(f). Neisseria gonorrhoeae, gonorrhoea, smear 3(e). Neisseria meningitidis (intracellularis), epidemic meningitidis, smear 4(d). Staphylococcus aureus, pus organism, smear 5(d). Streptococcus pyogenes, smear showing short chains 6(d). Corynebacterium diphtheriae, smear 7(e). Mycobacterium tuberculosis, smear from positive sputum stained after Ziehl-Neelsen 8(e). Bacterium erysipelatos, smear 9(d). Brucella abortus, abortation in cattle (Bang disease), smear 10(d). Proteus vulgaris, inflammation of urinary system, smear 11(d). Escherichia coli, colon bacteria, possibly pathogen, smear 12(d). Eberthella typhi, typhoid fever, smear 13(d). Salmonella paratyphi, paratyphoid fever, smear 14(d). Hemophilus influenzae (Pfeiffer), smear 15(e). Klebsiella pneumoniae (Friedlander), pneumonia, smear 16(f). Pasteurella (Yersinia) pestis, bubonic plague, smear 17(d). Salmonella enteritidis, meat poisoning, smear 18(d). Shigella dysenteriae, bacillary dysentery, smear 19(d). Bacillus anthracis, wool sorter's disease, smear 20(e). Clostridium botulinum, food poisoning, smear 21(d). Clostridium septicum, smear 22(e). Clostridium tetani, lockjaw, smear 23(d). Clostridium perfringens, gas gangrene, smear 24(f). Vibrio comma, Asiatic cholera, smear 25(g). Borrelia duttoni (Spirochaeta recurrentis), Central African relapsing fever, blood smear

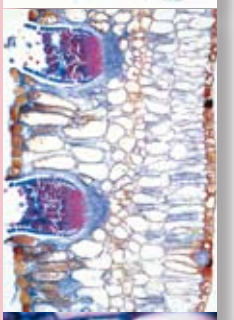
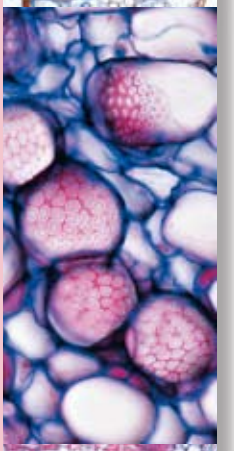
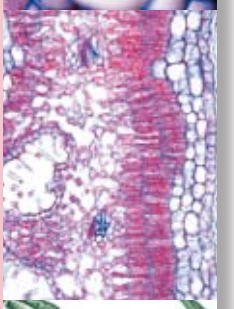
W13011	W13040	W13011F	W13011S	W13011P	
German	English	French	Spanish	Portuguese	

Bacteria Basis Set

25 Microscope Slides

The most important pathogenic and non-pathsgenic bacteria 1(d). Staphylococcus aureus, pus organism 2(d). Sarcina lutea, chromogenic rods 3(e). Streptococcus pyogenes, pus organism 4(d). Streptococcus lactis, milk souring organism 5(d). Bacillus subtilis, hay bacillus, smear with bacilli and spores 6(d). Bacillus mycoides, soil organis 7(e). Bacillus anthracis, wool sorters disease 8(e). Mycobacterium tuberculosis, tuberculosis 9(d). Corynebacterium diphtheriae, diphtheria 10(e). Bacterium erysipelatos, red murrain 11(d). Rhizobium radicicola, nitrogen fixing bacteria 12(d). Proteus vulgaris, putrefaction 13(d). Escherichia coli, colon bacteria 14(d). Eberthella typhi, typhoid fever 15(d). Salmonella paratyphi, paratyphoid fever 16(f). Vibrio comma, Asiatic cholera 17(d). Shigella dysenteriae, bacillary dysentery 18(d). Hemophilus influenzae, Pfeiffer bacillus 19(e). Spirillum volutans, from putrid water 20(d). Rhodospirillum rubrum, chromogenic spirilli 21(e). Clostridium botulinum (botulism), food poisoning 22(g). Spirochaeta duttoni (Borrelia recurrentis), in blood smear 23(d). Bacteria from mouth, with Gram positive and negative rods 24(d). Bacteria from bread 25(d). Bacteria from cheese.




BOTANY

W13325	W13425	W13325F	W13325S	W13325P	
German	English	French	Spanish	Portuguese	

Cryptogamae, Elementary Set

25 Microscope Slides

1(e). Bacteria type slide shows cocci, bacilli, spirilli 2(c). Oscillatoria, blue green alga 3(c). Pleurococcus, green alga 4(d). Eudorina, small colonies 5(c). Diatoms, mixed species 6(e). Spirogyra in conjugation with zygotes 7(d). Fucus, brown alga, female conceptacle with oogonia t.s. 8(d). Fucus, male conceptacle with antheridia t.s. 9(c). Mucor, black mould, mycelium and sporangia 10(c). Peziza, apothecium with asci t.s. 11(e). Claviceps purpurea, ergot, stroma with perithecia l.s. 12(c). Morchella, morel, fruiting body t.s. 13(b). Saccharomyces, yeast, budding 14(c). Psalliota, gill fungus, pileus with lamellae t.s. 15(c). Coprinus, mushroom, t.s. typical basidia and spores 16(d). Lobaria pulmonaria, foliose lichen, thallus with symbiotic algae t.s. 17(d). Moss stem with leaves w.m. 18(d). Marchantia, liverwort, thallus with cupule and gemmae l.s. 19(d). Marchantia, antheridia l.s. 20(d). Marchantia, archegonia l.s. 21(d). Polytrichum, moss, capsule with spores t.s. 22(d). Equisetum, horsetail, strobilus with spores l.s. 23(c). Aspidium (Dryopteris), fern, stem t.s. 24(d). Aspidium, leaf with sporangia and spores t.s. 25(d). Fern prothallium w.m.

W13326	W13426	W13326F	W13326S	W13326P	
German	English	French	Spanish	Portuguese	

Cryptogamae, Supplementary Set I

25 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13327	W13427	W13327F	W13327S	W13327P	
German	English	French	Spanish	Portuguese	

Cryptogamae, Supplementary Set II

25 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13328	W13428	W13328F	W13328S	W13328P	
German	English	French	Spanish	Portuguese	

Phanerogamae, Elementary Set

25 Microscope Slides

1(c). Simple plant cells, epidermis of Allium w.m. 2(d). Cell division (mitosis) all stages, in Allium root tips l.s. 3(c). Starch grains, t.s. of potato tuber 4(c). Cork cells, t.s. of bark of Quercus 5(d). Stone cells, t.s. of fruit of pear 6(d). Root hairs on root tip 7(c). Zea mays, corn, typical monocot root t.s. 8(c). Ranunculus, buttercup, typical dicot root t.s. 9(c). Zea mays, corn, monocot stem t.s. 10(c). Triticum, wheat, gramineous stem t.s. 11(c). Aristolochia, birthwort, one year stem t.s. 12(c). Aristolochia, older stem t.s. 13(d). Cucurbita, pumpkin, stem with bundles and sieve tubes l.s. 14(c). Sambucus, elderberry, stem with lenticels t.s. 15(c). Tulipa, tulip, leaf epidermis with stomata w.m. 16(c). Zea mays, corn, leaf t.s., monocot gramineous leaf 17(c). Syringa, lilac, leaf t.s., dicot leaf 18(c). Fagus, beech, leaf bud t.s. shows leaf origin 19(d). Lilium, lily, flower bud t.s. shows flower diagram 20(d). Lilium, anthers t.s. shows pollen chambers and pollen grains 21(d). Lilium, ovary t.s. with embryosac 22(e). Lilium, stigma with pollen and pollen tubes l.s. 23(c). Pinus, pine, leaf (needle) t.s. 24(d). Triticum, wheat, grain (semen) t.s. with embryo and endosperm 25(d). Capsella, shepherd's purse, l.s. of embryos in situ.

W13329	W13429	W13329F	W13329S	W13329P	
German	English	French	Spanish	Portuguese	

Phanerogamae, Supplementary Set

50 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13012	W13041	W13012F	W13012S	W13012P	
German	English	French	Spanish	Portuguese	

Algae

30 Microscope Slides

Cyanophyceae 1(c). Chroococcus, a single-cell alga, w.m. 2(c). Anabaena, w.m. of filaments with heterocysts 3(d). Nostoc sp., t.s. of colony with hormogonia 4(d). Aphanizomenon, w.m. showing heterocysts 5(c). Scytonema, unbranched filaments with false branching, w.m. 6(d). Stigonema, branching filaments, w.m. Chromophyta 7(c). Diatoms, fresh water, recent, mixed 8(d). Diatoms, showing protoplasmic structure Conjugatae 9(c). Spirogyra, vegetative filaments w.m. 10(e). Spirogyra, scalariform conjugation and zygotes following conjugation, w.m. 11(c). Zygnema, w.m. of vegetative filaments 12(e). Desmids, strewn slide showing several forms Chlorophyceae 13(c). Chlamydomonas, biflagellate cells, w.m. 14(d). Pandorina morum, biflagellate cells in a spherical colony, w.m. 15(e). Volvox, spherical colonies with daughter cells, w.m. 16(d). Pediastrum, stellate colonies, w.m. 17(d). Oedogonium, w.m. of filaments with sex organs, macrandrous 18(c). Cladophora, with multinucleate cells 19(c). Draparnaldia glomerata, filaments with clusters of branches 20(d). Ulva lactuca, green alga showing thallus of one celled layer 21(d). Vaucheria., w.m. of oogonia and antheridia Charophyceae 22(d). Chara vulgaris, thallus with sex organs Phaeophyceae 23(e). Fucus serratus, antheridia and oogonia t.s. on one slide 24(d). Fucus spiralis, monecious, t.s. of conceptacle with oogonia and antheridia 25(d). Ectocarpus, plurilocular, w.m. 26(c). Laminaria saccharina, thallus with sporangia t.s. Rhodophyceae 27(d). Polysiphonia, thallus with antheridia 28(d). Polysiphonia, thallus with cystocarps 29(d). Polysiphonia, thallus with tetraspores 30(d). Batrachospermum.

W13013	W13042	W13013F	W13013S	W13013P	
German	English	French	Spanish	Portuguese	

Fungi and Lichen

20 Microscope Slides

Phycomycetes 1(c). Mucor mucedo, w.m. of hyphae showing sporangia 2(d). Rhizopus nigricans, w.m. of hyphae with developing zygotes (d). Synchytrium endobioticum, potato black wart, t.s. of infected tissue 4(c). Plasmodiophora, t.s. of cabbage rot Ascomycetes 5(c). Claviceps purpurea, t.s. of sclerotium 6(c). Tuber rufum, truffle, t.s. of fruiting body showing asci 7(c). Peziza sp., cup-fungus, t.s. of fruiting body with asci 8(d). Erysiphe sp., mildew, t.s. of leaf with perithecia 9(d). Penicillium sp., blue mould on orange-rind, t.s. of hyphae with conidiophores 10(c). Aspergillus glaucum, brown-mould, w.m. of hyphae with sporangia 11(b). Saccharomyces sp., yeast, budding, w.m. 12(d). Taphrina pruni (Exoascus pruni), plum pockets, t.s. with haustoria and asci Basidiomycetes 13(d). Puccinia graminis, t.s. of uredinia on wheat 14(d). Puccinia graminis, wheat rust, t.s. of aecidia on infected barberry leaf 15(d). Ustilago zeae, corn smut, infected tissue, t.s. 16(c). Psalliota sp., mushroom, l.s. through pileus and lamellae 17(c). Boletus edulis, pore fungus, l.s. through pores 18(c). Lycoperdon gemmatum, puff-ball, t.s. of fruiting body Lichens 19(d). Xanthoria, lichen, t.s. of thallus showing hyphae with symbiotic algae 20(d). Xanthoria, t.s. of apothecium.

W13014	W13043	W13014F	W13014S	W13014P	
German	English	French	Spanish	Portuguese	

Bryophyta (Liverworts and Mosses)

15 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13015	W13044	W13015F	W13015S	W13015P	
German	English	French	Spanish	Portuguese	

Bryophyta (Liverworts and Mosses)

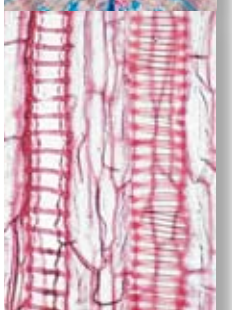
15 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13016	W13045	W13016F	W13016S	W13016P	
German	English	French	Spanish	Portuguese	

Angiospermae I. Gymnospermae

15 Microscope Slides

1(e). Ephedra, male cone l.s. 2(f). Ephedra, female cone at pollination time l.s. 3(c). Ginkgo, young sprout, t.s. 4(c). Ginkgo, leaf t.s. 5(c). Pinus, pine, young root 6(c). Pinus, pine, first year stem 7(e). Pinus, pine, bud showing vascular anatomy and origin of leaves l.s. 8(d). Pinus, pine, wood, transverse, radial and tangential sections 9(c). Pinus, pine, needles (leaves) t.s. 10(b). Pinus, pine, w.m. of mature pollen grains 11(d). Pinus, pine, male cone l.s. 12(d). Pinus, pine, young female cone l.s. 13(c). Larix, larch, t.s. of needles (leaves) t.s. 14(d). Larix, larch, male cone l.s. 15(e). Larix, larch, female cone with ovules l.s.

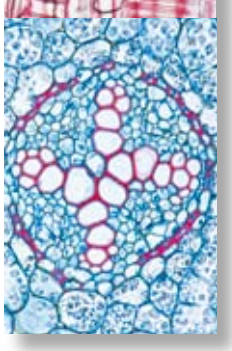


W13017	W13046	W13017F	W13017S	W13017P	
German	English	French	Spanish	Portuguese	

Angiospermae II. Cells and Tissues

20 Microscope Slides

1(c). Epidermal cells of Allium (onion), flat mount shows typical plant cells with nuclei, cytoplasm and cell walls 2(d). Mitosis, l.s. from Allium root tips showing all stages of plant mitosis 3(f). Meiosis, t.s. of Lilium anthers showing different stages of meiosis 4(d). Stem apex and meristematic tissue of Asparagus l.s. 5(d). Chloroplasts, w.m. of leaf of Elodea or Spinacea showing detail of large chloroplasts 6(c). Chromoplasts, t.s. of root of Daucus (carrot) 7(c). Aleurone grains, t.s. of Ricinus endosperm 8(b). Starch grains, different kinds mixed w.m. 9(d). Fat, t.s. of endosperm of Corylus (hazel) stained for fat 10(d). Inulin crystals, t.s. of tuber of Dahlia 11(d). Acid tannic, t.s. bark of Rosa 12(b). Calcium oxalate crystals in w.m. of dry Allium scale 13(d). Annular and spiral vessels, isolated and w.m. 14(c). Wood cells, macerated and w.m. 15(c). Lactiferous vessels, l.s. stem of Euphorbia (spurge) 16(b). Cork cells, t.s. bark of Quercus suber (oak) 17(b). Scale-like stellate hairs, isolated from Elaeagnus (olive tree) 18(c). Lysigenous oil glands, t.s. rind of Citrus fruit 19(b). Parenchyma cells, t.s. of marrow of Sambucus (elderberry) 20(d). Stone cells, t.s. fruit of Pyrus (pear).

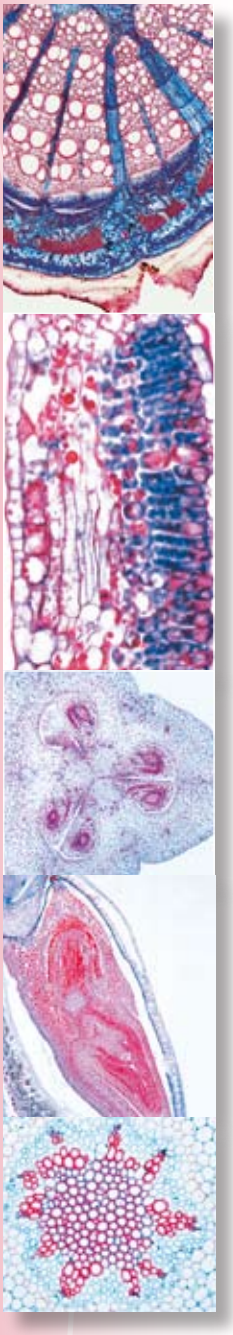


W13018	W13047	W13018F	W13018S	W13018P	
German	English	French	Spanish	Portuguese	

Angiospermae III. Roots

15 Microscope Slides

1(d). Allium cepa, onion, root tips, l.s. showing all stages of mitosis 2(c). Zea mays, corn, t.s. of typical monocot root 3(c). Iris, t.s. of typical monocot root 4(c). Ranunculus, buttercup, t.s. of a typical dicot root 5(c). Sarothamnus, broom, t.s. through woody root 6(c). Taraxacum, dandelion, t.s. through tap root showing lactiferous ducts 7(d). Vicia faba, bean, root nodule t.s. nitrogen fixing bacteria 8(d). Ranunculus ficaria, tuber during fall season, t.s. showing starch 9(d). Alnus, alder, t.s. of tuber showing actinomycetes 10(d). Neottia, orchid, t.s. of root with endotrophic mycorrhiza 11(d). Cuscuta, dodder, on host, t.s. haustorium 12(d). Root hairs, w.m. of root tip, root cap and root hairs 13(d). Zea mays, root tip, median l.s. showing central pith, cap and starch 14(c). Monstera, aerial root t.s. 15(c). Elodea, Canadian waterweed, t.s. of an aquatic root.



W13019	W13048	W13019F	W13019S	W13019P	
German	English	French	Spanish	Portuguese	

Angiospermae IV. Stems

20 Microscope Slides

1(c). Canna, t.s. of typical monocot stem with scattered bundles 2(f). Aristolochia, t.s. of one year, two years stem and older stem, all 3 in on slide 3(e). Dicot and monocot stem, t.s. of Helianthus and Canna 4(e). Dicot and monocot stem, t.s. of Ranunculus and Zea 5(e). Tilia, lime, two t.s. of stems, first year and two years 6(d). Fagus silvatica, beech, three sections of wood, t.s., r.l.s., t.l.s. 7(d). Fraxinus excelsior, ash, three sections of wood, t.s., r.l.s., t.l.s. 8(c). Quercus, oak, t.s. of stem showing cambium and bark 9(c). Sambucus, elder, t.s. of bark showing lenticells 10(c). Linum, flax, t.s. of stem showing husk fibres 11(b). Linum, flax, isolated husk fibres, w.m. 12(d). Ranunculus, l.s. of herbaceous stem 13(d). Cucurbita pepo, l.s. of stem with sieve tubes 14(d). Sieve plates in top view, t.s. of Cucurbita stem 15(c). Lamium, t.s. of square stem, collenchyma 16(c). Secale, rye, t.s. of typical grass stem 17(c). Nymphaea, water lily, t.s. of aquatic stem, spicular cells 18(c). Hippuris, t.s. of typical aquatic stem with large central pith 19(d). Urtica, nettle, stinging hairs with poison ducts 20(c). Solanum tuberosum, potato, t.s. of tuber with starch grains and cork.

W13020	W13049	W13020F	W13020S	W13020P	
German	English	French	Spanish	Portuguese	

Angiospermae V. Leafs

15 Microscope Slides

1(d). Elodea, l.s. of stem tip showing apical meristem and origin of leaves 2(d). Leaves, monocot and dicot, Zea and Ranunculus, t.s. 3(c). Syringa, lilac, t.s. of typical dicot leaf 4(c). Iris, typical isobilateral leaf t.s. 5(c). Eucalyptus, a bifacial foliage leaf with schizogenous oil glands t.s. 6(d). Fagus, beech, t.s. of sun and shade leaves on one slide 7(c). Calluna, ling, t.s. of rolled leaf showing sunken stomata 8(c). Nerium oleander, t.s. of leaf showing sunken stomatal pits lined with protective hairs 9(c). Ficus elastica, rubber plant, t.s. of leaf showing cystoliths 10(c). Elodea, t.s. of leaf showing the simple structure of an aquatic leaf 11(c). Tulipa, tulip, epidermis w.m. showing stomata 12(d). Aesculus, t.s. of leaf bud with squama and embedded folded leaves 13(d). Drosera, sundew, w.m. of leaf with glandular hairs 14(d). Nepenthes, t.s. of pitcher with glands 15(d). Utricularia, bladderwort, w.m. of bladder.

W13021	W13050	W13021F	W13021S	W13021P	
German	English	French	Spanish	Portuguese	

Angiospermae VI. Flowers

15 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13022	W13051	W13022F	W13022S	W13022P	
German	English	French	Spanish	Portuguese	

Angiospermae VII. Fruits and Seeds

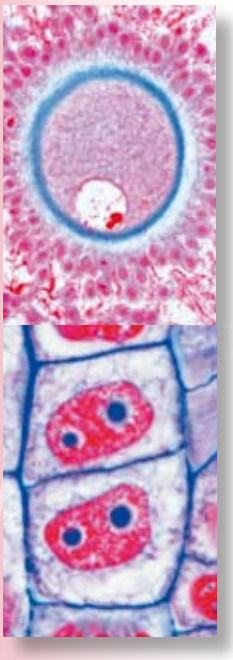
15 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13330	W13430	W13330F	W13330S	W13330P	
German	English	French	Spanish	Portuguese	

Arrangement and Types of Vascular Bundles

13 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

CYTOLOGY AND EMBRYOLOGY



W13023	W13052	W13023F	W13023S	W13023P	
German	English	French	Spanish	Portuguese	

The Animal Cell

12 Microscope Slides

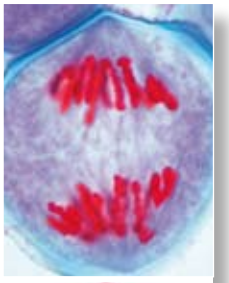
1(c). Squamous epithelium, isolated cells from human mouth 2(d). Striated muscle l.s. showing nuclei, striations 3(d). Compact bone and hyaline cartilage t.s., two sections for comparison 4(e). Nerve fibres isolated, fixed and stained by osmic acid to show myelin sheaths and Ranvier's nodes 5(d). Liver of Salamandra t.s., simple animal cells 6(f). Kidney of mouse, t.s. vital stained to demonstrate storage 7(d). Ovary of cat, t.s. showing primary, secondary, and Graafian follicles 8(d). Testis of frog, t.s. showing spermatogenesis 9(e). Salamandra larva, t.s. of skin and other organs selected to show cell division (mitosis) 10(f). Uteri of Ascaris megalocephala, t.s. stained to show meiosis with chromosomes and nuclear spindles 11(f). Salivary gland of Chironomus larva. Giant chromosomes showing large chromomeres. Stained for DNA after Feulgen 12(e). Ova from Psammechinus (sea urchin). Unfertilized ova, fertilized ova, early cleavage stages.

W13024	W13053	W13024F	W13024S	W13024P	
German	English	French	Spanish	Portuguese	

Plant Cell

12 Microscope Slides

1(c). Epidermis of Allium (onion), w.m. showing simple plant cells with cell walls, nuclei and cytoplasm 2(d). Root tips of Allium cepa l.s. showing cell division (mitosis) in all stages 3(e). Pollen mother cells of Lilium. Prophase of first maturation division (meiosis) 4(f). Pollen mother cells of Lilium. Metaphase and anaphase of first maturation division 5(c). Wood of Tilia macerated and w.m. 6(d). Fruit of Pyrus (pear) t.s. showing stone cells 7(c). Tuber of Solanum (potato) t.s. shows cork and starch grains 8(d). Cucurbita pepo (pumpkin) l.s. of stem showing vascular bundles with sieve tubes, spiral and annular vessels 9(c). Ricinus endosperm t.s. showing aleurone grains 10(d). Anthers of Lilium (lily), t.s. pollen sacs and pollen grains 11(d). Ovary of Lilium (lily), t.s. arrangement of ovules and embryosac 12(e). Spirogyra showing conjugation stages and zygotes.



W13025	W13054	W13025F	W13025S	W13025P	
German	English	French	Spanish	Portuguese	

Set of Genetic Slides

25 Microscope Slides

1(d). Allium, root tips, l.s. showing all stages of mitosis 2(e). Eschscholtzia, stigma, w.m. showing penetrating pollen 3(e). Lilium, microspore mother cells, first division, leptotene to zygotene 4(e). Lilium, first division, diakinesis to telophase 5(f). Lilium, second division, interkinesis to tetrad stage 6(f). Polytrichum, moss, archegonium, w.m. 7(f). Polytrichum, moss, archegonium, l.s. 8(e). Spirogyra scalariform conjugation showing zygotes following conjugation 9(d). Sea urchin, developing of eggs, w.m. of most stages up to pluteus 10(f). Giant chromosomes from salivary gland of Chironomus, squash preparation stained for chromomeres 11(f). Giant chromosomes, section 12(e). Ascaris, fertilisation of eggs, t.s. 13(f). Ascaris, male and female pronuclei, t.s. 14(f). Ascaris, meiosis and early cleavage, t.s. 15(e). Testis of crayfish, t.s. showing meiosis 16(d). Testis of mouse, t.s. showing spermatogenesis 17(d). Ovary of rabbit, l.s. showing follicles in various stages 18(f). Embryology of fish, l.s. of embryo showing animal mitosis 19(h). Chromosomes, human, female, of culture of peripheral blood 20(i). Chromosomes, human, male, of culture of peripheral blood 21(f). Drosophila genetics, adult wild type, w.m. 22(f). Drosophila genetics, "barr eye" mutant, w.m. 23(f). Drosophila genetics, "brown eye" mutant, w.m. 24(f). Drosophila genetics, "vestigial wing" mutant, w.m. 25(f). Drosophila genetics, "white eye" mutant, w.m.

W13026	W13055	W13026F	W13026S	W13026P	
German	English	French	Spanish	Portuguese	

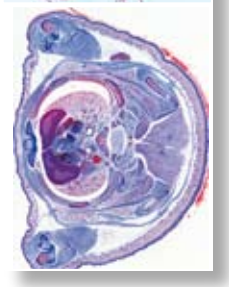
Sea Urchin Embryology (Psammechinus miliaris)

12 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13027	W13056	W13027F	W13027S	W13027P	
German	English	French	Spanish	Portuguese	

Frog Embryology (Rana)

10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.



W13028	W13057	W13028F	W13028S	W13028P	
German	English	French	Spanish	Portuguese	

Chicken Embryology (Gallus domesticus)

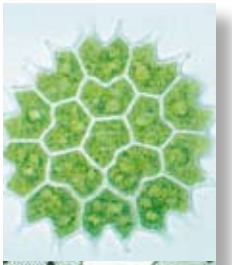
10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

W13029	W13058	W13029F	W13029S	W13029P	
German	English	French	Spanish	Portuguese	

Pig Embryology (Sus scrofa)

10 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

ECOLOGY AND ENVIRONMENT

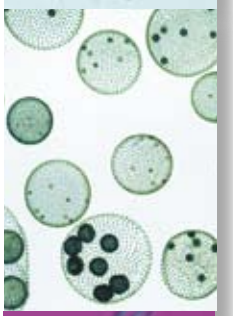


W13335	W13435	W13335F	W13335S	W13335P	
German	English	French	Spanish	Portuguese	

The Microscopic Life in the Water

25 Microscope Slides

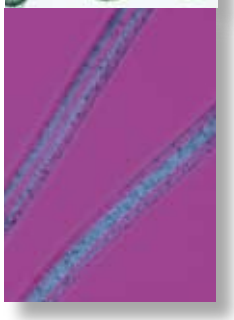
1(e). Amoeba proteus, amoeba 2(c). Ceratium hirundinella, dinoflagellates 3(c). Euglena, green flagellate with eyespot 4(d). Radiolaria, marine rhizopods 5(c). Paramecium, nuclei stained 6(d). Stylonychia, a common ciliate 7(b). Spongilla, fresh water sponge, isolated spicules 8(d). Hydra, w.m. or section 9(d). Rotatoria, rotifers, mixed species 10(c). Daphnia, water flea, a phyllopod 11(c). Cyclops, a copepod 12(d). Chironomus, gnat, larva w.m. 13(d). Putrefaction causing bacteria from hay infusions 14(c). Oscillatoria, a filamentous blue green alga 15(c). Diatomeae, diatoms, mixed species 16(d). Desmidiaceae, desmids, mixed species 17(c). Spirogyra, green alga with spiral chloroplasts 18(d). Eudorina, small colonies within gelatinous sheaths 19(c). Cladophora, green alga, branched filaments 20(c). Draparnaldia, main filaments and branchings 21(c). Microcystis, irregular colonies 22(c). Ulothrix, green alga with girdle-shaped chloroplasts 23(d). Oedogonium, vegetative filaments 24(e). Volvox, with daughter colonies and sexual stages 25(d). Mesothaenium, rod-shaped desmids



W13342	W13442	W13342F	W13342S	W13342P	
German	English	French	Spanish	Portuguese	

The Microscopic Life in the Water, Part II. Supplementary to Set No. 7000

Microorganisms living in our waters, 25 preparations with accompanying guide. For details, please go to www.3bscientific.co.uk.

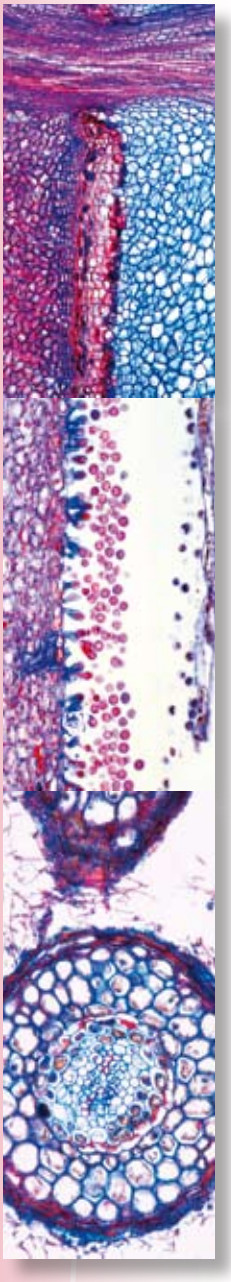


W13334	W13434	W13334F	W13334S	W13334P	
German	English	French	Spanish	Portuguese	

Air Pollution and Allergens

15 Microscope Slides

1(c). Pollen grains of different kinds of grass 2(c). Pollen grains of different deciduous trees 3(c). Pollen grains of different conifers 4(b). Mixed house dust 5(c). Dust mite from a living room 6(b). Spores of different fungi 7(b). Wood powder 8(b). Asbestos powder (carcinogenic) 9(b). Talcum powder 10(b). Crystals of washing-powder 11(b). Polyamide fibres 12(b). Nylon fibres 13(e). Mucous membrane of human nose, t.s. 14(e). Healthy human lung, t.s. 15(e). Human lung injured with dust particles, t.s.



W13331	W13431	W13331F	W13331S	W13331P	
German	English	French	Spanish	Portuguese	

The Forest, Consequences of Pollution

20 Microscope Slides

1(c). Pine (Pinus), healthy leaves, t.s. 2(c). Pine (Pinus) leaves damaged by acid rain, t.s. 3(c). Fir (Abies), healthy leaves, t.s. 4(c). Fir (Abies), stem tip damaged t.s. 5(c). Beech (Fagus), healthy leaves t.s. 6(c). Beech (Fagus), t.s. of leaves with destroyed epidermis and chloroplasts 7(d). Rhytisma acerinum, tar spot of maples, consequence of single-crop farming 8(d). Early leaf fall, caused by thawing salt 9(d). Healthy lichen, indicator of clean air 10(d). Damaged lichen, caused by air pollution 11(c). Healthy wood of beech, t.s. 12(d). Wood destroyed by fungus 13(d). Polyporus, wood rot fungus, fruiting body t.s. 14(d). Root nodules of Alnus, with symbiotic bacteria 15(d). Spruce beetle (Cryphalus picea), larva t.s. 16(c). Wood with normal annual rings, t.s. 17(c). Wood with anomalous narrow annual rings caused by drought, t.s. 18(d). Bark with larval galleries of spruce beetle, t.s. 19(d). Pineapple-like gall on spruce caused by lice, t.s. 20(d). Gall nut on oak caused by insects, t.s.

W13332	W13432	W13332F	W13332S	W13332P	
German	English	French	Spanish	Portuguese	

Water Pollution, Problems and Results

20 Microscope Slides

1(d). Intestinal bacteria (Escherichia coli) from putrid water 2(e). Putrefactive bacteria (Spirillum) from sludge poor in oxygen 3(d). Putrefactive bacteria (Sphaerotilus) bacteria, forming long chains 4(d). Sludge bacteria (Methanobacterium) causing sewer gas 5(d). Sulphur bacteria (Thiocystis) 6(c). Wasserbluthe (Microcystis), blue-green alga “blooming” in stagnant water 7(c). Anabaena, blue green algae, in eutrophic water 8(c). Spirogyra, filamentous green alga in nutrient-rich water 9(d). Spirulina, corkscrew-shaped algae occurring in bitter seas 10(c). Chlamydomonas, one-celled green alga in eutrophic water 11(c). Cladophora, green alga from moderately polluted water 12(c). Diatoms, mixed algae from scarcely polluted water 13(c). Euglena, green flagellates occurring in stagnant eutrophic water 14(d). Ciliates, different species from nutrient-rich water 15(d). Rotifers (Rotatoria), small animals from putrid water 16(d). Tubifex, fresh water oligochaete, living in the sludge 17(d). Carchesium, stalked ciliate from moderately polluted water 18(d). Water mold (Saprolegnia), harmful to plants and animals 19(d). Skin of fish injured by chemicals, t.s. 20(d). Skin ulcer of an amphibian, t.s.

W13333	W13433	W13333F	W13333S	W13333P	
German	English	French	Spanish	Portuguese	

Life in the Soil

17 Microscope Slides

1(d). Acidophile soil bacteria, solution of heavy metals 2(d). Nitrite bacteria, forming harmful nitrogenous substances 3(d). Root of beech with ectotrophic mycorrhiza, t.s. 4(d). Root of birch with partly endotrophic mycorrhiza, t.s. 5(d). Root of lupin with symbiotic nitrogen fixing bacteria 6(d). Netted venation, portion of rotted deciduous leaf 7(c). Charlock (Sinapis), t.s. of stem. Green manure plant 8(d). Soil bacteria (Bacillus megaterium), smear 9(d). Hyphae of root fungi, t.s. 10(d). Lichen, indicator of clean air 11(c). Mushroom (Xerocomus), mycelium 12(c). Root of willow (Salix), planting protecting against erosion 13(c). Earthworm (Lumbricus) t.s., causing soil improvement 14(d). Springtails (Collembola), w.m. 15(d). Mite from forest soil, w.m. 16(c). Constituents of humus soil 17(c). Constituents of peaty soil.

W58423

Slide Box for 50 Slides, Blue

209x86x35mm; 0.2 kg

W58433

Slide Box for 25 Slides, Green

Durable plastic storage box

141x88x35mm; 0.16 kg

W16158

Microscope Slides, cut edges

cellophane wrapped

Approx. 76 x 26 x 1 mm

PU: 50 pcs/box

W16159

Microscope Slides, ground edges 90°

cellophane wrapped Approx. 76 x 26 x 1 mm. PU: 50 pcs/box

W16156

Cover Glasses, non-ground

18 x 18 mm, No. 1 (0.13-0.16 mm thickness), Ar-glass, for manual use, not suitable for automated progresses PU = 200 pcs/tropical packing, (vacuum sealed)

W16157

Cover Glasses, non-ground

18 x 18 mm, No. 1 (0.13-0.16 mm thickness), borosilicate glass, also suitable for automated processes (cover slipper). PU = 200 pcs/ box

W58423

W58433

W16158/W16159

W16156/W16157

Multimedia-Packages
for school and education

Multimedia-Packages for Teachers and Students

LIEDER offers a new range of MULTIMEDIA PACKAGES OF LIFE SCIENCE for interactive learning and teaching in school and education. The new packs aim to give a strictly outlined synopsis of all areas of biology important for teaching at schools, colleges and universities and suitable for working with the microscope. Well selected media packages of 6 and 12 units with microscope slides, overhead transparencies, sketch and work sheets, descriptions and pictures of the drawings to support the teacher during lessons. We offer TEACHER PACKAGES and STUDENT SETS.

The teacher packages comprise all necessary media for classroom work:

1. Set of selected prepared microscope slides in plastic box. Prepared Microscope Slides are made under rigourous scientific control; the product of long experience combined with the most up to date techniques.
2. Set of overhead transparencies, large size, full color. Overhead Transparencies immediately show, on the screen, the details of the specimen required for demonstration at the most suitable magnification. The student subsequently finds it easier to locate the relevant part of the microscopic slide under the microscope. The transparencies are printed by a special process and excel by reason of their high projection quality.
3. Set of sketch- and worksheets with drawings for all slides. The Sketch- and Work Sheets serve to facilitate seeing his way through the prepared microscope slides and finding the detail important in the lesson. They start processes of learning and understanding by comparing microscope slides with the diagrammatic drawings, thus to identify and label the details relevant in the lesson. They allow completing or colouring the drawings according to own observations, and finally the sheets can be used for tests. Teacher may take photocopies of the sheets for the number of students.
4. Textbook with detailed description of all slides, drawings and transparencies. The Textbooks are intended to help you make more effective use of our teaching material both in the classroom and during individual study. They provide a description of the morphological structures involved, making it considerably easier to look for and find the relevant spots in the microscope slides. They also furnish information regarding systematic and physiological relationships and general biological principles, as well as stimulating classroom interpretation and didactic use of the observations made.
5. Special cardboard box for storing and packing

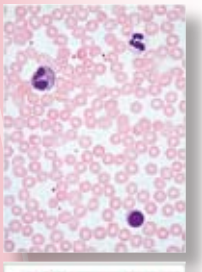
The number of student sets should correspond to the number of students in a class.

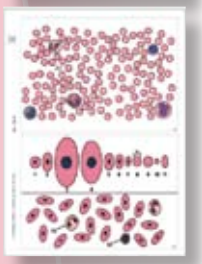
The student sets comprise:

1. Set of selected prepared microscope slides in plastic box (the same as the teacher slides)
2. Textbook with detailed description of all slides
3. Special cardboard box for storing and packing

📖 **D/E**

W13721 | **MULTIMEDIA TEACHER PACKAGE**





Teaching Series for Elementary Science

Basic Package of 6 items

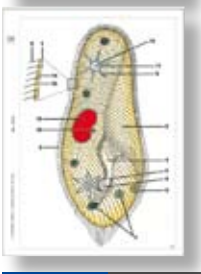
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Letter "e" 2. Leg of house fly w.m. 3. Wing scales of butterfly 4. Human blood smear 5. Large plant cells in the marrow of elderberry t.s. 6. Coloured threads w.m.

W13821 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13722 | **MULTIMEDIA TEACHER PACKAGE**



Protozoa

Basic Package of 8 items

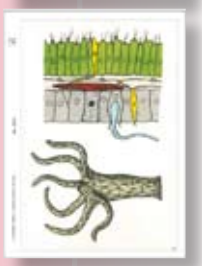
Comprising: 8 Microscope Slides in Plastic Box, 4 OHP Colour Transparencies, 8 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Amoeba proteus, showing nucleus and pseudopodia 2. Paramaecium, a ciliate found in hay infusions 3. Euglena, a common green flagellate 4. Ceratium, dinoflagellates 5. Vorticella, a staked ciliate. 6. Radiolaria, different forms 7. Monocystis, sporozoa in earthworm seminal vesicle 8. Trypanosoma, blood flagellate causing sleeping sickness, blood smear

W13822 | **MULTIMEDIA STUDENT SET**

Comprising: 8 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13723 | **MULTIMEDIA TEACHER PACKAGE**



Invertebrates

Basic Package of 6 items

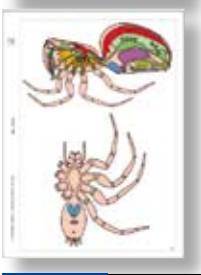
Comprising: 6 Microscope Slides in Plastic Box, 4 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Marine sponge (Grantia), t.s. 2. Hydra, fresh-water polyp, t.s. of body 3. Earthworm (Lumbricus), t.s. showing intestine, body wall, muscles 4. Water flea (Daphnia), small fresh water crustaceans w.m. 5. Araneus, spider, leg with comb w.m. 6. Starfish (Asterias), arm with tube feet, t.s

W13823 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13724 | **MULTIMEDIA TEACHER PACKAGE**



Invertebrates

Supplementary Package of 12 items

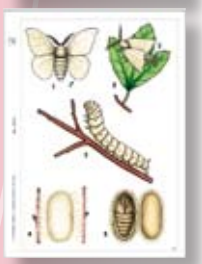
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Hydra, fresh-water polyp, w.m. 2. Commercial sponge (Euspongia), skeleton of horny fibres 3. Laomedea, w.m. of colony, vegetative and reproductive polyps 4. Sea Anemone (Actinia), t.s. of the body 5. Planaria, t.s. for general structure 6. Tapeworm (Taenia), proglottid t.s., intestinal parasite 7. Cyclops sp., copepode, w.m. 8. Crayfish (Astacus), intestine, t.s. 9. Dermanyssus gallinae, chicken mite, w.m. 10. Clam (Mya arenaria), gills. t.s 11. chinus, young sea urchin, t.s. 12. Amphioxus, Branchiostoma, typical t.s. region of gills and intestine

W13824 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13725 | **MULTIMEDIA TEACHER PACKAGE**



Insects

Basic Package of 6 items

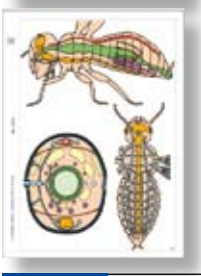
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Musca domestica, housefly, leaking-sucking mouth parts w.m 2. Apis mellifica, honey bee, anterior and posterior wings w.m. 3. Musca domestica, house fly, leg with pulvilli w.m. 4. Pieris, butterfly, portion of wings with scales w.m. 5. Trachea from insect w.m. 6. Spiracle from insect w.m.

W13825 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13726 | **MULTIMEDIA TEACHER PACKAGE**



Insects

Supplementary Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Culex pipiens, mosquito, piercing sucking mouth parts w.m. 2. Apis mellifica, posterior leg with pollen basket w.m. 3. Drosophila, fruit fly, w.m. of adult 4. Culex pipiens, mosquito, w.m. of larva 5. Apis mellifica, honey bee, mouth parts of worker t.s. 6. Pieris, butterfly, clubbed antenna w.m. 7. Aphidae, plant lice adults and larvae w.m 8. Pieris, butterfly, walking leg w.m. 9. Apis mellifica, honey bee, sting and poison sac w.m. 10. Musca domestica. house fly, wing w.m 11. Drosophila, fruit fly, sagittal l.s. for general insect anatomy 12. Apis mellifica, head with compound eyes and brain t.s.

W13826 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13727 | **MULTIMEDIA TEACHER PACKAGE**

Frog Histology (Rana)

Basic Package of 12 items

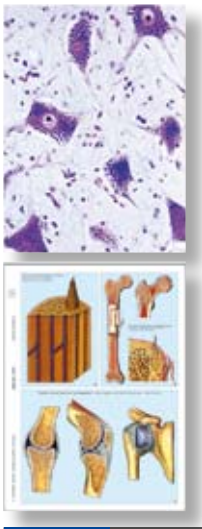
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box.

1. Frog, simple sac-like lung t.s. 2. Frog, blood smear, shows nucleated red corpuscles 3. Frog, stomach t.s., glandular epithelium 4. Frog, small intestine t.s., folds 5. Frog, large intestine (colon) t.s., goblet cells 6. Frog, liver t.s., showing liver parenchyma cells- 7. Frog, ovary t.s. shows follicle development, yolk 8. Frog, testis t.s. showing spermatogenesis 9. Frog, heart l.s. of the entire organ 10. Frog, tongue t.s., papillae, glands, muscles 11. Frog, skin t.s., skin glands, epidermis, pigment cells 12. Frog, brain t.s. showing nerve cells.

W13827 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13728 | **MULTIMEDIA TEACHER PACKAGE**



The Animal Cell (Cytology)

Basic Package of 6 items

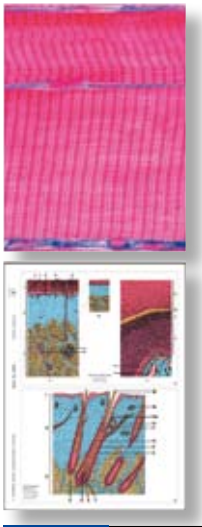
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box.

1. Simple animal cells in t.s. of salamander liver 2. Squamous epithelial cells from cheek 3. Nerve cells and fibres 4. Bone cells, t.s. of compact bone 5. Striated muscle cells, l.s. of skeletal muscle 6. Blood cells, smear of human blood with red and white corpuscles

W13828 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13729 | **MULTIMEDIA TEACHER PACKAGE**



Human and Animal Histology

Basic Package of 6 items

Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box.

1. Squamous epithelium, isolated cells 2. Hyaline cartilage of calf, t.s 3. Compact bone of cow, t.s. 4. Striated muscles of cat, l.s. 5. Smooth muscles of cat, t.s. and l.s. 6. Blood, human, Giemsa or Wright stained smear

W13829 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13730 | **MULTIMEDIA TEACHER PACKAGE**

Human and Animal Histology

Supplementary Package I of 12 items

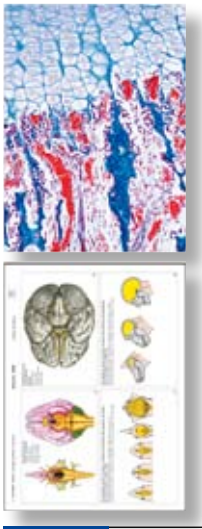
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box.

1. Columnar epithelium, human gall bladder, t.s 2. Elastic cartilage, ear, t.s. Elastic tissue stain 3. Skin, human, from palm, t.s. showing sweat glands 4. Lung, human t.s. showing alveoli 5. Heart muscle, t.s. and l.s., striations, intercalated discs 6. stomach of cat, fundic region, t.s. 7. Kidney, cat, t.s. showing cortex and medulla 8. Testis, rabbit, t.s. showing spermatogenesis 9. Ovary, rabbit, t.s. follicle development 10. Cerebrum, human, cortex, t.s. 11. Spinal cord, cat, t.s. for general structure 12. Tongue, rabbit, t.s., papillae with taste buds

W13830 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13731 | **MULTIMEDIA TEACHER PACKAGE**



Human and Animal Histology

Supplementary Package II of 12 items

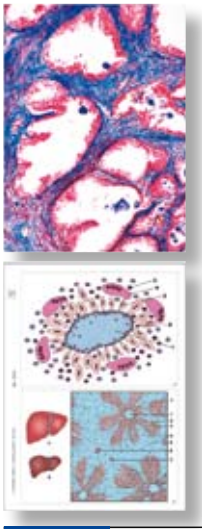
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box.

1. Ciliated epithelium, trachea, t.s. 2. Adipose tissue, t.s. 3. Bone development (intracartilaginous), l.s. of foetal finger 4. White fibrous tissue of cow, l.s. of tendon 5. Artery, human, t.s., elastica stained 6. Vein, human, t.s., elastica stained 7. Small intestine of cat, t.s. stained for goblet cells 8. Pancreas, human, t.s. with islets of Langerhans 9. Liver of pig, t.s. 10. Cerebellum, human, t.s. 11. Thyroid gland of cow, t.s 12. Mammary gland of cow, t.s. active stage

W13831 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13732 | **MULTIMEDIA TEACHER PACKAGE**



Human Diseases (Pathology)

Basic Package of 6 items

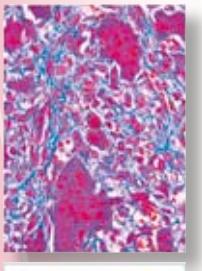
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box.

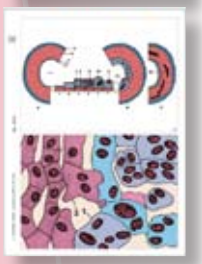
1. Tuberculosis of the lung, t.s. with bacterial foci 2. Anthracosis of lung (smokers´s lung) 3. Struma of thyroid gland (Goiter) 4. Acute hemorrhagic nephritis (Kidney) 5. Cirrhosis of liver, t.s. (abuse of alcohol) 6. Eberthella typhi (typhoid fever), smear

W13832 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13733 | **MULTIMEDIA TEACHER PACKAGE**





Human Diseases (Pathology)

Supplementary Package of 12 items

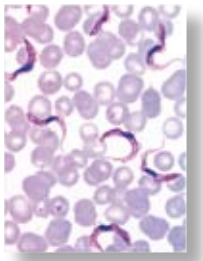
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Miliary tuberculosis of liver 2. Influenzal pneumonia 3. Spindle cell sarcoma 4. Carcinoma of liver (primary) 5. Hypertrophy of prostate 6. Adiposis of heart 7. Icterus hepatis 8. Myoma of uterus 9. Carcinoma of uterus 10. Malaria parasites in blood (Plasmodium), smear 11. Sleeping disease of humans, blood smear with flagellates (Trypanosoma) 12. Pus bacteria, smear showing cocci in irregular balls

W13833 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13734 | **MULTIMEDIA TEACHER PACKAGE**



Parasites of Man and Animals

Basic Package of 6 items

Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Trypanosoma, blood flagellate causing sleeping sickness, blood smear 2. Plasmodium falciparum, causing malaria tropica, human blood smear 3. aenia, tapeworm, proglottids in different stages t.s 4. scaris lumbricoides, roundworm of human, adult female t.s. in region of gonads. 5. Trichinella spiralis, t.s. of infected muscle with larvae 6. Fasciola hepatica, beef liver fluke, t.s. of the body

W13834 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13735 | **MULTIMEDIA TEACHER PACKAGE**

Parasites of Man and Animals

Supplementary Package of 12 items

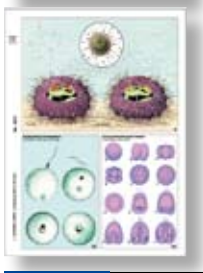
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Entamoeba histolytica, smear or section 2. imeria stiedae, coccidiosis in rabbit liver, t.s. 3. Monocystis, from earthworm seminal vesicle 4. Fasciola hepatica, beef liver fluke, w.m. 5. Taenia pisiformis, tapeworm, mature proglottids w.m. 6. Enterobius vermicularis (Oxyuris), pin worm, w.m. 7. Echinococcus granulosus, dog tapeworm, cyst wall and scolices sec. 8. Dermanyssus, chicken mite w.m. 9. Anopheles, malaria mosquito, mouth parts of female w.m. 10. Culex pipiens, common mosquito, mouth parts of female w.m. 11. Pediculus humanus, human louse, w.m. 12. Ctenocephalus canis, dog flea, adult w.m.

W13835 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13736 | **MULTIMEDIA TEACHER PACKAGE**



Reproduction of Animals

Basic Package of 6 items

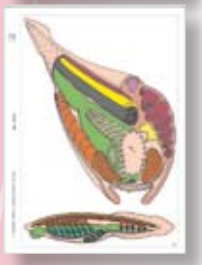
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Mitotic (division) stages in red bone marrow of mammal t.s. 2. Meiotic (maturation) stages in testis of mouse t.s. 3. Sea-urchin development, first cleavage stages of egg cells, w.m. 4. Growing egg and yolk cells in ovary of bird, t.s. 5. Ovary of rabbit or other mammal showing oogenesis, t.s. 6. Sperm smear of bull showing w.m. of spermatozoa

W13836 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13737 | **MULTIMEDIA TEACHER PACKAGE**



Embryology and Development of Animals

Basic Package of 6 items

Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Frog, early tail bud stage, t.s. with neural tube, notochord 2. Frog, young tadpole, t.s. through head 3. Chicken, 36 hour, t.s. with neural tube, differentiation of mesoderm 4. Chicken, 48 hour, t.s. with differentiation of mesoderm and ectoderm 5. Chicken, 3 day, t.s. of head with primordium of brain, eyes and heart 6. Mouse embryo, t.s. of head, development of hairs, brain, etc.

W13837 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13738 | **MULTIMEDIA TEACHER PACKAGE**

Embryology and Development of Animals

Supplementary Package of 12 items

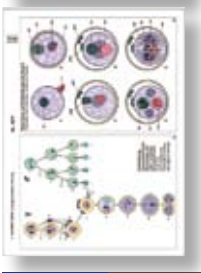
Comprising: 12 Microscope Slides in Plastic Box, 6 HP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Vinegar eels (Anguillula), various stages w.m. 2. scaris megalocephala, first and second maturation divisions in oocytes 3. Ascaris, oocytes with male and female pronuclei 4. Mosquito (Culex), larva of insect, w.m. 5. Frog, hatching stage, t.s. region of midbody 6. Frog, young tadpole, t.s. thorax 7. Frog, young tadpole, t.s. of abdomen 8. Chicken, 3 day, t.s. through body showing amnion and serosa. 9. Chicken, 4-5 day, t.s. through region of heart shows heart, lungs, vertebrae, spinal cord 10. Chicken, feather development, sec. of wings 11. Mouse embryo, t.s. of body 12. Pig embryo, 11-12 mm, typical t.s. region of abdomen

W13838 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13739 | **MULTIMEDIA TEACHER PACKAGE**



Genetic Slides

Basic Package of 6 items

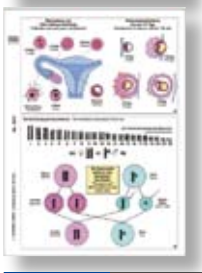
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Allium cepa, onion, root tips, l.s. showing all stages of mitosis 2. Chromosomes, human, of culture of peripheral blood, smear preparation 3. Sea urchin, developing of eggs, w.m. of most stages up to pluteus in the same slide 4. Ascaris megalocephala, male and female pronuclei, sec. 5. Testis of rabbit, t.s. showing spermatogenesis in all stages 6. Spirogyra, scalariform conjugation showing zygotes following conjugation

W13839 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13740 | **MULTIMEDIA TEACHER PACKAGE**



Genetic Slides

Supplementary Package of 12 items

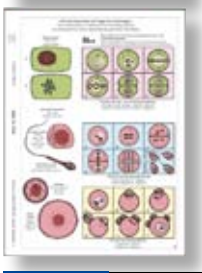
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Allium, root tips, t.s. showing polar view of mitosis, iron-hematoxyline 2. Ovary of rabbit, l.s. follicles in various stages of development 3. Lilium, microspore mother cells, prophase stages t.s. 4. aramaecium, from mass culture showing stages of binary division 5. hizopus or Mucor, mould, formation of zygospores w.m. 6. Mnium, moss, archegonium, l.s. 7. Mnium, moss, antheridium, l.s. 8. inus, young female cone at time of pollination, l.s. 9. Pinus, male cone with pollen l.s. 10. Lilium, stigma, l.s. showing penetrating pollen grains 11. Drosophila genetics, adult wild type, w.m. 12. Drosophila genetics, "barr eye" mutant, w.m.

W13840 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13741 | **MULTIMEDIA TEACHER PACKAGE**



Mitosis and Meiosis (Cell division)

Basic Package of 6 items

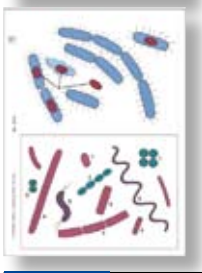
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Allium, root tips, l.s. showing lateral view of all stages of mitosis, iron-hematoxyline 2. Whitefish mitosis, l.s. of embryo showing animal mitosis 3. Testis of mouse, t.s. showing spermatogenesis in all stages 4. Giant chromosomes from salivary gland of Chironomus, squash preparation special stained for chromomeres 5. Lilium, microspore mother cells, prophase of first division showing meiosis, 6. Lilium, microspore mother cells, meta- or anaphase of first division, showing mitosis

W13841 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13742 | **MULTIMEDIA TEACHER PACKAGE**



Bacteria

Basic Package of 6 items

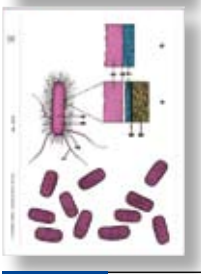
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Bacteria from mouth, smear with Gram positive and negative rods 2. Typical bacteria: three smears on one slide, cocci, bacteria and spirilli are shown, carefully stained 3. Staphylococcus aureus, pus organism 4. Bacillus subtilis, hay bacillus, smear with bacilli and spores 5. Escherichia coli, colon bacteria 6. Spirillum volutans, large species from putrid water

W13842 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13743 | **MULTIMEDIA TEACHER PACKAGE**



Bacteria

Supplementary Package of 12 items

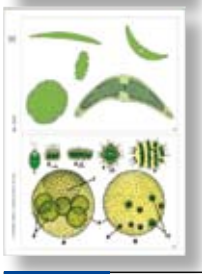
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Streptococcus pyogenes, pus organism 2. Sarcina lutea, chromogenic rods occurring in packets 3. Streptococcus lactis, milk souring organism, short chains 4. Mycobacterium tuberculosis, causing tuberculosis 5. Corynebacterium diphtheriae, causing diphtheria 6. Rhizobium radicicola, nitrogen fixing bacteria in root nodules 7. Proteus vulgaris, putrefaction 8. Eberthella typhi, causing typhoid fever 9. Clostridium botulinum (botulism), causing food poisoning, smear 10. Acetobacter aceti, manufacture of vinegar, smear 11. Salmonella enteritidis, causes meat poisoning, smear 12. Rhodospirillum rubrum, chromogenic spirilli

W13843 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13744 | **MULTIMEDIA TEACHER PACKAGE**



Algae

Basic Package of 6 items

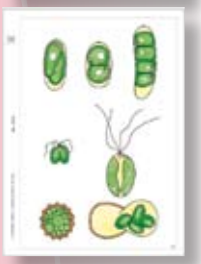
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Nostoc, blue-green alga with heterocysts 2. Diatoms, fresh water, recent, mixed species 3. Spirogyra, vegetative filaments with spiral chloroplasts, w.m. 4. Cladophora sp., branching filaments with multinucleate cells 5. Chlamydomonas, biflagellate cells, w.m. 6. Desmids, strewn slide showing several selected forms

W13844 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13745 MULTIMEDIA TEACHER PACKAGE



Algae.

Supplementary Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Chroococcus, a single-cell alga, w.m 2. Oscillatoria, a blue-green filamentous alga w.m. 3. Microcystis, irregular colonies w.m. 4. Draparnaldia, main filaments and clusters of branches w.m. 5. Hydrodictyon, water net, w.m. 6. Oedogonium, a filamentous green alga with vegetative and sexual stages 7. Volvox, spherical colonies with daughter colonies and sexual stages w.m. 8. Dinobryon, a golden alga forming colonies w.m. 9. Pleurococcus (Protococcus), small colonies growing on bark, w.m. 10. Laminaria saccharina,thallus with sporangia, c.t. 11. Fucus vesiculosus, seaweed, male conceptacle with antheridia, t.s. 12. Fucus vesiculosus, female conceptacle with oogonia t.s.

W13845 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13746 MULTIMEDIA TEACHER PACKAGE

Cryptogams

Basic Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Oscillatoria, blue green alga 2. Spirogyra sp., vegetative filaments w.m. 3. Mucor, black mould, mycelium and sporangia 4. Peziza, apothecium with asci t.s. 5. Saccharomyces, yeast, budding cells 6. Coprinus, mushroom, t.s. showing typical basidia and spores 7. Moss stem with leaves w.m. 8. Marchantia, liverwort, archegonia l.s. 9. Marchantia, liverwort, antheridia l.s. 10. Equisetum, horsetail, strobilus with spores l.s. 11. Pteridium, bracken fern, t.s. of rhizome 12. Aspidium (Dryopteris), fern, leaflet with sporangia and spores t.s.

W13846 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13747 MULTIMEDIA TEACHER PACKAGE

Cryptogams

Supplementary Package of 12 items

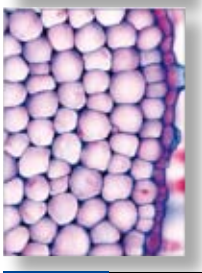
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Nostoc, blue green alga with heterocysts 2. Diatoms, mixed species 3. Albugo candida, white rust of cruzifers, t.s. 4. Penicillium, blue mould, mycelium and conidiophores 5. Puccinia graminis, wheat rust, uredinia on wheat t.s. 6. Psalliota, gill fungus, pileus with lamellae t.s 7. Claviceps purpurea, ergot, stroma with perithecia l.s. 8. Physcia, sec. through thallus of a typical lichen showing the fungus and the embedded algae 9. Polytrichum, moss, capsule with spores t.s. 10. Equisetum, horse tail, spores with elaters w.m. 11. Lycopodium, club-moss, sporophyll with spores l.s. 12. Fern prothallium w.m.

W13847 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13748 MULTIMEDIA TEACHER PACKAGE



The Plant Cell (Cytology)

Basic Package of 6 items

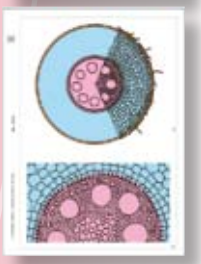
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Epidermis of Allium cepa (onion), w.m. showing simple plant cells with cell walls, nuclei and cytoplasm 2. Fruit of Pyrus (pear) t.s. showing stone cells (sclerenchyma cells) 3. Tuber of Solanum (potato) t.s. shows cork and starch grains 4. Cucurbita pepo (pumpkin) l.s. of stem showing vascular bundles with sieve tubes, spiral and annular vessels, sclerenchyma fibres 5. Anthers of Lilium (lily), t.s. showing pollen sacs and pollen grains 6. Ovary of Lilium (lily), t.s. showing arrangement of ovules and embryosac

W13848 MULTIMEDIA STUDENT SET

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13749 MULTIMEDIA TEACHER PACKAGE



Typical Roots of Phanerogams

Basic Package of 6 items

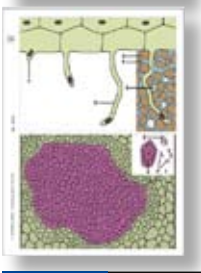
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Zea mays, corn, typical monocot root t.s. 2. Ranunculus, buttercup, typical dicot root t.s. 3. Root tip and root hairs, t.s. to show epidermal origin of root hairs 4. Smilax, carrion flower, t.s. of root shows thickened endodermis 5. Elodea, Canadian waterweed, t.s. of an aquatic root 6. Lupinus, root nodules with nitrogen fixing bacteria (Rhizobium radicicola) t.s.

W13849 MULTIMEDIA STUDENT SET

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13750 MULTIMEDIA TEACHER PACKAGE



Typical Roots of Phanerogams

Supplementary Package of 12 items

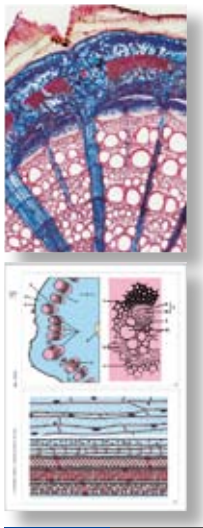
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Herbaceous and woody roots, two t.s. on one slide 2. Young (primary) and older (secondary) roots, two t.s. on one slide 3. Salix, willow, l.s. of root showing origin of lateral roots 4. Iris, typical monocot root t.s. 5. Medicago, alfalfa, root t.s. showing secondary growth 6. Tilia, lime, older woody root t.s. 7. Monstera, aerial root t.s. 8. Taraxacum, dandelion, tap-root with lactiferous vessels t.s. 9. Fagus, beech, root with ectotrophic mycorrhiza, t.s. 10. Neottia nidus avis, orchid, root with endotrophic mycorrhiza, l.s. 11. Cuscuta, dodder, t.s. through stem of host showing the haustoria of the parasite 12. Pinus, older woody root t.s.

W13850 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13751 MULTIMEDIA TEACHER PACKAGE



Typical Stems of Phanerogams

Basic Package of 6 items

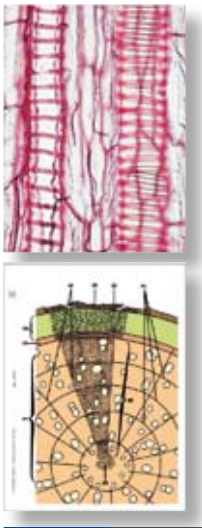
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Zea mays, typical monocot stem with scattered bundles, t.s., a standard slide for general study 2. Helianthus, sunflower, typical dicot herbaceous stem t.s. showing open vascular bundles 3. Cucurbita, pumpkin, l.s. of stem with sieve tubes and vascular bundles 4. Triticum, wheat, t.s. through the stem of a gramineous plant 5. Elodea, waterweed, t.s. of aquatic stem showing primitive bundle 6. onvallaria, lily of the valley, t.s. of rhizome with concentric vascular bundles

W13851 MULTIMEDIA STUDENT SET

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13752 MULTIMEDIA TEACHER PACKAGE



Typical Stems of Phanerogams

Supplementary Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Aristolochia, one year stem t.s. for general study 2. Aristolochia, older stem t.s. 3. Fagus, beech, three sections of wood: t.s., r.l.s., t.l.s. 4 Tilia, lime, older woody stem with annual rings, t.s. 5. Nymphaea, water lily, aquatic stem with idioblasts t.s. 6. Potamogeton, pondweed, stem with aerial chambers t.s. 7. Opuntia, cactus, succulent stem t.s. 8. Ranunculus, buttercup, t.s. stem with open vascular bundles 9. Coleus, t.s. of a square stem showing collenchyma clearly 10. Hedera helix, ivy, stem with crystals t.s 11. Clematis, young hexagonal stem t.s., collenchyma 12. Solanum tuberosum, potato, t.s. of tuber with starch grains

W13852 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13753 MULTIMEDIA TEACHER PACKAGE

Typical Leaves of Phanerogams

Basic Package of 6 items

Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Zea mays, corn, monocot gramineous leaf t.s. 2. Syringa, lilac, t.s. of a typical mesophytic dicot leaf for general study 3. Tulipa, tulip, leaf epidermis w.m., showing lstomata and guard cells 4. Elodea, t.s. of leaf showing the simple structure of an aquatic leaf 5. Nerium, oleander, leaf with sunken stomata t.s., showing the typical structures of a xerophytic leaf 6. Pinus, leaves (needles), t.s. for general study of gymnosperm leaves

W13853 MULTIMEDIA STUDENT SET

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13754 MULTIMEDIA TEACHER PACKAGE

Typical Leaves of Phanerogams

Supplementary Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Iris, typical isobilateral leaf t.s. 2. Poa annua, meadow grass, leaf t.s. 3. Ligustrum, privet, t.s. of dicot leaf 4. Helleborus, t.s. of a typical mesophytic dicot leaf for general study 5. Ficus elastica, India rubber plant, leaf with cystoliths t.s. 6. Nymphaea, water lily, floating leaf of an aquatic plant with air chambers t.s. 7. Potamogeton, pondweed, leaf t.s. 8. Calluna, ling, revolute leaves t.s. 9. Verbascum, mullein, branched leaf hairs w.m. 10. Dionaea, Venus flytrap, t.s. of leaf with digestive glands 11. rosera, sundew, leaf with glandular hairs, t.s. 12. Fagus, beech, leaf bud t.s. showing leaf development

W13854 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13755 MULTIMEDIA TEACHER PACKAGE

Flowers and Fruits

Basic Package of 6 items

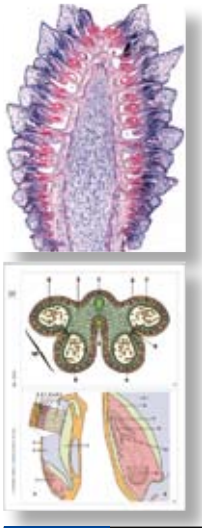
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Lilium candidum, lily, t.s. of flower bud showing floral diagram of a monocot 2. Lycopersicum, tomato, t.s. of flower bud shows floral diagram of a dicot 3. Lilium, anther t.s. showing pollen chambers and pollen grains 4. Lilium, ovary t.s., showing arrangement of ovules 5. Capsella bursa pastoris, shepherd's purse, l.s. of ovule with embryos 6. Triticum, wheat, grain (seed), t.s. showing embryo and endosperm

W13855 MULTIMEDIA STUDENT SET

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13756 MULTIMEDIA TEACHER PACKAGE



Flowers and Fruits

Supplementary Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Lilium, l.s. of stigma with pollen and pollen tubes 2. Monotropa, Indian pipe, ovary t.s. with developing embryosacs 3. Papaver, poppy, t.s. of flower shows parietal placentation 4. Solanum tuberosum, potato, t.s. flower bud for floral diagram 5. Taraxacum, dandelion, l.s. of composite flower 6. Cocos nucifera, coconut, endosperm t.s. 7. Citrus, lemon, young fruit t.s. 8. Lycopersicum, tomato, young fruit t.s. 9. Pyrus malus, apple, young pome t.s., a fleshy, many seeded fruit 10. Mixed pollen types, many different species 11. Pinus, ovule l.s. showing archegonia, for general study 12. Pinus, male cone with pollen l.s.

W13856 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13757 | **MULTIMEDIA TEACHER PACKAGE**

Varieties of Wood

Basic Package of 6 items

Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Maple. Acer platanoides, three sections of wood 2. Beech. Fagus silvatica, three sections of wood 3. Pine. Pinus silvestris, three sections of wood 4. Spruce. Picea excelsa , three sections of wood 5. Poplar. Populus alba, three sections of wood 6. Lime. Tilia platyphylla, three sections of wood

W13857 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13758 | **MULTIMEDIA TEACHER PACKAGE**

Textile Fibres, Hairs and Furs

Basic Package of 6 items

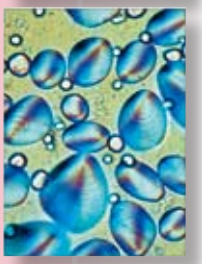
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Merino wool 2. Cocoon silk, raw 3. Linen (flax) 4. American cotton 5. Cellulose fibres 6. Nylon fabric

W13858 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13759 | **MULTIMEDIA TEACHER PACKAGE**



Spoiled Foodstuffs

Basic Package of 6 items

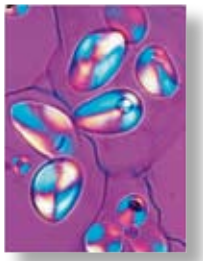
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Mould in spoiled foodstuffs 2. Sour milk, stained for bacteria 3. Wheat flour adulterated with chalk 4. Corn flour spoiled with spores of corn smut (Ustilago) 5. Rye flour spoiled with moths 6. Flour spoiled with mites (Tyroglyphus farinae)

W13859 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13760 | **MULTIMEDIA TEACHER PACKAGE**



Foodstuffs and Spices under the Microscope

Basic Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Rye flour 2. Potato starch 3. Soya meal 4. Wheat flour 5. Rice starch 6. Coffee bean t.s. 7. Black pepper, ground 8. Paprika, ground 9. Nutmeg t.s. 10. Cocoa powder 11. Tobacco, leaves t.s. 12. Hazelnut, t.s. stained for fat

W13860 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13761 | **MULTIMEDIA TEACHER PACKAGE**

The Wonderful World in a Drop of Water

Basic Package of 6 items

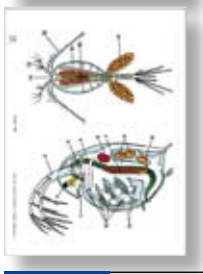
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Euglena, green flagellate with eyespot 2. Paramecium, nuclei stained 3. Daphnia and Cyclops, small crustaceans 4. Spirogyra, green alga with spiral chloroplasts 5. Spongilla, fresh water sponge, isolated spicules 6. Diatomeae, diatoms, mixed species

W13861 | **MULTIMEDIA STUDENT SET**

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13762 | **MULTIMEDIA TEACHER PACKAGE**



The Wonderful World in a Drop of Water

Supplementary Package of 12 items

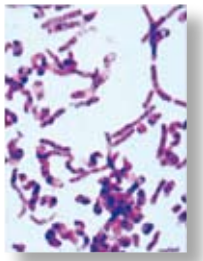
Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Ceratium hirundinella, dinoflagellates 2. Vorticella, a stalked ciliate 3. Putrefaction causing bacteria from hay infusions 4. Hydra, fresh water polyp, t.s. of the body 5. Cladophora, green alga, branched filaments 6. Eudorina, small colonies within gelatinous sheaths 7. Microcystis, irregular colonies 8. otatoria, rotifers, mixed species 9. Planaria, fresh water flat worm, t.s. of body 10. Plumatella, moss animal, section of colony 11. Tubifex, a fresh water oligochaete 12. Mixed plankton, strewn slide

W13862 | **MULTIMEDIA STUDENT SET**

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13763 MULTIMEDIA TEACHER PACKAGE



Identifying Polluted Water under the Microscope

Basic Package of 6 items

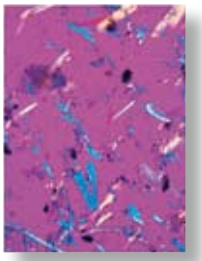
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Intestinal bacteria (Escherichia coli) from putrid water 2. Putrefactive bacteria (Spirillum) from sludge poor in oxygen 3. Sludge bacteria (Methanobacterium) causing sewer gas 4. Wasserbluthe (Microcystis), blue-green alga "blooming" in stagnant water 5. Ciliates, different species from nutrient-rich water 6. Water mould (Saprolegnia), harmful to plants and animals

W13863 MULTIMEDIA STUDENT SET

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13764 MULTIMEDIA TEACHER PACKAGE



Air Pollution and Allergens

Basic Package of 6 items

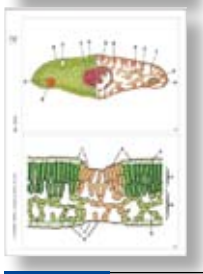
Comprising: 6 Microscope Slides in Plastic Box, 3 OHP Colour Transparencies, 6 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Pollen grains of different kinds of grass 2. Pollen grains of different kinds of conifers 3. Mixed house dust (causing allergens) 4. Asbestos powder (carcinogenic) 5. Dust mite from a living room 6. Spores of different fungi

W13864 MULTIMEDIA STUDENT SET

Comprising: 6 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13765 MULTIMEDIA TEACHER PACKAGE



Animals and Plants Damaged by Environmental Influences

Basic Package of 8 items

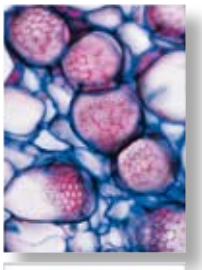
Comprising: 8 Microscope Slides in Plastic Box, 4 OHP Colour Transparencies, 8 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

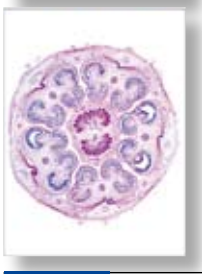
1. Skin of fish injured by chemicals, t.s. 2. Skin ulcer of an amphibian, t.s. 3. Human lung injured with dust particles, t.s. 4. Gall nut on oak caused by insects, t.s. 5. Beech (Fagus), t.s. of leaves with destroyed epidermis and chloroplasts 6. Damaged lichen, caused by air pollution 7. Wood with anomalous narrow annual rings caused by drought, t.s. 8. Wood destroyed by fungus

W13865 MULTIMEDIA STUDENT SET

Comprising: 8 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13766 MULTIMEDIA TEACHER PACKAGE





Anatomy of Phanerogams

Basic Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 HP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Zea mays, corn, monocot root t.s. 2. Ranunculus, buttercup, dicot root t.s. 3. Root tip and root hairs, t.s. epidermal origin of root hairs 4. Zea mays, monocot stem with scattered bundles, t.s. 5. Helianthus, sunflower, dicot herbaceous stem t.s. 6. Zea mays, corn, monocot gramineous leaf t.s. 7. Syringa, lilac, t.s. of a typical mesophytic dicot leaf 8. Tulipa, tulip, leaf epidermis w.m., stomata and guard cells 9. Lilium, lily, t.s. of flower bud showing floral diagram 10. Lilium, anther t.s. showing pollen chambers and pollen grains 11. Lilium, ovary t.s., showing arrangement of ovules 12. riticum, wheat, seed t.s. embryo and endosperm

W13866 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

W13767 MULTIMEDIA TEACHER PACKAGE

Anatomy of Phanerogams

Supplementary Package of 12 items

Comprising: 12 Microscope Slides in Plastic Box, 6 OHP Colour Transparencies, 12 Sketch and Worksheets, Brochure with explanatory text, Special cardboard box

1. Herbaceous and woody roots, two t.s. on one slide 2. Lupinus, root nodules with nitrogen fixing bacteria t.s. 3. Fagus, beech, root with ectotrophic mycorrhiza, t.s. 4. Aristolochia, older stem t.s. 5. Cucurbita, pumpkin, l.s. of stem with sieve tubes and vascular bundles 6. Solanum tuberosum, potato, t.s. of tuber with starch grains 7. Nerium, oleander, leaf with sunken stomata t.s. xerophytic leaf 8. Pinus, leaves (needles), t.s. 9. Lycopersicum, tomato, t.s. of flower bud shows floral diagram 10. Mixed pollen types, many different species 11. Pinus, ovule l.s. showing archegonia 12. Pinus, male cone with pollen l.s.

W13867 MULTIMEDIA STUDENT SET

Comprising: 12 Microscope Slides in Plastic Box, Brochure with explanatory text, Cardboard box

Ideal for Teaching, Patient Education and Medical Education!

By popular demand, we have redesigned our 3B Scientific® Charts to make them more versatile. Of course, as always they dynamically illustrate and skillfully describe the most important points of a subject. No one offers more languages and hardly anyone offers a comparable selection of subjects and versions.

And now you can decide what type of chart you want. The black plastic rods with eyelets for hanging ensure the greatest possible flexibility. These practical rods are easy to handle, enable you to affix the charts to the wall inexpensively and attractively and protect the charts from damage. Simply order item number VR999B (2 x 50 cm) or VR999BL (2 x 98 cm) along with the charts of your choice to receive a complete set for top and bottom. If you prefer a different mode of attachment or wish to use a decorative picture frame, the paper version supplies you with all you need – without any unnecessary and expensive frills!

Or would you prefer the laminated deluxe version? It is enhanced with a front and rear 125 micron thick film coating and is already equipped with two metal eyelets for wall attachment. Particularly long lasting, particularly durable, particularly valuable!

The right choice for everyone:

Inexpensive paper version
Item number +UU (e.g. VR1113UU)
- *For a skilled overview of medical subjects*
- *With richly detailed illustrations*
- *For use as a poster or with your own frame*

Practical rods for the paper version
VR999B (2 x 50 cm), VR999BL (2 x 98 cm)
- *Ideal for wall attachment*
- *Very easy to use*
- *Made of robust and long-lasting plastic*

Value-preserving laminated deluxe version
Item number + L (e.g. VR1113L)
- *For heavy-duty use*
- *Can be written on with non-permanent markers*
- *Can be wiped off anytime*
- *Good UV-resistance*
- *Environmentally-friendly special film coating*

All of the versions are printed on 50 x 67 cm practical poster size high-quality 200 g image printing paper (exception: VR1820 Body acupuncture 98 x 68 cm).

Also available in German, French, Spanish, Italian and Japanese (Japanese in size 30 x 40 cm). Some products from our range are also available in Brazilian Portuguese and Russian. Please contact us!

The series is constantly expanded so you will soon find the anatomical wall charts you need, but haven't seen yet on these pages. If there is a subject you're missing, get in touch with us, we might already be working on it.
If not: we always appreciate good ideas.

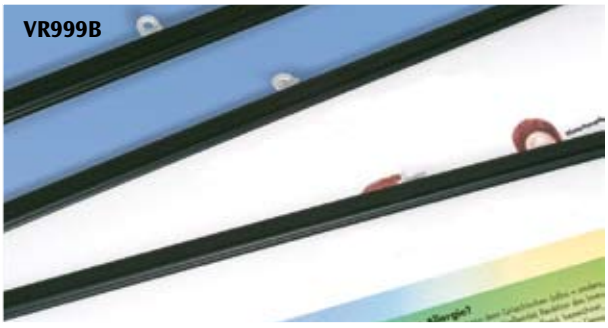
15 % discount on orders of 5 or more items

For quantities of 500 and above per title we can personalize your charts. Please contact us!

VR999B
Practical rods for the inexpensive paper version 50cm

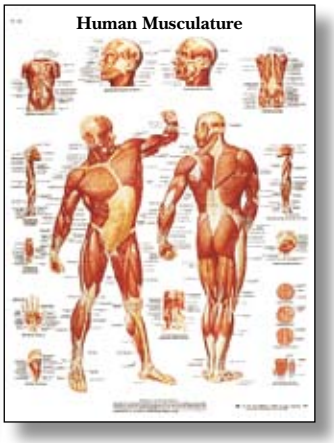
VR999BL
Practical rods for the inexpensive paper version 98cm

Laminated deluxe version
Item number + L (e. g. VR1113L)



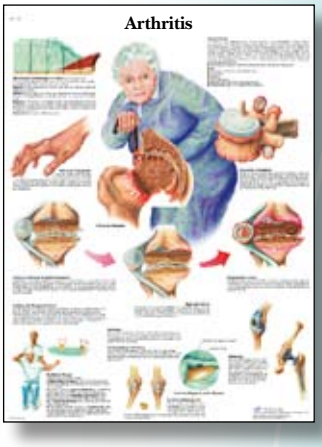
Inexpensive paper version: Item number + UU (e. g. VR1113UU)
Value-preserving laminated deluxe version: Item number + L (e. g. VR1113L)

VR1113



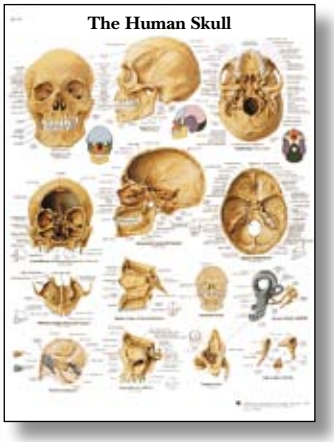
VR1118

VR1121

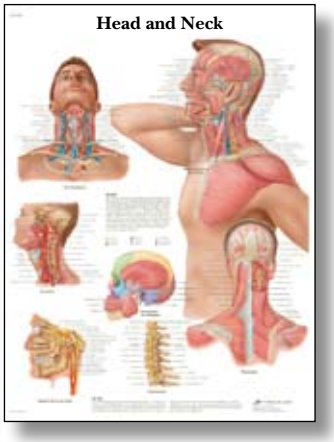


VR1123

VR1124

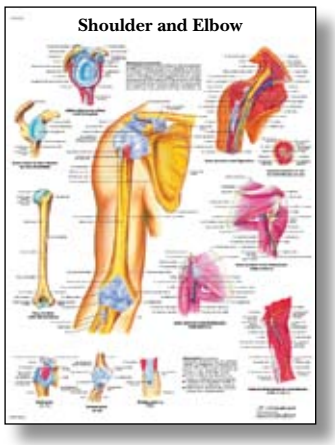


VR1131



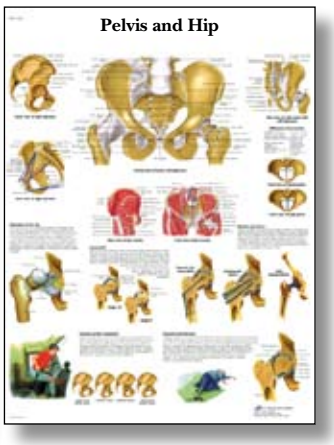
VR1132

VR1152

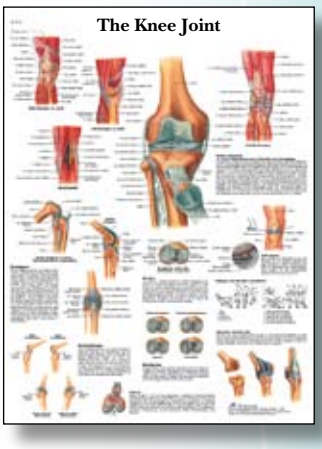


VR1170

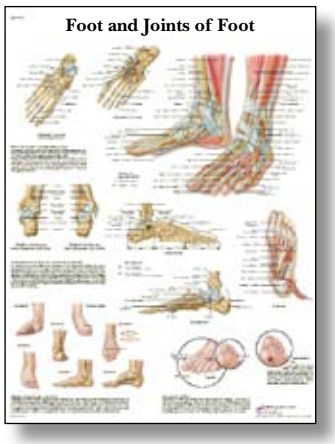
VR1171



VR1172

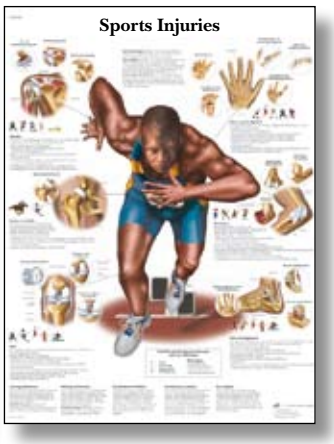


VR1174

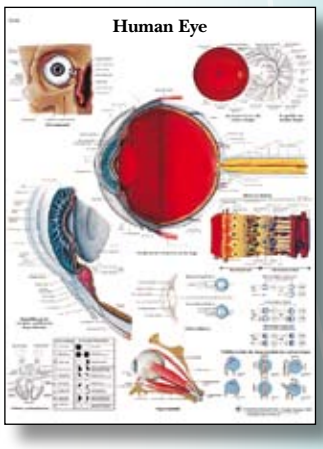


VR1176

VR1185



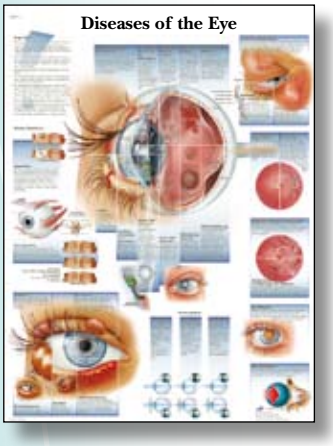
VR1188



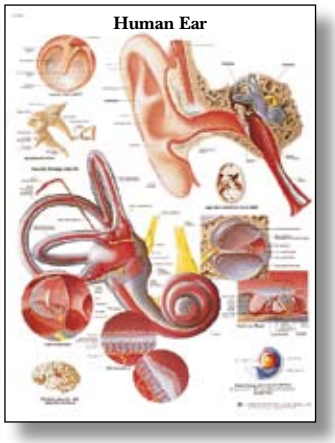
VR1226

50 x 67 cm

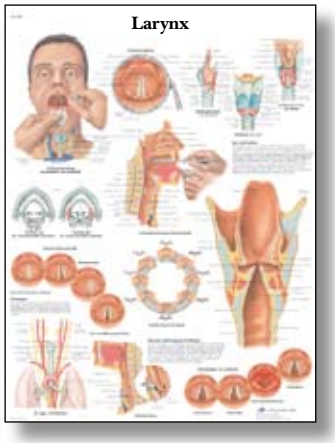
50 x 67 cm



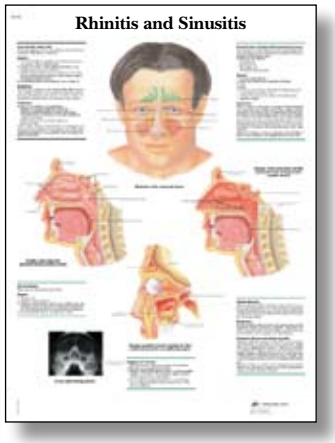
VR1231



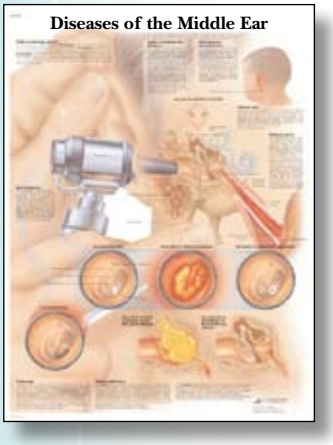
VR1243



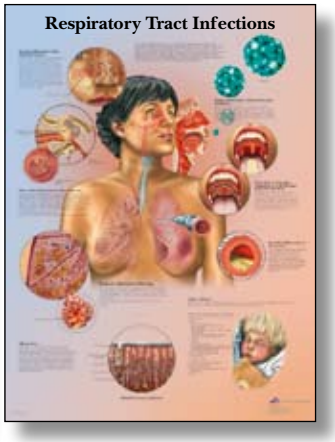
VR1248



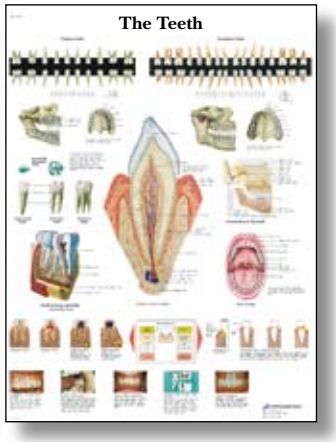
VR1251



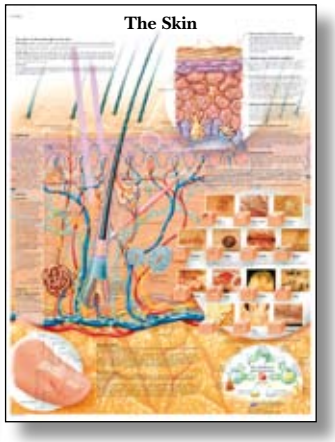
VR1252



VR1253

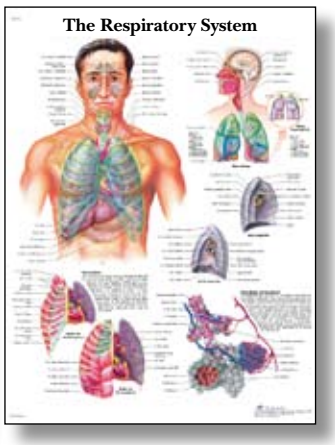


VR1263



VR1283

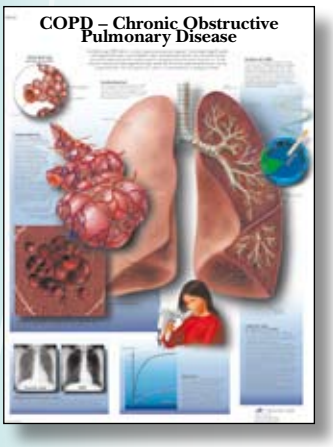
VR1295



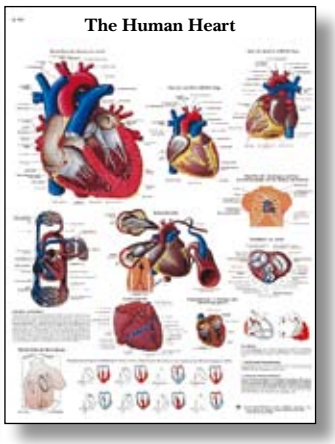
VR1322

VR1326

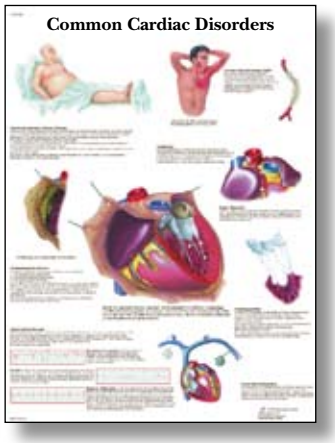
VR1328



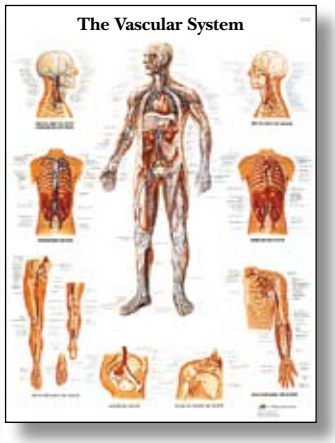
VR1329



VR1334



VR1343



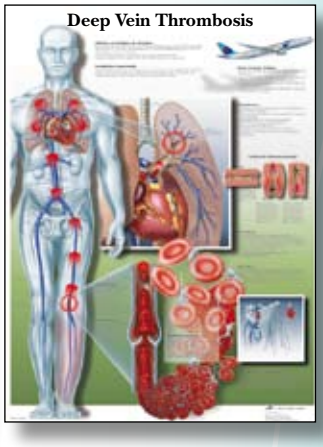
VR1353

Inexpensive paper version: Item number + UU (e. g. VR1113UU)
Value-preserving laminated deluxe version: Item number + L (e. g. VR1113L)

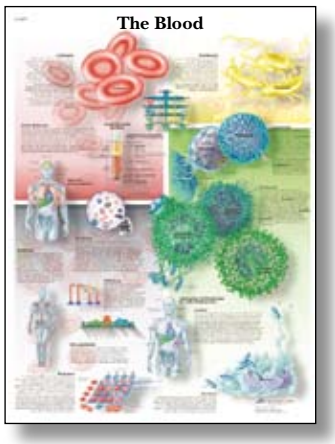
VR1359

VR1361

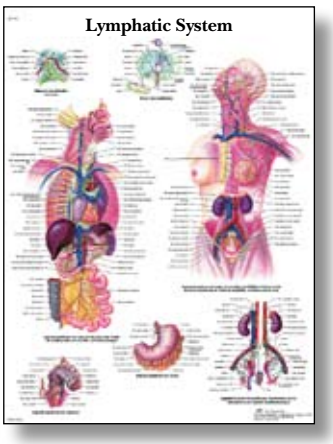
VR1367



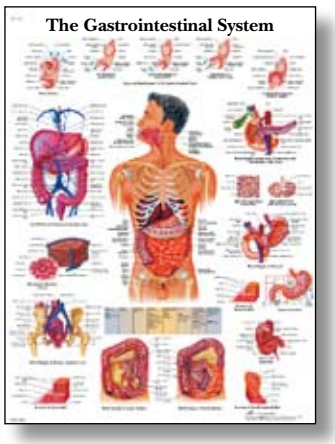
VR1368



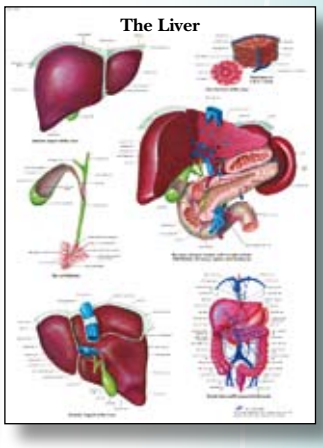
VR1379



VR1392

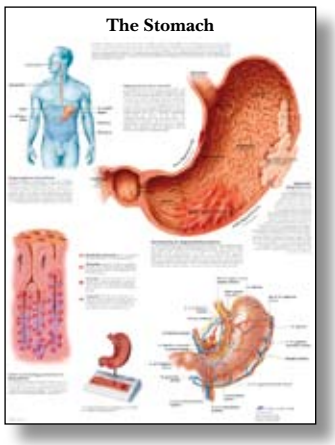


VR1422

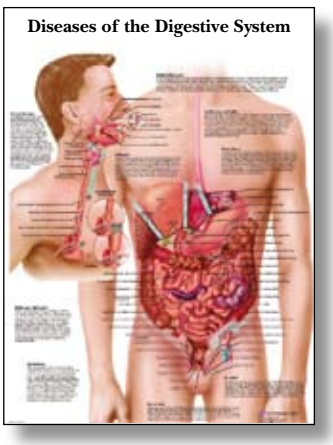


VR1425

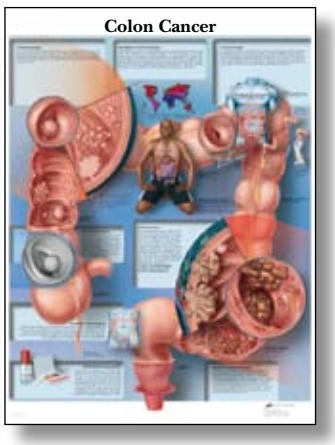
50 x 67 cm



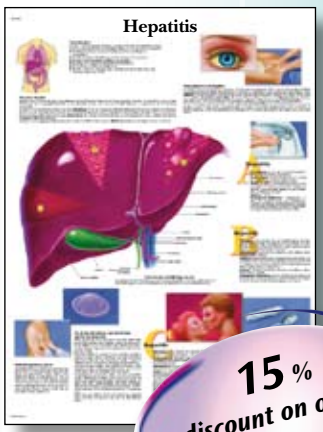
VR1426



VR1431

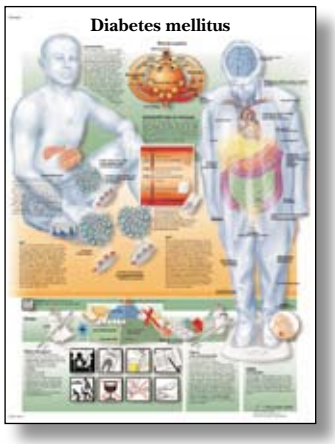


VR1432

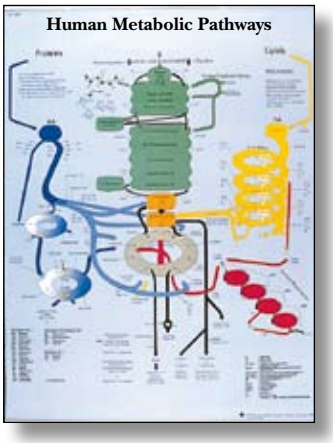


VR1435

15 % discount on orders of 5 or more items



VR1441

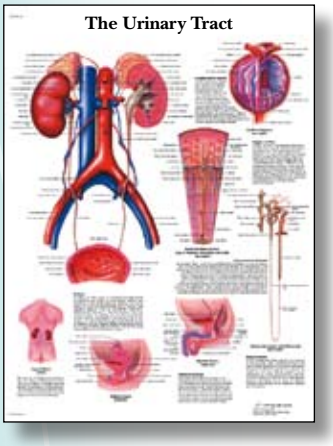


VR1451

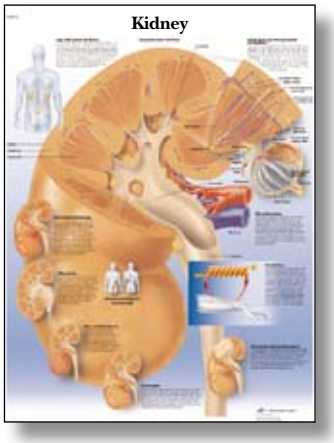
VR1452

VR1460

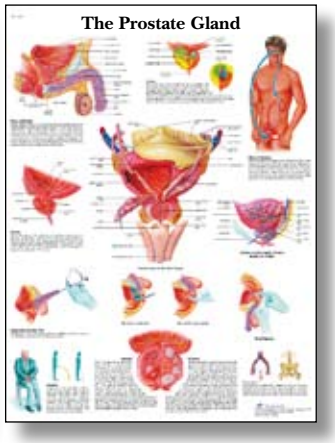
50 x 67 cm



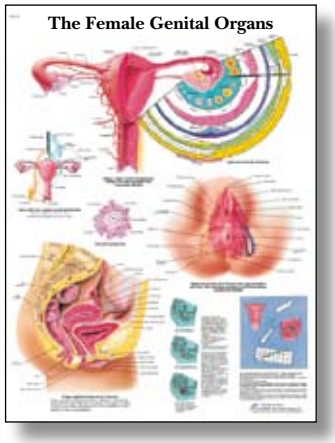
VR1514



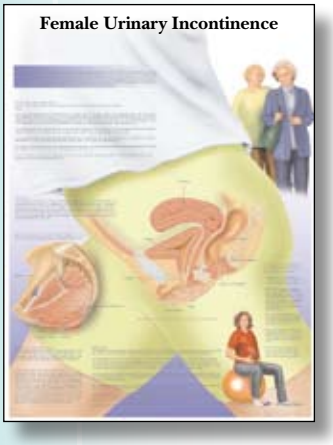
VR1515



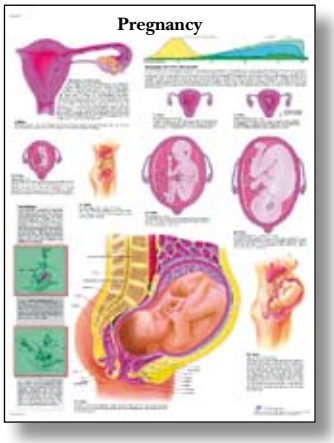
VR1528



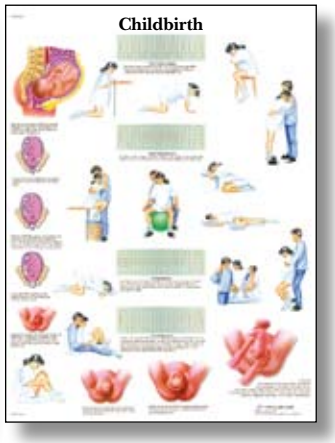
VR1532



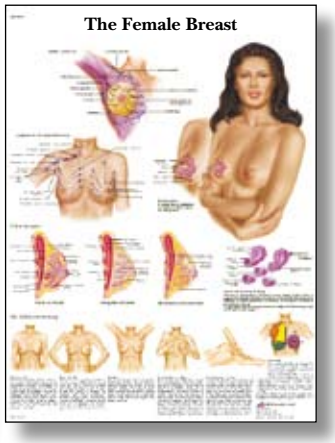
VR1542



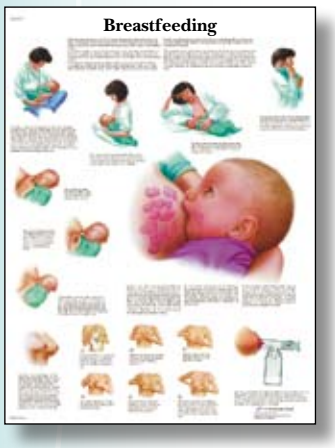
VR1554



VR1555



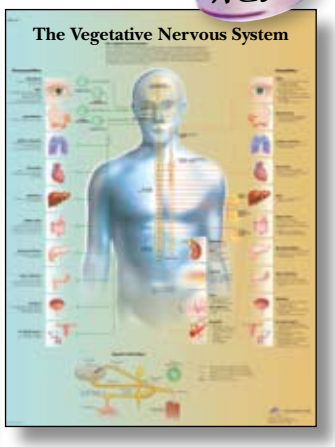
VR1556



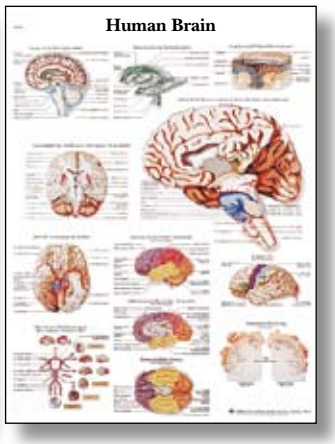
VR1557

VR1591

NEW

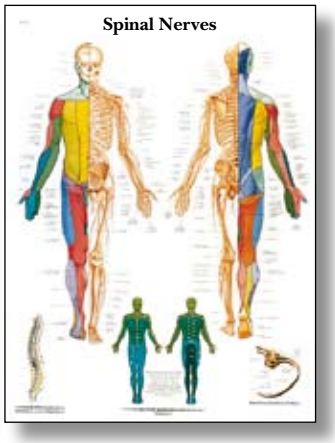


VR1610

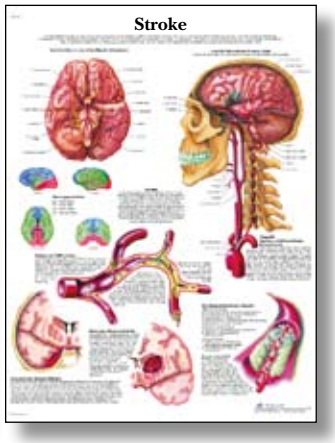


VR1615

VR1620



VR1621



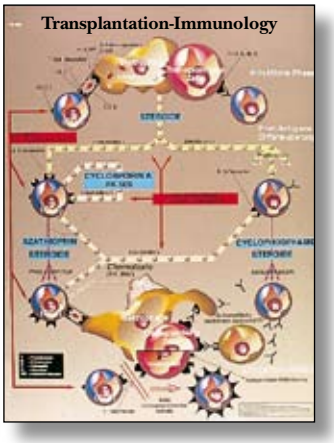
VR1627

VR1628

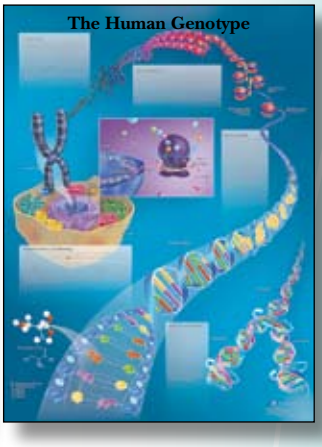
Inexpensive paper version: Item number + UU (e. g. VR1113UU)
Value-preserving laminated deluxe version: Item number + L (e. g. VR1113L)

VR1629

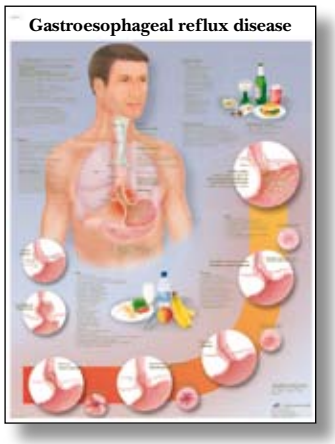
VR1660



VR1665



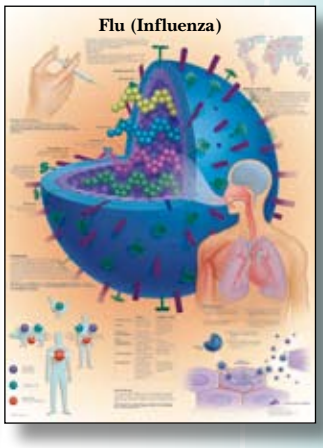
VR1670



VR1711

VR1714

VR1717

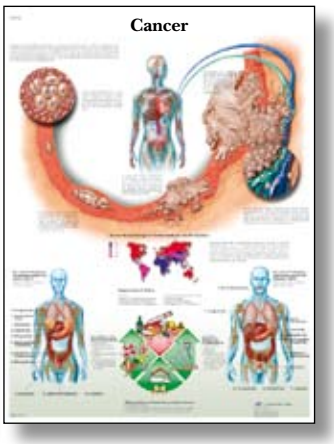


VR1722

50 x 67 cm

VR1725

VR1741



VR1753

VR1761

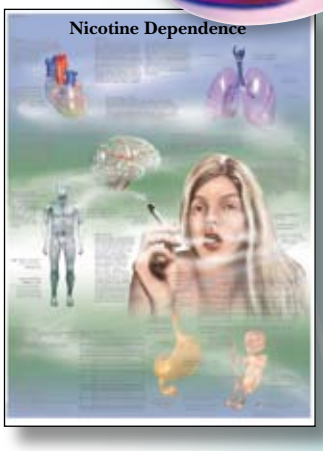
15 % discount on orders of 5 or more items

NEW

VR1770

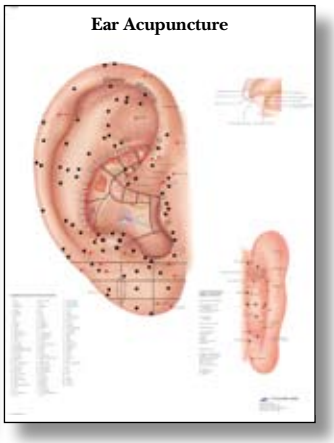
VR1781

VR1792

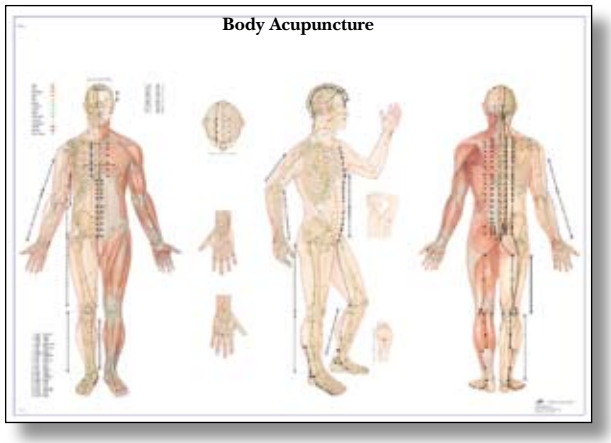


VR1793

VR1810



VR1821



VR1820, 98 x 68 cm

For presentation and storage of your charts:

VR999S/E
Chart Display Stand including including all 82 English anatomical charts (L-versions)

VR999S/1
Practical Chart Display Stand for storage of laminated charts

VR999S/E
VR999S/1

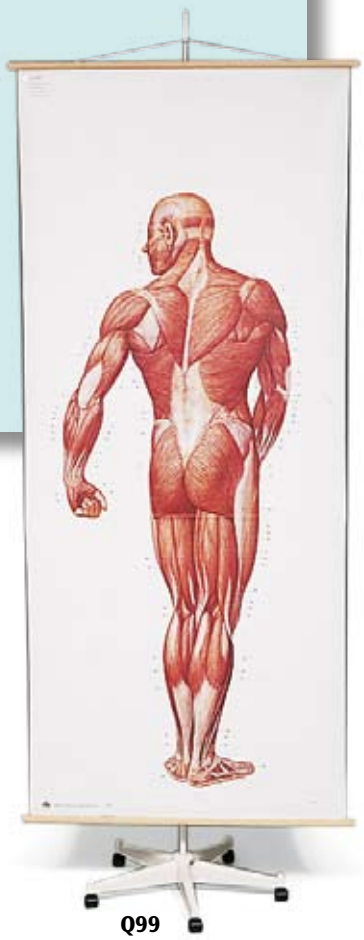
Anatomical Wall Charts

A valuable educational supplement for schools, universities and medical facilities.

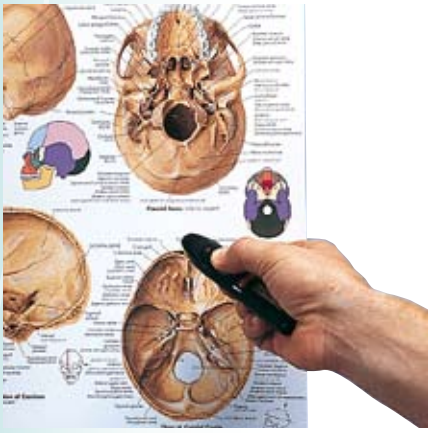
These impressive anatomical wall charts are supplied with a detailed six-language product manual and scientifically correct nomenclature. They are printed on waterproof, tear resistant paper and are available with or without wooden rods in two different sizes. When ordering anatomical wall charts, please add the appropriate suffix to the product number:

- *M for anatomical wall charts with wooden rods (e.g. V2001M)*
- *U for anatomical wall charts without wooden rods (e.g. V2001U)*
- *Dimensions: 84 x 118 cm*
- *Dimensions: 84 x 200 cm*

L/E/D/F/S (partial I/P/R/C)



Q99



Q99

Special Mobile Stand with Brake
We recommend this helpful stand for displaying the anatomical wall charts.

W31501

Laser Pointer
This safe Laser Pointer (laser safety class II) with its convenient pen-shaped design assists your lessons with 3B Scientific® Charts. The red beam spot will stay small and sharp even in daylight and from large distances. A convenient aid for any teacher.

V2001 The Human Skeleton, front

V2002 The Human Skeleton, rear

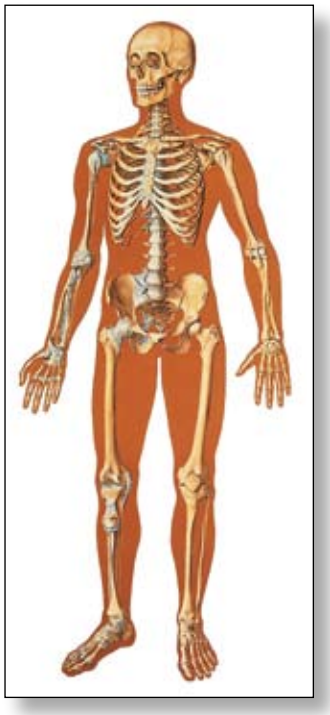
V2004 The Vascular System

V2003 The Human Musculature, front

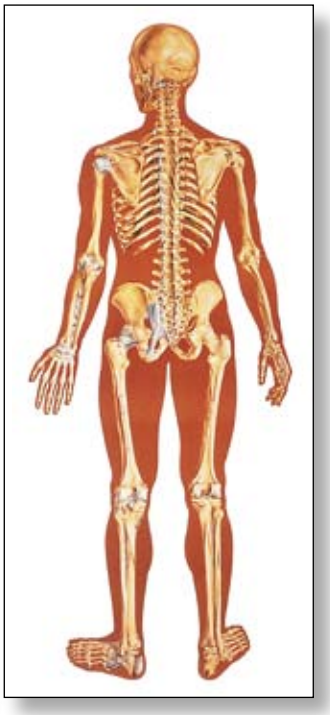
V2005 The Human Musculature, rear

V2037 The Nervous System, front
Special size: 84 x 176 cm

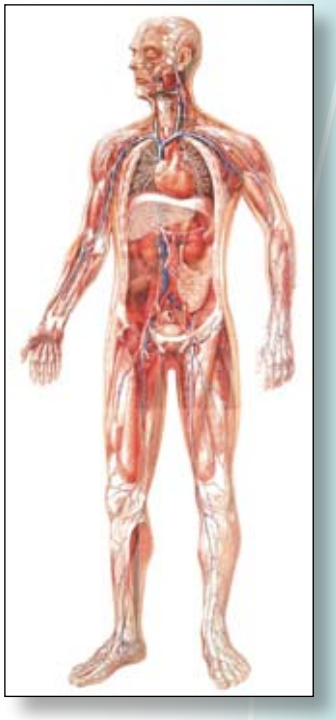
V2038 The Nervous System, rear
Special size: 84 x 176 cm



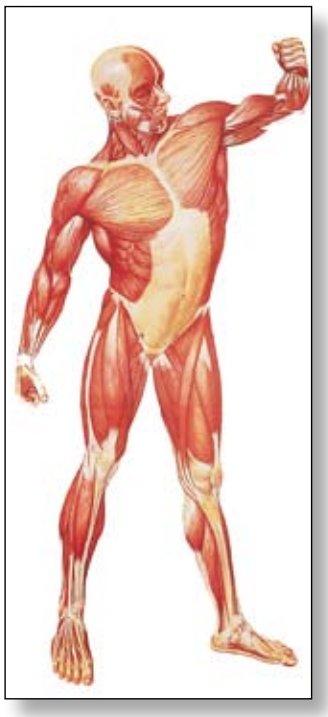
V2001



V2002

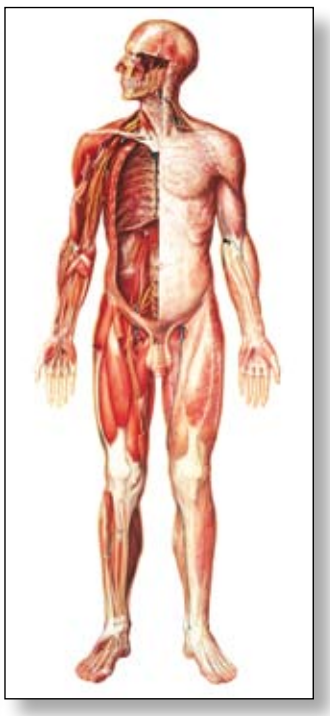


V2004



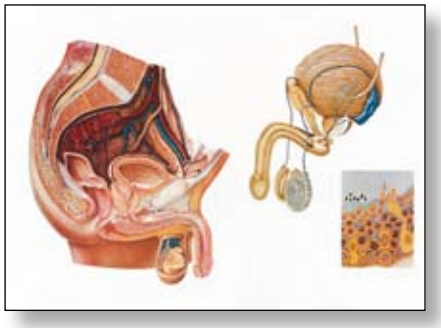
V2003

V2005



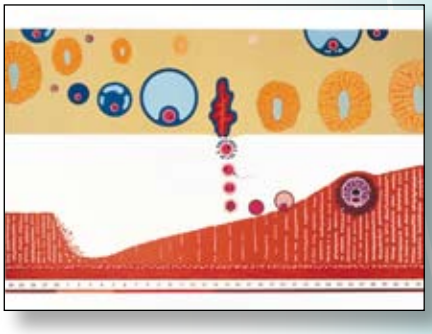
V2037

V2038

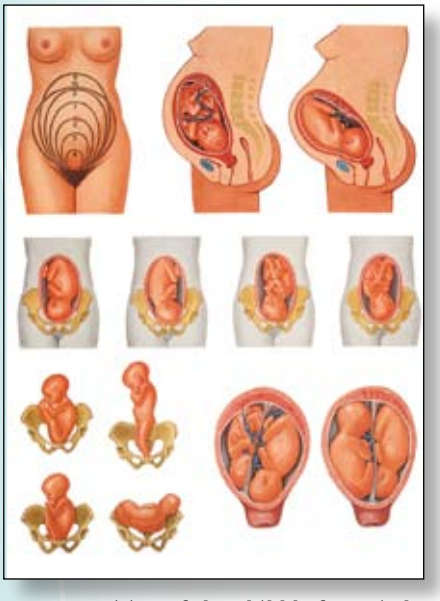


V2020 The Male Pelvic Organs

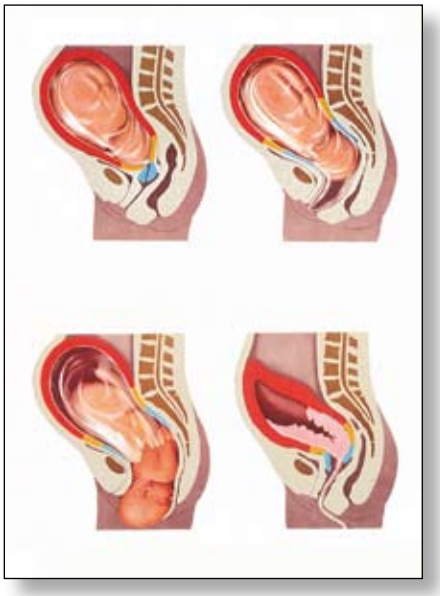
V2021 The Female Pelvic Organs



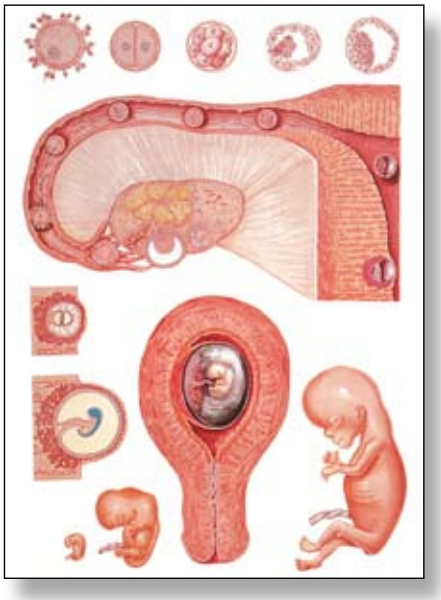
V2065 Menstrual Cycle and Ovum Implantation



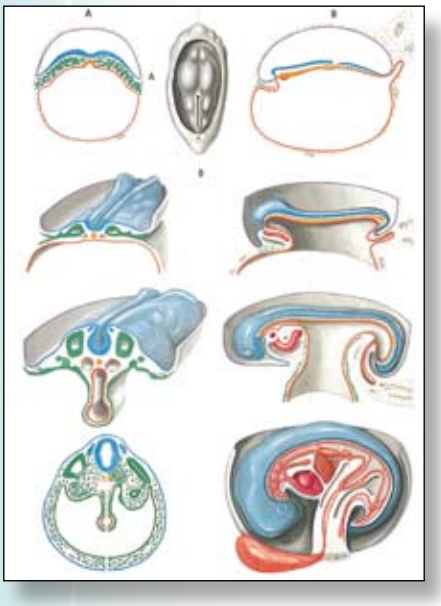
V2068 Position of the Child before Birth



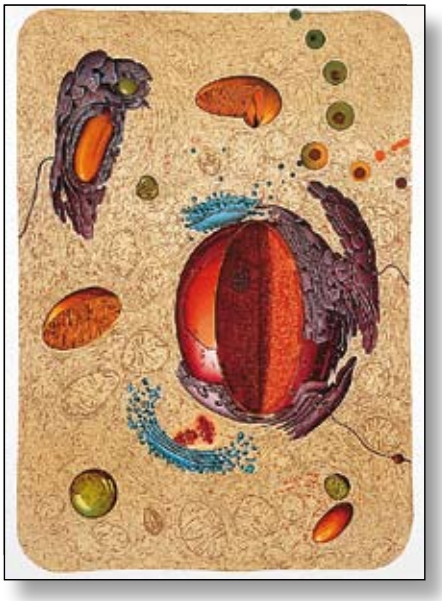
V2048 The Birth Process



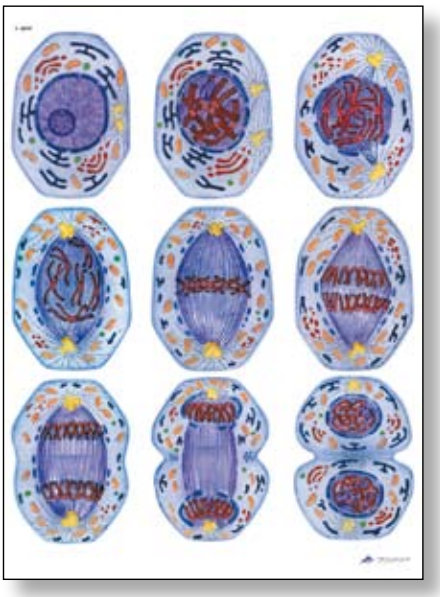
V2066 Embryology I



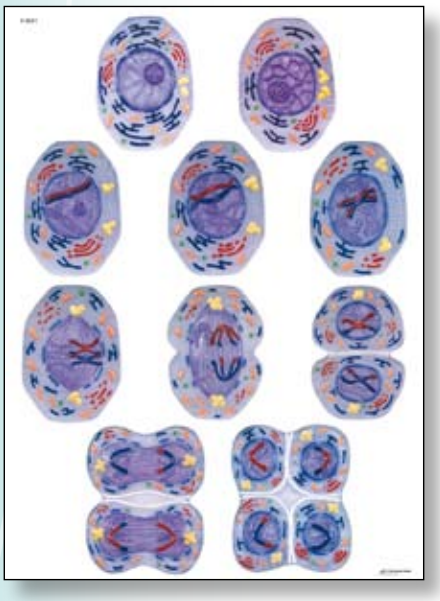
V2067 Embryology II



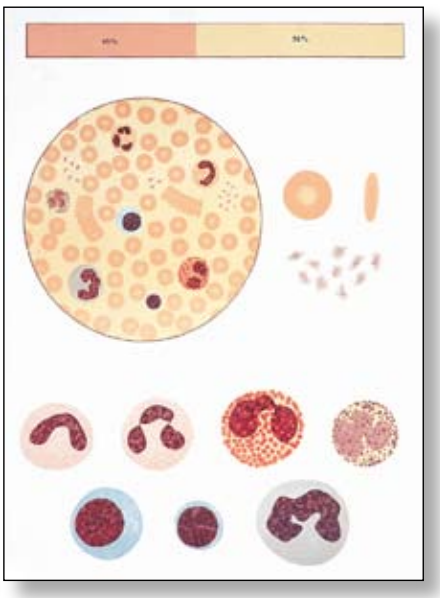
V2027 Human Cell Structure



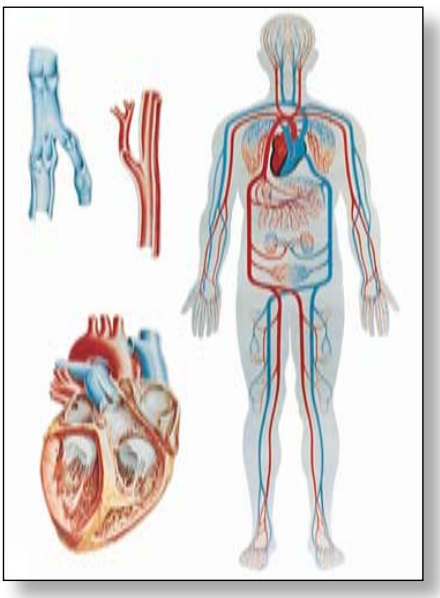
V2049 Cell Division I, Mitosis



V2051 Cell Division II, Meiosis

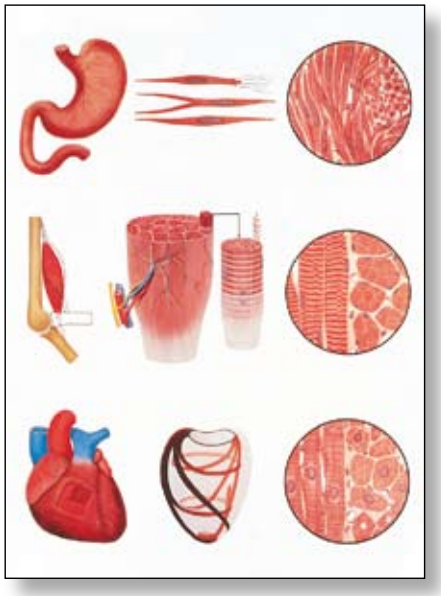


V2031 The Blood, Composition



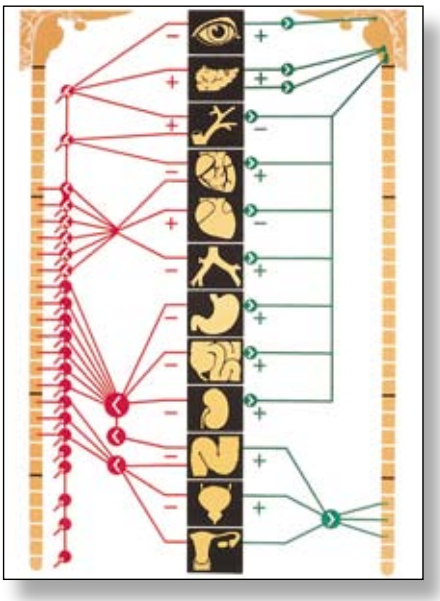
V2018 Human Blood Circulation

V2023 The Skin

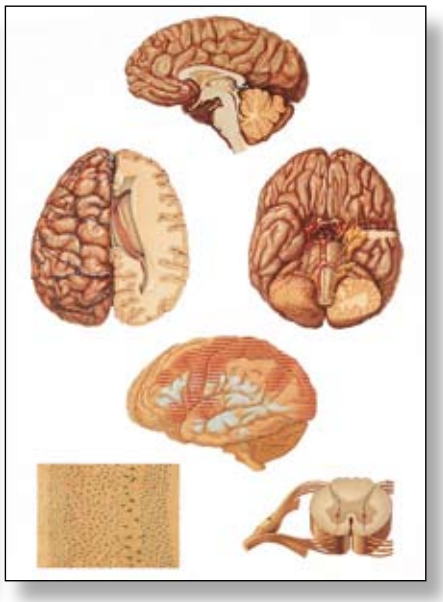


V2052 Muscle Tissue

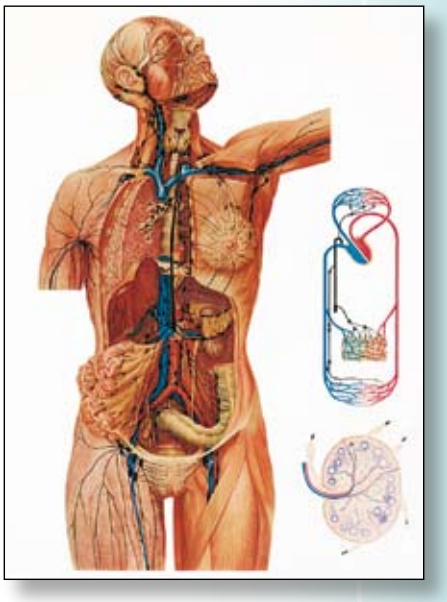
V2050 Bone Structure



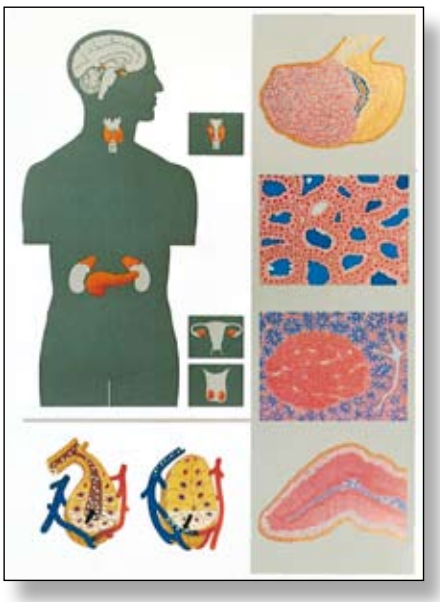
V2059 The Vegetative Nervous System



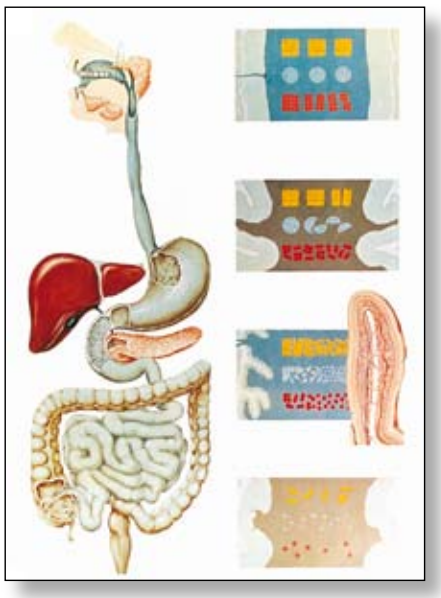
V2034 The Human Central Nervous System



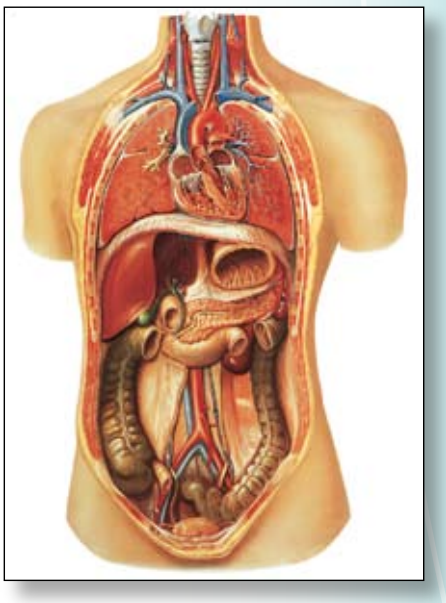
V2054 The Lymphatic System



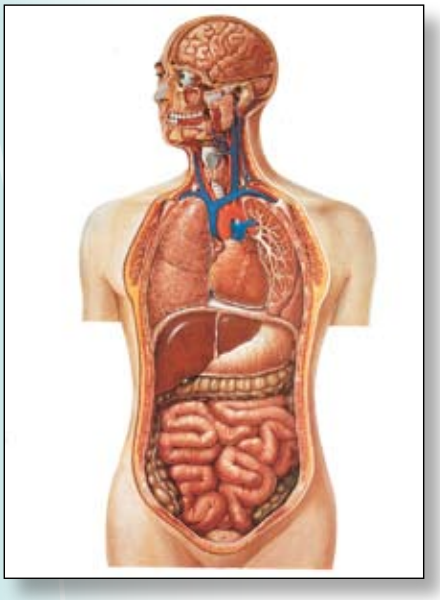
V2046 Endocrine Glands



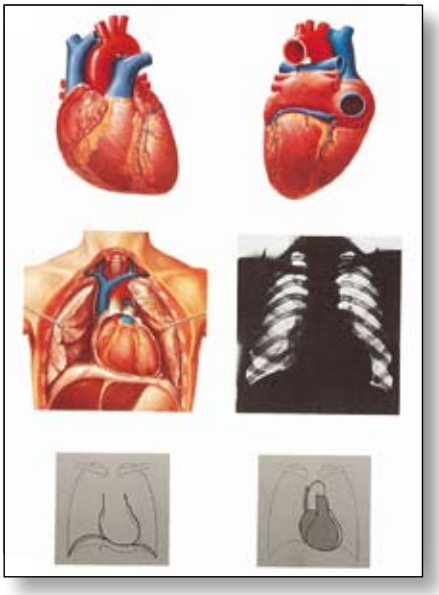
V2043 The Digestive System



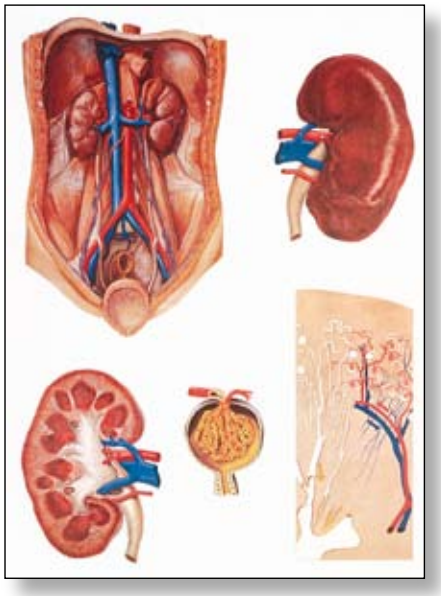
V2006 Internal Organs



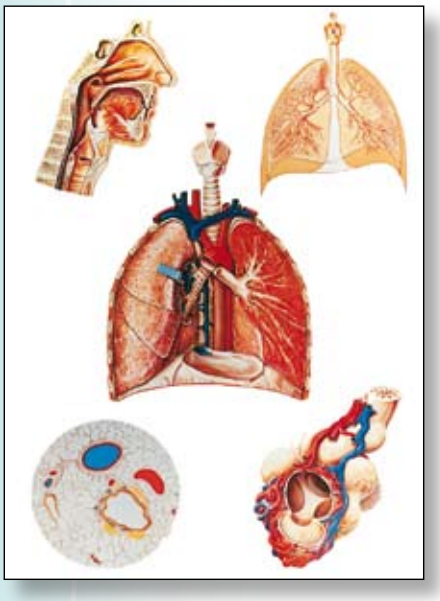
V2008 Torso



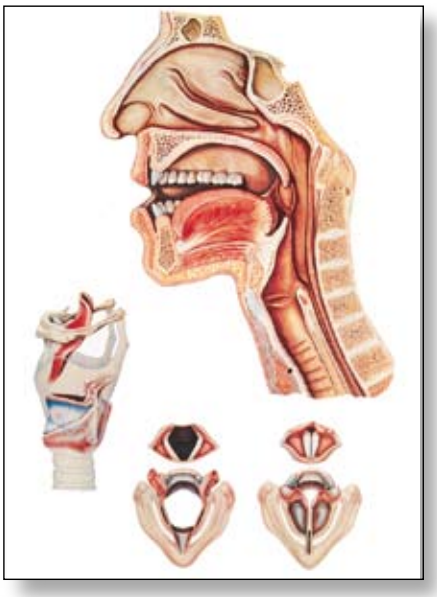
V2053 The Heart, Anatomy



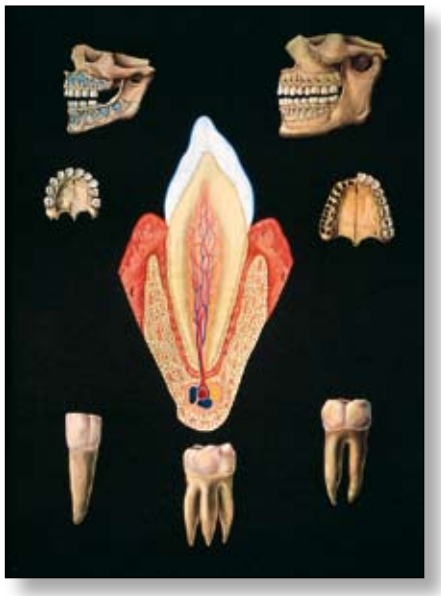
V2013 The Kidney



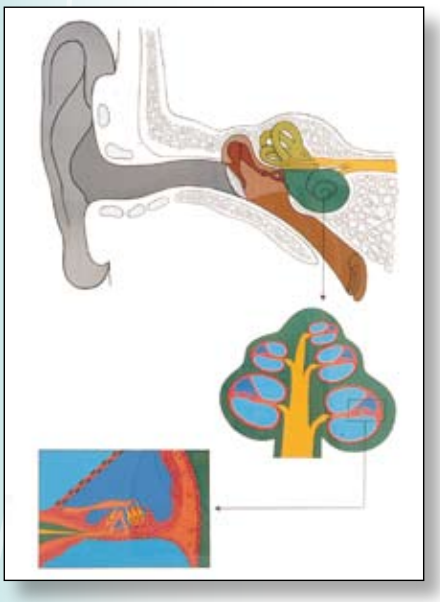
V2036 Respiratory Organs



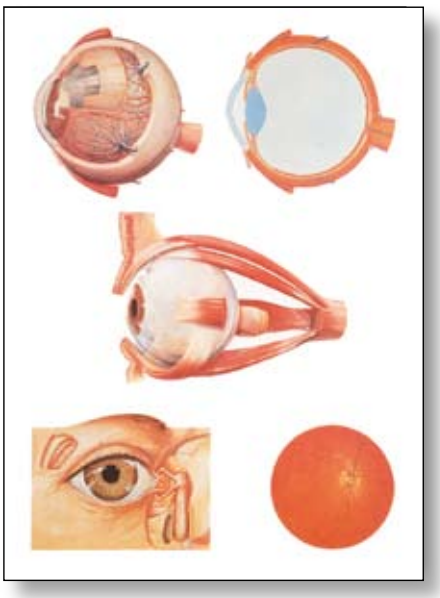
V2007 Speech Organs



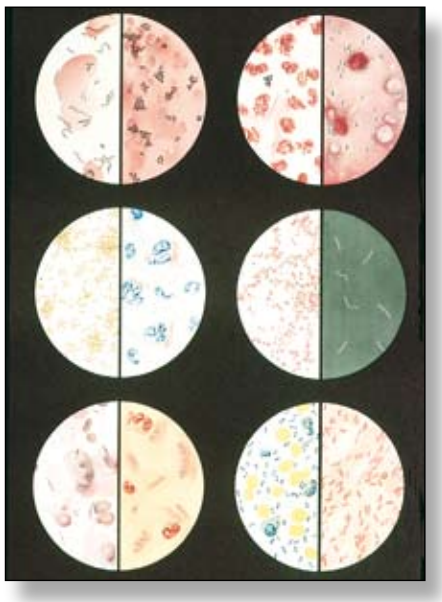
V2016 Healthy Denture



V2010 The Ear

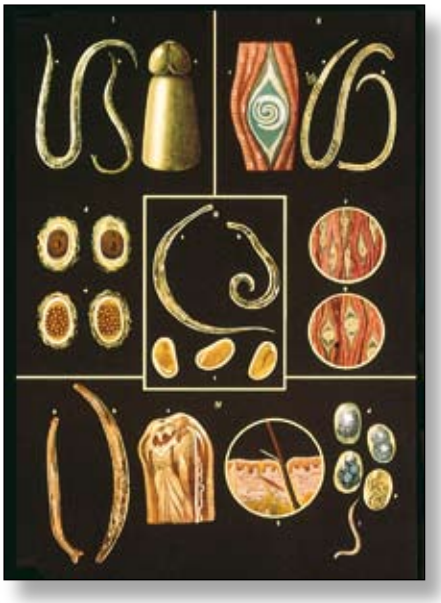


V2011 The Eye, Anatomy

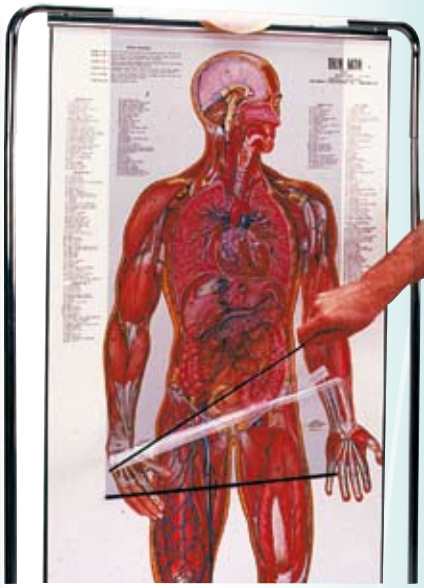


V2041 Bacteria

V2019 Intestinal Parasites I



V2028 Intestinal Parasites II



W42532

Study and Information System for Selfstudy
Clear layout, inexpensive, effective. Printed on stable cardboard sized DIN A7. Comes in an index-card box.

The Muscular System on Study Cards
- Each muscle illustrated separately
- Identification of origin, insertion, nerve, function, synergists and antagonists
- 303 study cards with 315 illustrations

W11501
German

W11503
English

W11501
W11503

W42532

"Thin Man" – Sequential Human Anatomy Programme
Lets you explore body regions layer by layer by peeling away transparent mylar overlays. Displayed on the rear of the Thin Man is a full-figure view of the skeletal and nervous systems. Over 200 anatomical features are named, indexed, and keyed. The layers display the following systems:
- 1st layer – Musculature of the head, neck, thorax and abdomen
- 2nd layer – Brain, thyroid and salivary glands, eye, tongue, teeth, heart and major vessels, lungs, stomach, liver and intestines
- 3rd layer – Sinuses, nasal, septum, tongue, trachea, heart, chambers, and vessels, pancreas, spleen, large intestine
- 4th layer – Oesophagus, pleura, aorta, inferior vena cava, intercostal vessels and nerves, autonomic nerve trunk, kidneys and adrenal glands
- 5th layer (full figure) – Brain, pharynx, vertebral column, rib cage, muscles of upper and lower extremities, pelvic organs and muscles

160 cm
E

W11504
W11505

The Skeletal System on Study Cards
- Each bone illustrated separately (360° view)
- Identification of all bone structures
- 303 study cards with 558 illustrations

W11504
German

W11505
English

W40200

6 Model Activity Set of the Body Systems

Includes six model activity sets illustrating the major systems of the human body:
- Circulatory system
- Nervous system
- Respiratory system
- Urinary system
- Digestive system
- Endocrine system

Description in English.
61x45 cm

BESTseller

W40200

In addition, you will receive the following single/individual kits

(without illustration):

W40206
Circulatory System Model Activity Set

W40201
Nervous System Model Activity Set

W40202
Respiratory System Model Activity Set

W40205
Urinary System Model Activity Set

W40204
Digestive System Model Activity Set

W40203
Endocrine System Model Activity Set

W40207
Eye Model Activity Set

W40208
Skin Model Activity Set

W40209
Teeth Model Activity Set

W40210
Ear Model Activity Set

W40212
Menstrual Cycle Model Activity Set

W40213
Male Reproductive System Model Activity Set

W40214
Female Reproductive System Model Activity Set

W40226
Germination Cell Model Activity Set

Further Information on: www.3bscientific.co.uk

W40211

W40211

9 Model Activity Sets of the Human Reproductive System

Includes:
- Menstrual Cycle
- Male Reproductive System
- Female Reproductive System
- Meiosis
- Mitosis
- Cell to Embryo
- Four-Month Foetus
- Full-term Foetus
- Birth

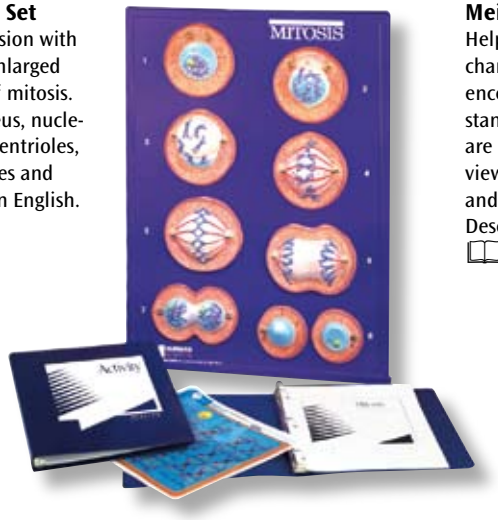
Description in English.
61x45 cm
E

W40219

Mitosis Model Activity Set

Illustrate somatic cell division with this informative model. Enlarged views detail five phases of mitosis. Includes: cytoplasm nucleus, nucleolus, chromatic threads, centrioles, aser, spindle, chromosomes and centromere. Description in English. 61x45 cm

E



W40219

W40220

Meiosis Model Activity Set

Help explain individual human characteristics and genetic differences. Visualization and understanding of meiotic cell division are promoted through enlarged views of chromosomes, cytoplasm and chromatic and polar bodies. Description in English. 61x45 cm

E

W40220

W40230

7 Model Activity Sets Zoology

Introduce students to anatomy with seven dissection models shown in raised relief:

- Crayfish
- Frog
- Earthworm
- Grasshopper
- Perch
- Clam
- Foetal Pig

Each markable model is constructed of durable vinyl and illustrates internal structures in graphic detail. All models are accompanied by a 3-ring notebook which includes teacher's background information, student basic understandings, learner activities, a glossary, colour transparencies, black line master and a key to model structures. Description in English. 61x45 cm

E

W40230

W40223
W40224
W40225

W40223

Plant and Animal Cell Model Activity Set

Students can explore plant and animal cell structure with these 20 cm diameter cell models. Teacher's notebook includes: background information, basic understandings, black line master, two full-colour overhead transparencies, key structure and a glossary.

E

Also available individually!

W40224

Plant Cell Model
(witrhout notebook)

W40225

Animal Cell Model
(witrhout notebook)

3B NETlog™: Network Capable System for Acquisition and Processing of Data in Science Lessons.

The design of student experiments presents a challenge. Experiments must not require complicated and expensive measuring instruments and they must not be too time consuming, but they must still yield meaningful results that can be easily displayed in graphical form.

The computer linked measuring instrument 3B NETlog™ offers a wealth of possibilities for meeting these requirements in a wide variety of student experiments. By using the appropriate sensor for a task, it can be used to measure many different physical quantities. It is also possible to make measurements involving rapid processes, such as the vibration of a tuning fork, with a high sampling rate and resolution, or to automate the recording of measurements involving slow processes over a long period of time. It is not even necessary for the instrument to be connected to the computer during such measurements. 3B NETlog™ has analogue signal input connections for voltage, current, or external sensors. There is also provision for digital inputs and both analogue and digital outputs are available.

By combining 3B NETlog™ with the computer programme 3B NETlab™, it is possible to leverage all the extended functions of the instrument. These include an oscilloscope mode and a generator for producing any desired periodic signal form. 3B NETlog™ can either be connected to a computer via USB or linked directly to a network via an optional network port of its own. Thus, for example, experiments that cannot be moved, or for which only simple equipment is available, can be still accessible to every computer in the network.

For displaying and processing the data, 3B NETlab™ provides a tool that is powerful, but nevertheless easy to understand. Instructions in the form of web pages, which can be opened in Microsoft's Internet Explorer, describe experiments that lead students into many different areas of physics. 3B NETlab™ features are embedded into these web pages directly at the places where they are needed. That makes navigation just as straightforward as surfing the Internet. Any student wishing to experiment alone, without instructions, has free access to all the measuring and data processing functions of the 3B NETlog™ measuring lab tool.

The full power of 3B NETlab™ becomes apparent when it is connected to a network. From their computers, teachers can examine students' data records even while they are being made or processed. Conversely, teachers can carry out experiments themselves and students can access the experimental data from individual computers and perform their own analyses.

3B NET*log*™

3B NETlog™ can be used as an interface for data acquisition linked to a computer, or as a hand held instrument with a data-logger for measurements of current and voltage or in combination with various sensors. It incorporates sensor connectors with automatic identification of sensors. It can be connected to a computer via USB or connected directly to a network via an optional Ethernet port of its own. Includes USB cable and installation CD with data transfer program and plug in power supply.

Voltage inputs:	
Channels:	2 Differential amplifiers (A and B)
Measuring ranges:	0 – ±200 mV, 0 – ±2 V, 0 – ±20 V
Connectors:	Two twin 4 mm safety sockets
Current input:	
Channel:	Parallel to A
Measuring ranges:	0 – ±200 mA, 0 – ±2 A
Connector:	One twin 4 mm safety socket
Analogue sensor inputs:	
Channels:	2 (A and B)
Connectors:	Two 8-pin miniDIN sockets
Sensor identification and calibration:	Automatic
Triggering:	Quasi-continuous
Sampling rate:	50 kilosamples/s
Resolution:	12 bit
Voltage outputs:	
Channels:	2 (A' and B'), with common ground connection
Voltage amplitude:	0 – ±5 V
Connectors:	Two twin 4 mm safety sockets
Analogue sensor outputs:	
Channels:	2 (A' und B')
Connectors:	Two 8 pin miniDIN sockets
Sampling rate:	10 kilosamples/s
Resolution:	12 bit
Digital Inputs:	
Channels:	4 (A, B, C, D)
A:	TTL
B:	TTL, high-speed sampling rate, 100 kilosamples/s
C, D:	High-speed optical coupler (galvanically isolated)
Connector:	One 8 pin miniDIN socket
Digital outputs:	
Channels:	6 (A', B', C', D', E', F')
Signal:	TTL
Connector:	One 8 pin miniDIN socket
Additional data:	
Computer connection:	USB port
Internal data storage:	128 k
Monitor display:	Large display (64 x 122) for data on all channels
Power supply:	4.5 V DC/300 mA or 3 batteries LR6 AA alternatively 3 NiCd or 3 NiMH rechargeable batteries

U11300-230

3B NET*log*™ (230 V, 50/60 Hz)

U11300-115

3B NET*log*™ (115 V, 50/60 Hz)

U11300ip-230

3B NET*log*™ with Ethernet port (230 V, 50/60 Hz)

U11300ip-115

3B NET*log*™ with Ethernet port (115 V, 50/60 Hz)

U11310

3B NET*lab*™

3B NET*lab*™ is a data acquisition and data processing programme for the 3B NET*log*™ interface that can also be operated in a network. As it is based on ActiveX technology, all the available functions can be integrated into web pages that can be displayed and used with the Microsoft Internet Explorer browser.

The main function of 3B NET*lab*™ is computer aided experimentation for science education. For that purpose, a large number of experiment instructions are available in the form of web pages. Users can navigate through these in the same way as they would browse the Internet and all the operations can be controlled with the help of facilities incorporated into the web pages at appropriate points.

Experiment instructions for carrying out experiments can also be written by teachers using standard HTML tools and the programming environment made available for the purpose. All kinds of Internet tools and technologies, such as multimedia sequences, animations, films, etc. can be incorporated into the experiment files.

A software measuring lab is available for solo experimentation that leverages all the functions of the functions of 3B NET*log*™ interface device. A wide range of graphical tools is available for processing experimental data. Thanks to its networking capability, 3B NET*lab*™ is ideally suited for use in schools. It enables teachers to check on the status and results of student's experiments from their own desk. Conversely, an experiment that is being carried out by the teacher can be followed by students on their own monitor screens.

Licensing:
3B NET*lab*™ contains a specified location license for the normal use of the computer programme throughout a school or educational establishment, including the preparation of school or student work at home.

System requirements:
Windows 2000/XP
Microsoft Internet Explorer 6 or higher
Intel Pentium III / AMD Athlon 600 MHz or higher
128 MB RAM
100 MB free hard-disk space
Monitor with a resolution of 1024x768 pixels or higher
USB port

U11367

Measuring the sound waves of a tuning fork

U11396

ECG/EMG Box

Sensor box for reading electrocardiograms (ECGs) and electromyograms (EMGs) on skeletal musculature in three standard leads as defined by Einthoven. Feeds can be selected at the press of a button and are indicated by LEDs.

Input resistance:	> 10 MΩ
Output voltage:	max. ± 1 V
Blocked frequency:	50 - 60 Hz

NEW

U11321

Relative Pressure Sensor, ±100 hPa

Measurement range:	0 – ±100 hPa
Accuracy:	± 1%
Sensor type:	Semiconductor sensor
Hose nipple:	4 mm dia.
Silicone tube:	1 m

U11320

Absolute Pressure Sensor, 2500 hPa

Measurement range:	0 – 2500 hPa
Accuracy:	±1%
Resolution:	1 hPa
Sensor type:	Semiconductor sensor
Hose nipple:	4 mm dia.
Plastic syringe:	20 ml
Silicone tube:	1 m

U11364

Light Sensor

Measurement ranges:	0 – 600 lux, 0 – 6000 lux, 0 – 150,000 lux
Resolution:	0.8 lux, 8 lux, 200 lux

U11330

Temperature Sensor, Pt100

Measurement range:	-50°C – 150°C
Resolution:	0.1° C
Accuracy:	0.1% of measured value plus 0.25°C
Sensor cable:	1 m, with silicone insulation
Sensor type:	Pt100 thermocouple

U11336

Humidity Sensor

Measurement range:	0 – 95% (non condensing)
Sensor type:	Capacitive sensor
Accuracy:	3% of RH plus 1% in the range from 0% –95% 5% of RH plus 1% in the range from 0% –5%
Resolution:	0.1%
Response time:	15 s

U11335

Conductivity Sensor

Measurement ranges:	0 – 200 µS, 0 – 2 mS, 0 – 20 mS
Resolution:	1 µS, 10 µS, 100 µS
Sensor type:	Measurement electrode using four wire technology, with graphite cells and integrated Pt100 temperature sensor
Accuracy:	5% without calibration, 0.5% with calibration
Sensor cable:	1.5 m

U11395

Blood Pressure Sensor

Sensor box for measuring blood pressure of a test subject using the oscillometric method with the aid of a cuff to fit around the extremities. It is possible to determine the highest systolic and lowest diastolic pressures, evaluate of pulse rate by means of an acoustic sensor and illustrate the Korotkov sound.

Pressure range:	0 mm Hg to 300 mm Hg (0 to 400 hPa)
Overload-proof:	Up to 1500 hPa
Sensor type:	Precision pressure sensor, calibrated and temperature compensated

.

NEW

U11323

Relative Pressure Sensor, ±1000 hPa

Measurement range:	0 – ±1000 hPa
Accuracy:	± 1%
Sensor type:	Semiconductor sensor
Hose nipple:	4 mm dia.
Silicone tube:	1 m

U11367

Microphone

Frequency range:	50 Hz – 20 kHz
Microphone cable:	2 m

U11392

Human Pulse Sensor Box

Measurement range:	Pulse rates from 40 – 160 beats/min
Safety category:	Safety class II, classification BF

U11325

Barometer

Measurement range:	700 hPa – 1200 hPa
Resolution:	0.1 hPa
Accuracy:	1.5% of the maximum value of the measuring range
Sensor type:	Semiconductor sensor

U11393

Skin Resistance Box

Input resistance:	>100 kΩ
Safety category:	Safety class II, classification BF

U11350

pH Sensor

Measurement range:	pH 0 – 14
Sensor type:	Ag-AgCl combination electrode, gel filled, not refillable
Accuracy:	pH 0.05 in range from 20°C – 25°C
Resolution:	pH 0.01
Response time:	≤ 1 s to reach 95% of final value

Additionally recommended:
U11351 Buffer Solution

U11351

Buffer Solution

Set of buffer solutions in three flasks with pH values of 4.00, 7.00 and 9.00.

Volume:	250 ml each

pH-Indicator Test-Sticks
For fast pH-value determination . The indicator area on the plastic stick will not fade out (will not bleed). Clearly distinguishable scaling. Package with 100 tapes. Description in English and German.
9x6.5x1 cm; 0.05 kg

W11708

Oxygen Test Kit Complete
The test kit contains sufficient solutions for carrying out 110 oxygen – tests. All the necessary material for carrying out the tests are stored in an easy to survey, practical portable box. Content: 6 bottles of reagent and titration solution, glass bottle, special vessel and syringe with slip on spout. Description in English and German.
25x12x6 cm; 0.9 kg

W11723

W11723
Measuring Range pH 0 – 14

W11725
Measuring Range pH 4,5 – 10

W11724
Measuring Range pH 0 – 6

W11726
Measuring Range pH 7 – 14

W11706

Oil-Test Paper and pH Test Paper
To test for oil in water or in soil and to find hydrocarbons, especially in fuel (Diesel) and motor oil. Even if the water is self-coloured, a deep blue colouring of the test tape indicates even a small oil content. Package with 100 tapes 20 x 70 mm. Description in English and German.
8x5x2.5 cm; 0.07 kg

W11706

W11728

W11728

Universal Indicator Paper
Universal indicator paper for pH 1 – 11 measurements. The roll (5 m long and 10 mm wide) is contained in a plastic dispenser (pH gradation 1.0) with a reference colour scale.
6x6x1 cm; 20 g

W11710

Watertest Laboratory
A really compact box – laboratory for a fast analysis of waters (e.g. drinking, water, surface water, water of aquaria). All the applied chemicals are neutral in reaction to the environment, which means, none of the test solutions endanger water. The used test solutions can be disposed of via the home waste water system. Sufficient for 50 to 60 tests:
- Ammonium 0.05-10 mg/l
- Nitrate 10-80 mg/l
- Nitrite 0.02-1.0 mg/l
- Phosphate 0.5-6.0 mg/l
- ph-Value 5.0 – 9.0
- 1 Drop = 1° German hardness (dh).

Description in English and German.
33x22x4 cm; 1.2 kg

W11710

W11711

Complete Refill Kit Content

ECOLABBOX

The ECOLABBOX puts a really portable laboratory at your disposal for the first time, so you can carry out water and ground analyses directly on local sites. Forty-five experiments can be carried out with this special case. The most important substances that influence our environment are detected and measured here. The high-quality case lining is stable, water repellent and extremely easy to clean. The case and its lining are made of 100% recycled polypropylene.
An adjustable shoulder strap makes it easy to carry, for example on a bicycle. It is suitable for environmental groups and schools (for children over 10 years of age). Contents:

- Manual with 80 pages, including coloured illustrations, tables and detailed explanations in German and English
- Reagent set for 59 experiments from pH 3 to 9; ammonium 0.05 to 10 mg/l; nitrite 0.02 to 1.0 mg/l; nitrate 10 to 80 mg/l; phosphate 0.5 to 6 mg/l; water hardness: 1 drop for 10° dH (degrees of German hardness)
- Extracting liquids for ground analyses for at least 20 pH, nitrate, phosphate and ammonium experiments.
- Colour comparison card for relaying measured values.
- Filtering tripod for filtering without spillage that can be directly mounted in the case.
- Pocket magnifying glass with a magnification of 2 and 4, special brush for micro organisms, waterproof mat for biological experiments.
- Aids, such as sample glasses, filter paper, laboratory bottles with a wide mouth and measuring beakers.
- DIN A2-sized posters for entering measurement results and further explanatory illustrations.

38x30x11 cm; 3.8 kg

W11712
ECOLABBOX – German

W11720
ECOLABBOX – English

W11704
W11705

W11702

Robust Wire Sieve Net

Especially robust reinforced net version. This landing net also has a reinforced net at the edges and therefore allows you to catch small animals directly off the ground. Any possible bending is avoided by the strong and simple construction. Length: 100 cm. Diameter: 200 mm.
21x12 cm; 0.5 kg
Delivery without telescope pole.

W11700

Water Landing Net

A very robust water landing net with a nylon net, for catching fleas, bugs, floating particles and water insects. Holes 0.8 mm. Diameter of the net ca. 200 mm, depth 310 mm adaptable to the telescope pole (W11703).
150x270 cm; 0.05 kg
Delivery without telescope pole.

Plankton Net, with 65 µl gauze

Sturdy plankton net version – made of screen gauze – is to be used with the telescope pole, thread inclusive, 200 mm diameter. A collecting, screwable vessel with 100 ml content is located at the end of the net. 21x2 cm (dxh); 0.225 kg. Delivery without Telescope Pole (W11703)

W11704
Plankton Net, with 65 µl gauze

W11705
Plankton Net, with 105 µl gauze

Options for W11700, W11702, W11704, W11705

W11703
Telescope Pole Universal
Extendable from 150 to 270 cm

W11700


W11600


W11606


W11607

W11600

Box Magnifying Glass

Its size and the range of uses to which it can be put make the box magnifying glass ideal for field trips. The magnifying lens is made of plastic and magnifies by a factor of 5. The removable magnifying cover with its 30-mm diameter lens contains air holes so that small creatures can be observed for long periods.
Height 65 mm; Diameter 55 mm Ø

Magnifying Glass on Stand

The magnifying glass on its stand allows you to observe small plants or insects at ease, keeping both hands free. Two pre-calibrated glass lenses are attached to the transparent acrylic base in plastic holders.

W11601


W11603


W11602

W11603

Pick Glass, large

This version has a holder attached to make it easy to observe objects. A window of area 3.5 cm² has a cm/inch scale that allows objects to be measured in the desired system. The plastic magnifying glass folds shut and has a lens of 50 mm diameter that magnifies by a factor of 3.5.
8x5.5x2.5 cm

W11601

Fold-out Magnifying Glass

Pocket-sized precision optics. This is a fold-out magnifying glass with a diameter of 18 mm and a magnification factor of 10. It has a metal frame painted black and a metal case with hanging eye. Supplied in a leather pouch.
4x3.5x3.5 cm

W11717

Two Way Magnifying Glasses

The built in mirror and the removable top part of this fine magnifying glasses allows observation of small animals, bugs, insects and plants from top and bottom. Size of bottom of the glass 50 x 50 mm. The top part can be used as an extra lens. Mangnification approx. 3 x.
21x14x13 cm; 2.6 kg


W11717


W11718


W11604


W11605

W11604

Magnifying Glass with Handle

A practical magnifying glass for everyday use!
An all purpose magnifying glass in a plastic frame with a handle provides assistance of professional quality to scientists and hobbyists alike with a lens 5 cm in diameter and a magnification factor of 3.5.
14x6x1.2 cm

W11605

Ergonomic Magnifying Glass with Handle

This magnifying glass with plastic frame offers a comfortable ergonomically designed handle and is provided with two separate lenses:

First lens Ø 75 mm:	magnification: 3.5x
Second lens Ø 15 mm:	magnification: 10x
Length:	13.5 cm

W11606

Magnifying Glass on Stand

10x magnification and a lens diameter of 2 cm.
5x5x4.5 cm

W11607

Magnifying Glass on Stand

7x magnification and a lens diameter of 5 cm.
8x8x6.5 cm

W11602

Pick Glass, small

The anodised aluminium fold-out magnifying glass has a diameter of 21 mm in spite of its small size and magnifies by a factor of 6. A window of area 1.5 cm² has a cm/inch scale that allows objects to be measured in the desired system. Supplied in a leather pouch.
4x3x1.2 cm

W11718

Large Magnifying Glasses with Stand

The large lens of 100 mm diameter, the small additional turnable magnifying glass as well as the tripod not only allow the use of 3 magnification steps, but also a very good and comfortable opportunity to work with it and study objects.
Magnification steps:
1. large lens 2 x
2. small lens 2.5 x
3. small and large lens 5 x
120x70 mm; 24 mm Ø. 15x13x13 cm; 0.2 kg

Bottle Magnifying Glasses with Millimetre Grid

Crystal-clear, round bottle of plastic with lid, integrated lens and millimetre grid on the bottom. Therefore it is possible to determine the size of animals and plant part quite accurately during the observation.

W11722

Bottle Magnifying Glasses with Millimetre Grid 500 ml

Lens 110 mm diameter, magnification approx. 2.5 to 3 x.
11x 8.5 cm; 0.15 kg

W11716

Bottle Magnifying Glasses with Millimetre Grid 250 ml

Lens 83 mm diameter, magnification approx. 4 x.
11x8 cm; 0.15 kg


W11716


W11722

W57901

Student Dissecting Kit

Excellent value for your classroom! Ideal for both junior and secondary school students. Complete set of instruments includes tools for routine dissection labs.

Kit includes:

- Ruler 15 cm
- Screw-lock blade scalpel
- Scalpel blade
- Dropping pipette
- Student scissors
- Straight teasing needle
- Curved teasing needle
- Medium point forceps
- Leatherette case

7.6x17 cm; 0,1 kg

W57901

W57902

Elementary Dissecting Kit

Excellent value for your classroom! Ideal for junior school students. Complete set of instruments includes tools for routine dissection labs.

Kit includes:

- Ruler 15 cm
- Dissecting scalpel
- Dropping pipette
- Dissecting scissors
- Straight teasing needle
- Curved teasing needle
- Medium point forceps
- Leatherette case

7.6x17 cm; 0,10 kg

W57902

W57903

Biology Dissecting Kit

Includes the stainless steel and chrome instruments presented in a deluxe, single-fold, lined vinyl case.

Kit includes:

- Ruler 15 cm
- Dissecting knife handle
- Scalpel blades
- Dropping pipette
- Straight operating scissors 14 cm
- Seeker probe
- Straight teasing needle
- Medium point forceps
- Leatherette case

7.6x17 cm; 0,15 kg

W57903

W11610

Dissecting Set

Deluxe dissecting set fit for a skilled instructor

Encased in an attractive vinyl case lined with velvet, the kit includes the following high-quality stainless steel tools:

- 1 fine scissors, sharp tip, 11.5 cm
- 1 large scissors, 1 sharp tip, 1 blunt tip, 13.5 cm
- 1 fine forceps, serrated, sharp tip, 12 cm
- 1 large forceps, serrated, blunt tip, 13 cm
- 1 one-piece scalpel, 4 cm blade
- 1 straight needle, 13 cm
- 1 lancet needle, 15 cm
- 1 Dumont forceps, 11 cm
- 1 scalpel handle, 14 cm
- 5 scalpel blades, 6 cm

21x13x3 cm

W11610

W22003

Preparation Set

This set is supplied in a stackable transparent plastic box and consists of:

- Needle in holder, straight (2 pieces)
- Forceps, fine, 130 mm
- Microscopical scissors, straight
- Scalpel handle No. 4
- Set of 5 scalpel blades, slightly curved

W22003

W57904

Large Dissecting Kit

Kit includes:

- Ruler 15 cm• Dissecting knife handle
- Curved scalpel blades
- Full convex blades
- Section lifter
- Curved dissection scissors 12 cm
- Straight operating scissors 14 cm
- Hemostatic forceps 12.5 cm
- Hemostatic forceps 16.5 cm
- Seeker probe
- Straight teasing needle
- Curved teasing needle
- Dressing forceps 12 cm
- Dressing forceps 13 cm
- Retraction hook
- Leatherette case

33x19 cm (opened); 0,25 kg

W57904

W16150

W16151

W16150

Stethoscope

Ideal for introducing your students to ‚Blood and Circulation' or for reinforcement of the topic. This good value for money stethoscope comes with a flat chestpiece and black tube.

W16151

Blood Pressure Meter

Excellent for realistic biology lessons. This robust sphygmomanometer consists of an easy-care arm cuff made of cotton, an uncomplicated rubber ball pump and a display scale for readings up to 300 mmHg.
Supplied in a case.

W13672 W60088

W60081

M3 Electronic arm blood pressure meter (Omron)

- Large screen
- Simultaneous display of all readings; Diastole, Systole, Pulse and Time
- Detection of irregular heart beats
- Saves up to 42 measurements, indicating the date and time of the blood pressure measurement
- Intellisense system. Average of last 3 measurements
- Indication of blood pressure outside acceptable norms
- Delivered with storage case and set of batteries
- Clinical validation. 3 year warranty

W13672

High Tech Flowmeter (spirometer)

Expiration control
Flow rate scale from 50 to 800 litres/min.
Supplied with a washable plastic mouthpiece.

W13673

Set of 100 Single Use Cardboard Mouthpieces.

Optional for W13672 Flowmeter.

W60088

Piko 1 Electronic spirometer

Carries out 2 types of measurement:

- Measurement of peak expiratory flow rate (scale of 15 to 999l/min)
- Measurement of maximum expiratory volume per second (scale of 0.15-9.99 litres)

Pocket-sized model (35 g, dimensions: 75x35x20 mm). Very easy to use: Just one button. Memory recall of 96 measurements. LCD screen.

Delivered with 2 reusable mouth-pieces (1x child, 1x adult) and 2 batteries.

W60083

Cardio HITRAX Pulse

Indication of day, time, hour, minute, second, with a display showing heart rate, maximum and average heart rate, and stopwatch (1/100e s).
Back lighting LED. Alarm. Delivered with thoracic belt.
2-Year Warranty.

W60083

W16120

Sensory Physiology Kit

Very interesting experiments for the secondary level of education
This sensory physiology kit allows students to conduct various experiments in the fields of hearing, seeing and feeling. All the contents of the kit are supplied. The experiments and the underlying principles are of course described in detail in the supplied instruction manual.
Experiment topics:

- Sense of touch (tactile sense)
- Perception of distances between tactile spots
- Heat and cold perception of the skin
- Blind spot
- Optical and haptic illusions Colour vision
- Flicker colours and motion after-effect
- Inversion of the image in the brain using inverting goggles
- Directional hearing
- Hearing own body noises

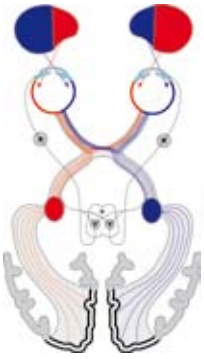
Supplied with: Carrying case with foam inserts, instrument for directional hearing, resonance tube, calipers, tactile hair, cold/hot probe, 4 transparent plastic cards for geometrical-optical illusions, “blind spot” test card, light-proof goggles with 8 attachments, 2 inversion prisms for the goggles, controllable motor with wall plug transformer, 3 pattern discs, experiment instructions on CD-ROM (pdf file) in German or English.
38x29x11 cm
D/E

W16120

U8476730

Inverting Spectacles

Complete with two fully rotating inverting prisms in a shielded spectacle frame. The inverting prisms produce a lateral inversion of the rays – the world thus turns "upside down".
Besides being a lucid demonstration of the functioning of an inverting prism, experiments involving inverting spectacles encourage a better understanding of the visual process and the functioning of the brain. This also enables a better understanding of the visual perception of babies. Even the apparently simplest things in life (holding and picking up objects, drawing, orientating oneself in a room) become inconceivably difficult.



Human optic pathway

U8476730

Interactive Atomic Model According to Bohr for your Physics, Chemistry and Biology Classes

This didactically excellent training model greatly simplifies the teaching and understanding of Bohr's model of the atom. The practical hands-on model illustrating the underlying theory allows students to comprehend the topic more directly. Science classes automatically become more 'real', easier to grasp and fun to do!
Learning content:
- Atoms, isotopes, ions, noble gas configurations, structure of the elements, covalent bonds, ionic bonds
- Elements, atomic mass, atomic number and the periodic table

Each class kit (W19900/W19901) contains 8 student training models (W19902) as well as 2 demonstration atoms for the teacher. With this completely magnetic demonstration atom you will be able to clearly and quite easily explain Bohr's atomic model to your students on the blackboard. Using the training atom your students will be able to construct their own atoms, isotopes, and even ions. In this manner natural science teaching becomes concrete, simple and lots of fun! Each student training model includes a flat round plastic container holding 30 protons, neutrons and electrons. The lid and the turned-over lower part of the container each represent an atom with orbits.

All the benefits at a glance:
- Inter-disciplinary learning game
- Suitable for individual, partner and group work
- Playful learning of natural science subjects
- Easy understanding of processes and structures at the atomic level
- Simple and lots of fun to use
- Appealing 3D design
- Convenient storage

2 completely magnetic demonstration models for the teacher

W19900

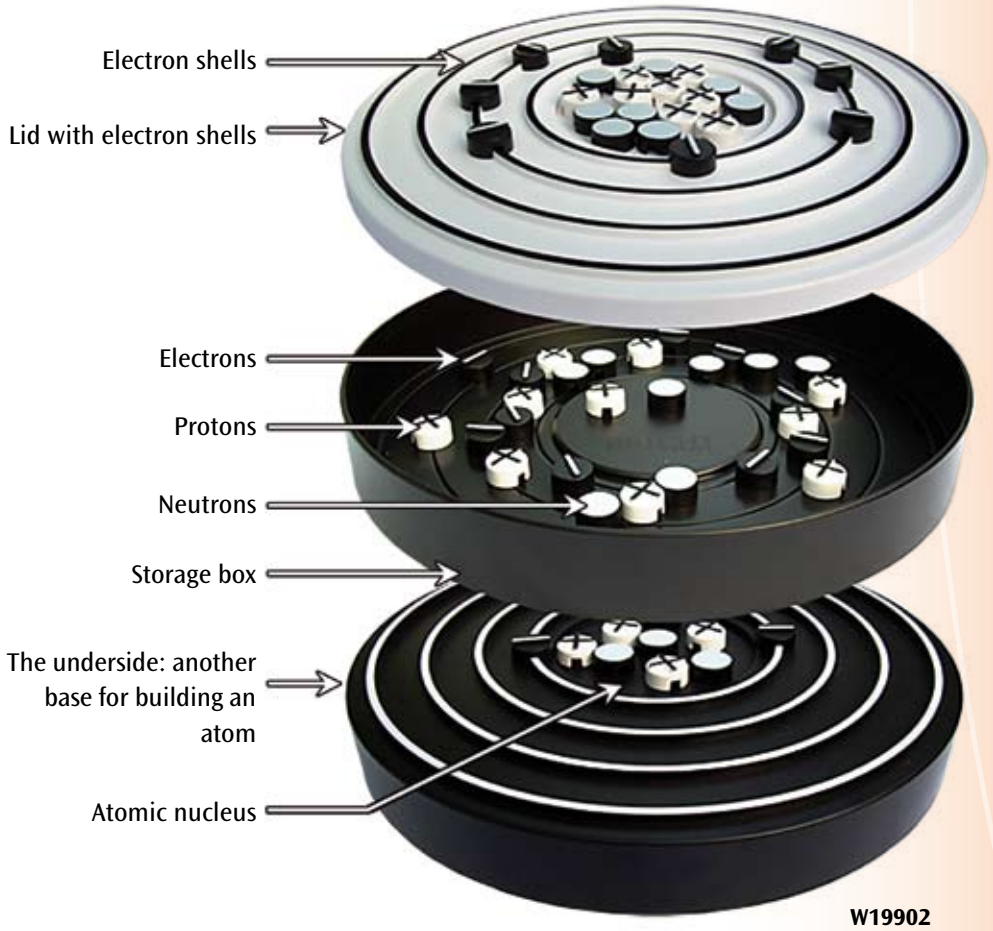
Class Kit for Whiteboard
Each class kit for 1 teacher and 8 student groups comes with 2 completely magnetic demonstration models for the teacher (1 white background sheet to be hung up, 2 black atomic nuclei, each with 8 black orbits, 20 protons, electrons and neutrons), 8 student training models each with 2 atoms, 30 protons, 30 neutrons and 30 electrons, instructions.
D/E/S/F/I/P

W19901

Class Kit for Blackboard
Each class kit for 1 teacher and 8 student groups comes with 2 completely magnetic demonstration models for the teacher (1 black background sheet to be hung up, 2 white atomic nuclei, each with 8 white orbits, 20 protons, electrons and neutrons), 8 student training models ach with 2 atoms, 30 protons, 30 neutrons and 30 electrons, instructions
D/E/S/F/I/P

W19902

Student Training Model
Supplied with 2 atoms, 30 protons, 30 neutrons and 30 electrons



Student training model

W48927

EdvoCycler™ PCR Machine

Polymerase Chain Reaction (PCR) is one of the most exciting techniques in modern biology and now you can do it in your classroom!
PCR copies a very small starting amount of DNA so it can be analyzed. It won the Nobel Prize in 1993 and is widely used in forensics, medical testing and genetics research.
It uses repeated heating and cooling in the presence of the enzyme DNA polymerase to copy a piece of DNA (the template). The exact region copied is determined by short stretches of DNA called primers. The ability to make lots of copies quickly of a particular region of DNA makes PCR a very useful technique in modern biology.
The EdvoCycler is a specially designed classroom PCR machine that is easy to use. Your students can amplify DNA from a variety of sources, including from a single hair, with one of our PCR kits.
The EdvoCycler is pre-programmed with PCR protocols and these are simply selected using the screen. A PCR run takes about 1 or 2 hours (or can be done overnight) and the samples are then visualized using DNA electrophoresis.

Features:
- Holds 25 x 0.2ml tubes
- Heated lid with magnetic catch
- Pre-programmed with all Edvotek PCR kit protocols
- Vivid LCD display with live programme information
- Easy to use

41x22x18 cm
🕮 **D/E/ F/S/I**

W48925

Piccolo Centrifuge™

Our small and economical microcentrifuge is suitable for many classroom applications. These include: quickly spinning down samples and for mixing solutions during DNA electrophoresis and PCR experiments.

Features:
- Maximum speed 6,000 rpm/2,000 x g
- Safe on/off switch
- Starts and stops in seconds
- Capacity for 6 x 1.5/2.0 ml tubes
- Dimensions (W x D x H) 15 x 15 x 12 cm

🕮 **D/E/ F/S/I**

W48926

Digital Waterbath (1,8 l)

A fully featured digital waterbath at an economical price!
An excellent waterbath for many classroom experiments. The stainless steel chamber is corrosion resistant and temperature controlled from ambient to 95°C with cover. There is a low water sensor and the waterbath is deep enough to accommodate many bottles and flasks.

Features:
- Chamber Dimensions (W x D x H): 15 x 14 x 10 cm
- Low water sensor
- Digital display
- Temperature range: ambient to 95°C with cover

🕮 **D/E/ F/S/I**

W48928

Mitochondrial DNA Analysis Using PCR

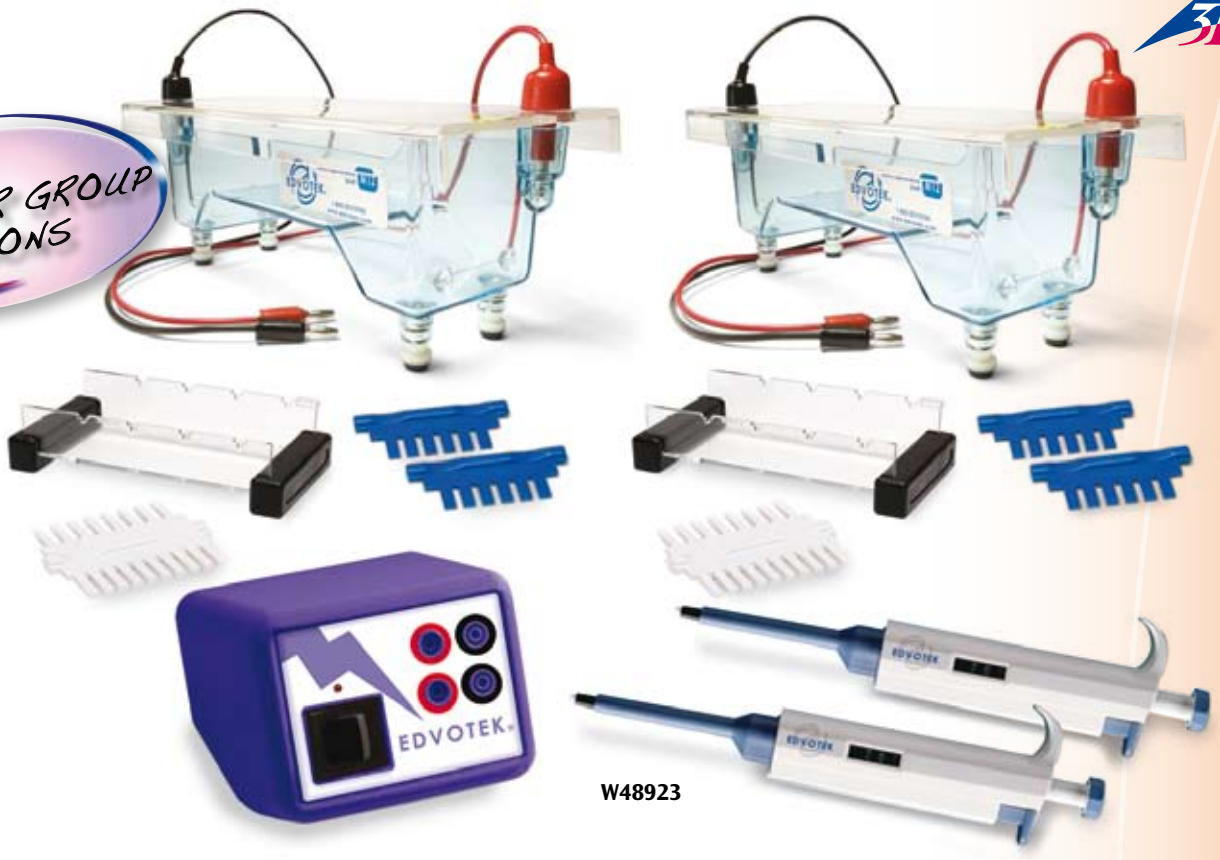
In this experiment, your students will use the Nobel Prize winning technique polymerase chain reaction (PCR) to amplify two regions of DNA from their mitochondria.
The mitochondria are thought to have evolved from a symbiotic relationship between prokaryotic and eukaryotic cells. Thus as mitochondria have their own DNA that is only inherited via the maternal line they are often used in studies of evolution.
This kit shows how PCR is able to amplify DNA from just a few cells. This ability has made PCR very useful to study evolution and in forensics and genetic testing.
Your students carry out a simple DNA extraction, followed by PCR, then analyse the results using DNA electrophoresis.
Kit includes: instructions, proteinase K, PCR beads, control DNA and primers, microtubes, chelating agent, agarose, DNA ladder, practice gel loading solution, gel loading dye, electrophoresis buffer, gel stain.
All you need: micropipettes to measure between 5 and 50 µl, tips, waterbath, thermal cycler, electrophoresis tank and power supply.
For 25 Students

Time required:
Set up 30 min.
PCR 2 hours or overnight
Electrophoresis 45 min.

🕮 **D/E/ F/S/I**

Some components of this kit have to be stored at -20 °c f

IDEAL FOR GROUP LESSONS



W48923

W48923

Dual DNA Electrophoresis LabStation™

This set contains all you need for any classroom DNA electrophoresis experiment!
The DNA electrophoresis tanks are durable and injection-moulded horizontal units designed for ease of use and safety. Included with the unit are two 6-Tooth combs and a double 8/10-Tooth comb allowing separation of up to 16 samples simultaneously. The 7 x 14 cm gel casting tray has an embossing gel ruler and includes innovative rubber end caps which seal the tray making gel casting easier than ever! Both the electrophoresis chamber and the gel casting tray are UV transparent.
The Dual Power Source (70/125 V) is designed for DNA or protein electrophoresis. The unit generates DC power of 70 or 125 volts with a maximum current of 250 mA. It is equipped with an easily replaceable slow burn fuse and is CE approved.
The variable micropipettes are sturdily designed with volumes ranging from 5 to 50µl. They are very precise and use standard disposable micropipette tips. They are simple to use. A tool and instructions are included for self-calibration.
Supplied with: 2 Horizontal Electrophoresis Apparatus (one 7 x 14 cm gel tray in each), 1 Dual Power Source (70/125 V for 1 or 2 units) and 2 Variable Micropipettes (5 - 50 µl).
36x36x25 cm; 4 kg
📖 D/E

W48924

Polymerase Chain Reaction

This experiment for 6 lab groups introduces students to the principles, practice and applications of the Polymerase Chain Reaction (PCR) without the need for a PCR machine!
Polymerase Chain Reaction (PCR) has had an extraordinary impact on various aspects of biotechnology. With PCR, DNA can be amplified and studied. Since the first application of PCR (using the Klenow fragment) to detect sickle cell anaemia, a large number of diagnostic tests have been developed. PCR has made amplification of DNA an alternate approach to cloning experiments. It is used in genome projects in DNA mapping and DNA sequencing. PCR amplification is also being applied to forensic and paternity determination, as well as determination of evolutionary relationships.
This simulation experiment does not contain human DNA and does not require a thermal cycler. It is completed in 45 minutes.
Kit includes: Ready-to- Load™ DNA samples, Ultraspec™ agarose powder, practice gel loading solution, electrophoresis buffer, Instastain® Methylene Blue and Methylene Blue Plus™ stain, calibrated pipette,
100 ml graduated cylinder and microtipped transfer pipettes.
All you need: Electrophoresis tank, power supply, automatic micropipette and tips, balance, microwave or hot plate.
Please note that an electrophoresis station is required.
30x10x10 cm; 0.5 kg

W48924

W55800

Simulating DNA Paternity Testing

Use agarose gel electrophoresis to test family ties

Simulate how DNA fingerprinting can be used to identify the genetic relationship between child and an alleged father. Your class will use the results of an electrophoresis of non-human DNA, their knowledge of human inheritance and their scientific problem solving skills to solve a scenario-based paternity case and determine the identify of a child's father.

Supplied with 3 DNA samples (mother's DNA, alleged father's DNA, child's DNA) each 150 ml, 2 TBE Buffer concentrate (125 ml) 10X, 1 Melt and Cast agarose gel (400 ml) 0.8%, 1 Neo/BLUE DNA stain concentrate (100 ml) 10X, 1 Staining tray, description.

Please note that an electrophoresis station is required.

30x22x10 cm; 1.5 kg

D/E/S

W55800

W55795

Genetic Diagnosis of Cancer

Your students will learn how revolutionary breakthroughs in gene technology can be used to not only detect cancer but predict its occurrence based upon hereditary traits. They'll use the electrophoresis results of non-human DNA samples to simulate this procedure. In the process, they'll detect a specific cancer and study the hereditary tendencies of the condition.

Supplied with DNA samples (Mary's DNA, Samantha's DNA, Fran's DNA, Normal Control DNA) each 150 ml, 2 TBE Buffer concentrates (125 ml) 10X, 1 Melt and Cast agarose gel 0.8% (400 ml, 1 Neo/BLUE DNA stain concentrate (100 ml) 10X,1 Staining tray, description.

Please note that an electrophoresis station is required.

30x22x10 cm; 1.5 kg

D/E

W55795

W55798

DNA Forensics

Become a DNA forensic scientist! Teach the latest innovations in DNA technology and their application to forensic science through this scenario-based DNA murder mystery. Your class will compare the results of the electrophoresis of DNA samples from a "crime scene" as well as from various suspects. They'll then use a simplified DNA fingerprinting procedure to solve the murder based upon the DNA fragment patterns revealed on the gel. Students will learn the basics of DNA fingerprinting and why this revolutionary process is so highly accurate. They'll also learn about DNA structure and extraction, gel electrophoresis and autoradiography. This activity may also be used to stimulate discussion of other "real-world" applications of this cutting-edge technology as well as the ethical considerations involved.

Supplied with 4 DNA samples (crime scene DNA, victim's DNA, suspect 1 DNA, suspect 2 DNA) each 150ml, 2 TBE buffer concentrate (125ml) 10X, 1 Melt and Cast agarose gel (400ml) 0.8 %, 1 Neo/BLUE™ DNA stain concentrate (100ml) 10X, 1 Staining tray, description.

Please note that an electrophoresis station is required.

30x22x10 cm ; 1.5 kg

D/E/S/I

W55798

W55797

Diagnosing Gene Defects

Examine the genetic mutation responsible for sickle cell anaemia

Your students will use agarose gel electrophoresis to study sickle cell anaemia – a painful and ultimately fatal condition resulting from a genetic mutation which alters the body's haemoglobin. They'll search for changes in a nonhuman DNA sample to diagnose sickle cell anaemia. In the process, they'll learn about genes and how genetic mutations can cause disease.

Supplied with 4 DNA samples (mother's DNA, father's DNA, daughter's DNA, unborn child's DNA), each 150 ml, 2 TBE Buffer concentrate (125 ml) 10X, 1 Melt and Cast agarose gel (400 ml) 0.8%, 1 Neo/BLUE DNA stain concentrate (100 ml) 10X, 1 Staining tray, description.

Please note that an electrophoresis station is required.

30x22x10 cm, 1.5 kg

D/E

W55797

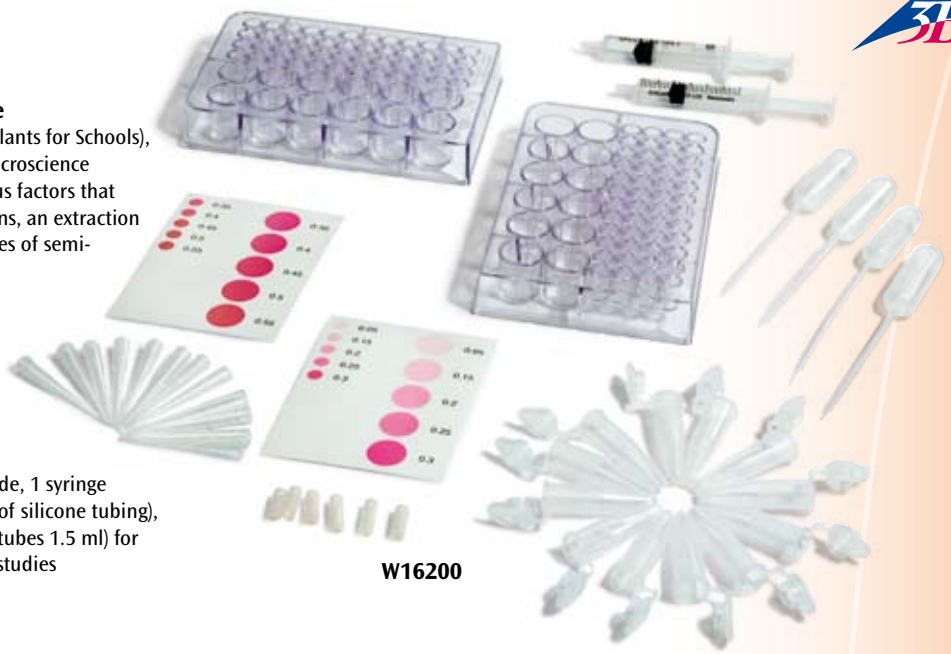
W16200

Plant Enzyme Kit - Microzyme Phosphatase

This new kit was developed at SAPS (Science and Plants for Schools), Homerton College, Cambridge, UK. The kit uses Microscience techniques to help students understand the various factors that influence enzyme activity. Starting with Mung Beans, an extraction of Phosphatase is accomplished followed by a series of semi-quantitive measurements. These include:

- Phosphatase activity
- Effect of pH on activity
- Effect of concentration on rate
- Effect of temperature (Heat Stability)
- Effect of time on product formation
- Effect of inhibitors on activity

Supplied with: 1 Comboplate®,
1 pack of pipettes, 1 spatula and forceps, 1 pH guide, 1 syringe (1 ml), 1 x 1 ml syringe with adaptor (short length of silicone tubing), 10 micropipettor tips, 2 polypropylene microfuge tubes 1.5 ml) for centrifuging, 20 microfuge tubes for temperature studies
30x27x10 cm; 0.2 kg
D/E



W16200

W16130

Blood Typing with Rhesus factor

This long-life experimental kit allows your students to determine blood groups with Rhesus factor without any risk of infection. They can examine the artificial "blood" of 4 fictitious people and determine their blood group and Rhesus factor. Distinct agglutinations can be seen. The size of red and white "blood corpuscles" and the number of corpuscles per mm^3 can be determined using a microscope.
Supplied with: 4 dropper bottles of artificial blood (A, B, AB and 0), 1 dropper bottle each of artificial anti-A, anti-B and anti-Rh serum, 48 washable permanent test trays with 3 wells, 50 mixing sticks, detailed teacher's information with agglutination diagram. The supplied materials suffice for approx. 45 to 50 samples.
24x17x6 cm
D/E

W16130

W55885

Osmosis Simulation Activity Model

A striking, visual demonstration of osmosis!
Quick and easy demonstration provides a solid understanding of osmosis and how it occurs. Your students will gain insight into this critical process as water diffuses across a semi-permeable membrane from an area of higher concentration to an area of lower concentration. The process can be repeated using a variety of solutes in varying concentrations to observe the change in results. The outcome can even be quantified by measuring the amount of liquid that traveled across the membrane.
Supplied with 2 L-Shaped clear tubing, 1 Capillary tube, 1 One-hole rubber stopper, 1 Stand, 1 Food colouring solution (30 ml), 1 Rubber band, 1 Ruler, 10 Semi-permeable membrane sheets, 1 Sucrose (171 g).
30x22x10 cm; 1.5 kg
D/E/I

W55885

W55886

Visualizing Osmosis and Diffusion

Vividly demonstrate selective permeability using coloured solutions
Starting with a model cell and a mixture of special dye solutions, your students will observe how the cell's membrane allows one dye to pass, while the other remains within the cell. The resulting colour change provides a vivid demonstration of selective permeability and how the cell absorbs nutrients and discharges waste. The class will also learn how osmosis and diffusion permit the maintenance of equilibrium through the passive transport of water through the cell's semi permeable membrane.
Supplied with 1 Red dye solution (30 ml), 1 Blue dye solution (30 ml), 20 clear cups, 1 Dialysis tubing (4 m), 1 Glucose solution (250 ml), 50 Glucose test strips, 60 Medicine cups, 20 Plastic pipettes, 1 Starch indicator solution (30 ml) (IKI), 1 Starch solution (250 ml), 1 String (4m).
32x24x17 cm; 3 kg
D/E

W55886

W59841

ELISA HIV/AIDS-Test

AIDS is already an important topic for secondary school students! But how does an AIDS test work?
The students study the immunobiological phenomenon of the antigen-antibody reaction. They learn that the ELISA immunoassay is an important tool to detect the HI virus. They simulate ELISA screenings with artificial blood serum of 10 fictitious individuals to determine their HIV status. In this way, they gain insight into the field of immunobiology and the particular meanings of terms such as “positive” and “negative” and “false positive” and “false negative”. The students get to know basic concepts of immunobiology and understand how the ELISA HIV screening test works. They observe simulated ELISA antibody-antigen reactions and finally analyze the ELISA test result.
Supplied with:
20 8-microwell strips, 8 Micro-spatulas, 10 Plastic pipettes, 10 Medicine cups, 2 Vials with glass beads coated with simulated HIV antigen, Simulated anti-human antibody enzyme linked conjugate (10 ml), 2 Simulated chromagen (10 ml), 9 Simulated patients sera (10 ml), 1 Simulated negative control serum (10 ml), 1 Simulated low positive control serum (10 ml), 1 Simulated high positive control serum (10 ml), description.
30x22x10 cm; 1.5 kg
D/E

W59841

W55716

Population Genetics and Evolution

Collect and analyze data of readily observable genetic traits! Your students will determine the phenotype, genotype and frequency of easily observed human traits. Then they’ll identify the dominant and recessive genes for each trait. With the class as a sample population, your students will use a variety of taste test papers to determine the percentage of individuals who can detect a unique taste. They’ll then apply the Hardy-Weinberg Principle to calculate the allele frequencies for this trait and compare their class data with an ideal population. In the second part of this lab investigation, your students will use allele cards to model allele frequency change in an ideal population, a population on which selection is acting, an example of heterozygote advantage and as a result of genetic drift. The investigation includes detailed coverage of natural selection, the Hardy-Weinberg equation and other related topics to better prepare your students for their exams. Lab Activities Include:
Estimating frequencies for a specific trait within a sample population • Case studies • Eight Lab Stations. Supplied with 32 PTC paper, 160 Cards printed with A, 160 Cards printed with a 8 Plastic coins, description in German and English language.
30x23x6 cm; 1.5 kg
D/E/S

W55716

W59852

Mystery of the Blood Stain

Students as forensic pathologists!
Based on a stain of blood found at a fictitious crime scene, a murder has to be resolved. The first thing to do is to check whether the stain is really a blood stain. Next, the blood group and Rhesus factor have to be identified and then compared with samples of the victim and various suspects. As a result, the murderer can be convicted and the crime solved. This simulation experiment guarantees an exciting lesson in which your students will learn a lot about blood groups and how to identify them.
3 Simulated Sera (Anti-A, Anti-B, Anti-RH) (each 30 ml), 40 Blood typing trays, 1 Cheese cloth, 1 Crime Scene Simulated Neo/BLOOD sample (25 ml), 3 Suspect Simulated Neo/BLOOD samples (each 25 ml), 40 Stirring sticks, blue, 40 Stirring sticks, yellow 40 Stirring sticks, green, description.
Suitable for secondary school education.
30x23x6 cm; 1 kg
D/E/S/I

W59852

W55617

Genes and Probability

Study the patterns of inheritance and the genetic probability of easily observed and tested traits.
Your students will:
• Apply the laws of chance to genetics
• Demonstrate the effect of dominance in a monohybrid cross
• Demonstrate the effect of incomplete dominance
• Model a dihybrid cross to demonstrate the law of independent assortment
Supplied with 40 Coins, plastic, 20 Cups, 40 Dice, four-sided, 20 Opaque discs, blue, 20 Opaque discs, red, 20 Transparent discs, blue, 20 Transparent discs, green, 20 Transparent discs, yellow, 5 Wax pencils, description in German and English language.
30x22x10 cm; 1 kg
D/E

W55617

W16203

Frutfly Genetics

This unique kit contains simple activities designed to teach basic fruit fly genetics without using live flies. Drosophila Melanogaster is used without the inconvenience of maintaining live fruit fly cultures. Students can perform crosses using plastic pieces printed with features allowing them to observe and simulate sex determination, single factor inheritance, double factor inheritance, sex linkage, dominance and recessiveness. Includes 15 sheets each, with snap apart features showing male and female and 4 types of fruit flies. Teacher's Guide and Student instruction sheet included.
35x22x2 cm; 0.1 kg
D/E

W16203

W16202

MicroLife Water Field Kit

The Kit is designed for use in the lab or in the field. It allows users to study: Biological Oxygen, Dissolved Oxygen, Orthophosphates, Turbidity, E.Coli, Nitrate, pH, Conductivity, Nitrite and Temperature.

Supplied with:
1 Comboplate, 1 Set of Spatulas and Forceps,
4 Pipettes, 1 Thermometer 0-50°C, 1 LED with battery connector, 1 vial of Ammonium Molybdate, 1 vial of Nitrite Indicator Solution, 1 vial of Ascorbic Acid Powder, 1 vial of Zinc Powder, 1 vial of Universal Indicator Solution, Dissolved Oxygen Colour Chart, Universal Indicator Chart, small plastic vial with cork stopper, 10 Dissolved Oxygen Tablets, 2 Water Sample vials, 1 turbidity disc, 1 x Standard Conductivity Solution, worksheet.
30x13x8 cm; 0.3 kg
D/E

W16202

GASTEC – GAS DETECTOR for highly educational experiments in your biology and environmental studies classes

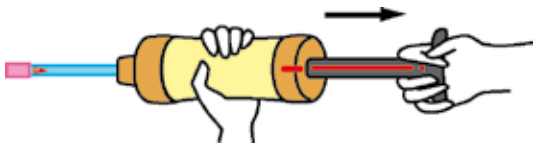
Upgrade your science teaching with many basic easy-to-do experiments using the Gastec system. The concentrations of a variety of substances in the air can be measured with a gas detector pump and 10 different gas detector tubes. The gas detector is easy to use - great for hands-on experience at secondary school level.

Suggestions for easy-to-do experiments:

- Examination of how combustion processes affect the class room air (measurement of carbon dioxide produced by a burning candle and/or the altered concentration of oxygen).
- Examination of fresh and stale class room air.
- Investigation of how the concentration of carbon dioxide changes due to the respiration of humans and animals, and the photosynthesis of plants.
- Investigation of changes in the concentration of oxygen due to combustion processes.

Very easy measurement of gas concentration:

- Open the gas detector tube (glass) by carefully breaking off the tips on both ends using the built-in tip breaker.
- To avoid injury, slip the sleeve-like rubber inlet cover over the top of the pump and insert the detector tube into the GASTEC sampling pump.
- Point the detector tube towards the area you want to measure, and then pull out the handle of the pump in one thrust until it is locked. This causes the required amount of surrounding air to be sucked through the detector tube.
- Secure the plunger of the pump after about 30 seconds and pull the detector tube out of the pump.
- Your students can now assess the amount of gas contained in the sucked in air by making a detector tube reading (the colour change exhibited by the adsorbent material in the detector tube reflects the concentration in the sucked in gas).



W11730

GASTEC – Kit

Contents:

1 gas detector pump (sampling pump)
1 storage case
1 glass tip breaker for the gas detector tubes
20 rubber inlet covers
1 sealing grease
1 teaching poster with suggestions for experiments, many illustrations and detailed instructions

D/E/F

W11730

Options and replacement parts for W11730

Available gas detector tubes for school and teaching
Each box contains 10 detector tubes

Art. Nr.	Detector Tubes	
W11731	Carbon dioxide I	
W11732	Carbon dioxide II	
W11733	Oxygen 6-24 vol %	
W11734	Replacement parts set with 2 x 10 protective covers for detector tubes	

Nerves of Steel - Great experiments for simulating the conduction of impulses along nerve fibres according to Prof. Dr. Matthias Ducci / Prof. Dr. Marco Oetken

Exciting experiments for interdisciplinary teaching of year 11 to 13 classes. A model system for simulating the conduction of impulses is now finally available! Many biology teachers have complained about the lack of suitable model systems for simulating the conduction of impulses along nerve fibres, considering that neurophysiology is an established component of the advanced level syllabus. We have developed a unique electrochemical model experiment for effective illustration of this complex topic, in cooperation with Prof. Dr. Matthias Ducci (teacher training college PH Karlsruhe) and Prof. Dr. Marco Oetken (teacher training college PH Freiburg). Try it – you'll love it!

U11120

Nerves of Steel

The model experiments are based on the property of iron to develop a protective oxide coating in acid solutions under specific conditions. This impressive analogical model is based on the reversibility of the process of passivation and the appearance of a reactivation along a long iron rod. The materials provided allow the students to use the model to demonstrate continuous and saltatory conduction as well as the principle of transmission of neurotransmitters.

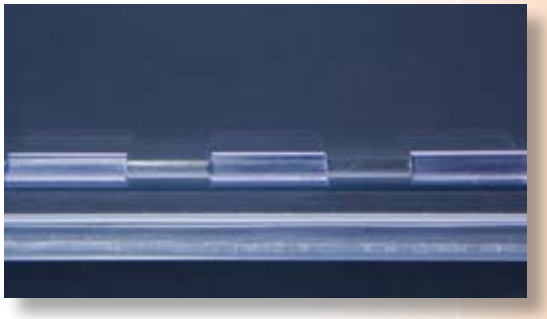
The following experiments can be carried out:

- **Simulation of continuous conduction along non-myelinated axons**
- **Simulation of salutatory conduction by means of a model experiment**
- **Transmission of information by neurotransmitters**

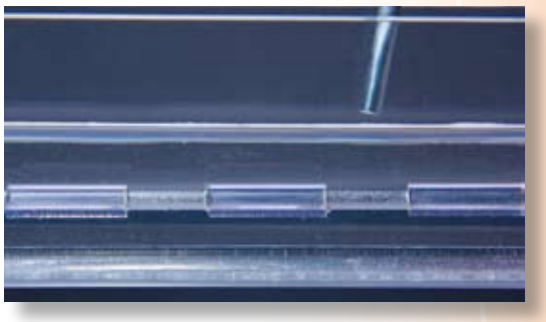
The set includes:
1 Plexiglas trough,
sand paper,
3 iron rods,
1 zinc electrode,
15 jackets for isolation of sections of the iron rod, detailed experimental instructions.

The necessary chemicals (hydrogen peroxide, sulphuric acid, sodium chloride solution) are not included.
12x12x35 cm; 0.5 kg
D/E

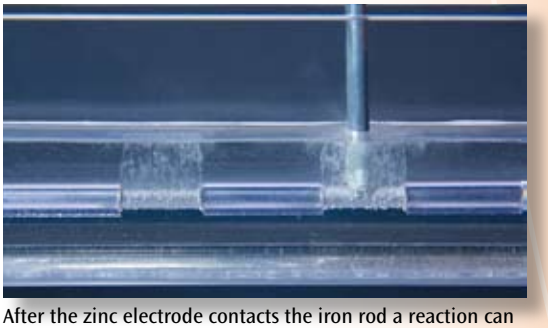
Prof. Dr. Matthias Ducci



Starting position of the simulation of salutatory conduction



The zinc electrode is put into the electrolytic solution



After the zinc electrode contacts the iron rod a reaction can be seen through the bubbles which represents the conduction of impulses of nerve fibres

U11120

Scout Pro Electronic Scales

Precision scales, multi-function with percentage weighing, totalisation, display hold, and parts counting. Includes mains adapter and calibrating weight. Other weight ranges available on request.

	U42048	U42049	U42050
Weight range	0 – 200 g	0 – 400g	0 – 600 g
Accuracy	0.01 g	0.01 g	0.1 g
Display	6-digit LCD, 15 mm		
Weight units	g, N, oz, %, parts	g, N, oz, %, parts	g, kg, N, oz, lb, %, parts
Calibration	Automatic using external weight		
Scale pan	120 mm Ø	120 mm Ø	165x140 mm
Dimensions	ca. 192x54x210 mm		
Weight	ca. 700 g	ca. 700 g	ca. 800 g

U42048-115
Electronic Scales 200 g for 115 V, 50/60 Hz

U42048-230
Electronic Scales 200 g for 230 V, 50/60 Hz

U42049-115
Electronic Scales 400 g for 115 V, 50/60 Hz

U42049-230
Electronic Scales 400 g for 230 V, 50/60 Hz

U42050-115
Electronic Scales 600 g for 115 V, 50/60 Hz

U42050-230
Electronic Scales 600 g for 230 V, 50/60 Hz

Connectivity
You can quickly add either an internal RS232 or a USB port with integrated cable.

Security Bracket
Each Scout Pro features an integrated security bracket to prevent theft.

Flexible Power
Use either the included AC adapter, or 4 "AA" batteries to power your Scout Pro.

Easy-to-Clean
Sealed front panel and moulded spill ring.

Easy-to-View
High-contrast LCD quickly displays weight and applications data, as well as indicators for stability, over/underload conditions, and low battery power.

U42048, U42049

Integral Shipping Lock
Quickly accessible under the weighing pan, the shipping lock allows you to lock and go.

Weigh Below Hook
The integral weigh-below-hook on the bottom of the Scout Pro allows density determination or calculation of the specific gravity of samples.

Lockswitch
The Scout Pro can be locked into a specific configuration using the lockswitch supplied.

Round or Square Stainless Steel Platform
Removable for easy cleaning.

U42050

Accessories for Scout Pro Electronic Scales:

U42054
Anti-Theft Device

U42055
RS232 Interface

U42056
USB Interface

Electronic Scales

Universal scales in robust plastic casing, with easy-clean foil keyboard. Menu functions, easy selection using two buttons. High-resolution, easy-to-read LCD display, overload and underload display, battery or mains operation optional. Automatic shutdown after five minutes in battery operation. Batteries included.

	U42060	U42061
Weight range	0 – 200 g	0 – 5000 g
Accuracy	0,1 g	1 g
Weight units	g, lb:oz	g, lb:oz
Counter-balancing range	Subtractive over entire weight range	Subtractive over entire weight range
Power supply	3 AA alkaline batteries	3 AA alkaline batteries
Dimensions	ca. 193x135x39 mm	ca. 193x135x39 mm
Weight	ca. 470 g	ca. 470 g

U42060, U42061

U42060
Electronic Scale, 200 g

U42061
Electronic Scale, 5000 g

W23100

Electronic Scales with Stainless Steel Hood

This robust electronic balance combines functionality with great design. It offers the following advantages:

- Effective seal so that no fluids can enter the scales
- Practical, easy-to-clean stainless steel surface
- Flexible placement due to battery operation
- Auto-switch off for minimum power and battery consumption

Technical Data:

Capacity:	5.000 g / 11 lbs
Graduation:	1 g < 3,000 g > 2 g / 0,05 oz < 6,6 lbs > 0,1 oz
Weight:	1.5 kg / 4.2 lbs
Power supply:	Batteries
Functions:	Automatic switch-off, Pre-TARE, TARE, HOLD, kg/lbs switch-over
Material:	Cover - stainless steel, base - black plastic material
Dimensions (WxHxD):	266 x 53 x 266 mm

W23100

U30150

Overhead Projector

Reliable overhead projector in modern moulded plastic housing with collapsible reflector column. High-quality optical system with correction to avoid coloured edges and highly efficient low-noise cooling.

Lamp:	36 V, 400 W
Aperture:	285x285 mm²
Dimensions of housing:	450x440x320 mm³ approx.
Weight:	9 kg approx.

U30151

Replacement Bulb for Overhead Projector
(not shown)
36 V, 400 W

U30150-230

Overhead Projector (230 V, 50/60 Hz)

U30150-115

Overhead Projector (115 V, 50/60 Hz)

Art. Nr.	Scale division	Measuring range	Scale division	Dimensions	Remarks
U14297	Pocket Thermometer	-10° – 110° C	1° C	165 mm x 10 mm dia.	Tube type, scale on white background, petroleum based red filling, in yellow plastic protective case with clip.
U14295	Tube thermometer, Graduated	-10° – 110° C	1° C	260 mm x 6 mm dia.	Glass thermometer with eyelet, scale on white background, petroleum based red filling, in transparent square plastic case.
U40911	Thermometer	-20° – 110° C	1° C	295 mm x 6,3 mm dia.	Tube type with anti-roll design, white coated capillary, red alcohol filling, packed in a plastic tube.
U16120	Demonstration Thermometer	-10° – 110° C	1° C	650 mm x 30 mm dia.	Extra-large tube type thermometer with biodegradable special blue filling, easy-to-read scale on yellow background.

U16101

Digital Thermometer, Min/Max

Insertion thermometer with Hold and Min/Max function in robust plastic housing and temperature sensor made of stainless steel. Switchable between °C and °F, On/Off switch, hanging strap and folding angled support.

Measuring range:	-50° C – 200° C / -58° F – 392° F
Division:	0.1° C/F
Dimensions:	95x65x20 mm³
Cable length:	1400 mm
Measurement probe:	120 mm

U16101

U14297

U14295

U40911

U16120

U11900

U16100

U11900

Table-Top Stop-Clock

Large quartz-controlled stop-clock with start stop and reset buttons, cumulative time and lap-time settings (clock resets to zero and starts timing again immediately). 2 hands, dial with dual scale for minutes/seconds and hundredths of a minute.

Measuring range:	60 min / 60 s
Graduations:	1 s / 1/100 min
Dial:	110 mm dia.
Dimensions:	approx. 175x130x95 mm³

U16100

Timer

Stopwatch for counting up or down with acoustic alarm. Magnetic holder for attachment to metal surfaces and fold-away support legs.

Display:	4-digit display, LCD, 18 mm
Timer range:	99 min 59 s
Ticking rate:	1 s
Dimensions:	ca. 60x60x20 mm³

U11902

Digital Stopwatch

Stopwatch with 7-digit LCD display in robust plastic casing with start/stop and split/reset buttons for starting and stopping, cumulative, lap-time and dual-time measurement. Includes pendant cord.

Measuring range:	9 h, 59 min, 59 s, 99/100 s
Accuracy:	1/100 s
Battery:	watch battery 1.55 V, Type 389
Dimensions:	approx. 65x65x18 mm³

U11902

U14205

Graduated Cylinder, 100 ml
Graduated cylinder made of Duran glass. Tall form with spout with hexagonal base.
Scale: 100 ml
Divisions: 1 ml

U14206

Free-Standing Cylinder
Non-graduated cylinder made of Duran glass. With round base and coarse ground rim.
Height: 300 mm
Diameter: 40 mm

Beakers, 600 ml
Set of 10 beakers made of Borosilicate glass.
With scale, 100 ml divisions and spout.

Art. Nr.	Designation
U14210	Set of 10 Beakers, low form
U14211	Set of 10 Beakers, tall form

U14211 U14210 U14205 U14206

W16152

Soft Tweezers
At last soft stainless steel tweezers, ideal for students to examine objects without damaging them.
Length approx 10 cm

W16152

W16158

Microscope Slides, cut edges
cellophane wrapped
Approx. 76 x 26 x 1 mm
PU: 50 pcs/box

W16159

Microscope slides, ground edges
90°, cellophane wrapped
Approx. 76 x 26 x 1 mm
PU: 50 pcs/box

W16156

Cover Glasses, non-ground
18 x 18 mm, No. 1 (0.13-0.16 mm thickness), Ar-glass, for manual use not suitable for automated processes , PU = 200 pcs/tropical packing (vacuum sealed)

W16157

Cover Glasses, non-ground
18 x 18 mm, No. 1 (0.13-0.16 mm thickness), borosilicate glass, also suitable for automated processes (cover slipper).
PU = 200 pcs/ box

W16158/W16159 W16156/W16157

W11729

Lab Coat for Children and Adolescents
Young students are often not as careful as they could be when they do their first experiments. Our lab coat made of cotton has a breast pocket and two side pockets. It protects your student's clothes and makes them look like professional scientists!

Size 158 (smaller sizes available on request)

W11729

W16154

NEW

W11727

Student Safety Glasses
Proper safety glasses for students!
The shape and size of these safety glasses are specifically designed for students between 10 and 15. With excellent side protection and a perfect fit thanks to easily adjustable arms. The safety glasses are very light and comfortable to wear.

DIN EN 166 compliant. With blue frame and all-round scratch-resistant polycarbonate protection.
13x6x4.5 cm
D/E/F/I/S

W11727

Vinyl Gloves
Powdered disposable vinyl gloves - great skin protection and good tolerance.
Contents: 100 pieces in a practical dispenser carton

W16153
Vinyl Gloves, Size S

W16154
Vinyl Gloves, Size M

W16155
Vinyl Gloves, Size L

S0002-1.0
3B MUSCLE*trainer*™
ISBN 978-3-8294-0003-9

S0003-1.0
3B NEURO*trainer*™
ISBN 978-3-8249-0004-6

S0001-2.0
3B ANATOMY*trainer*™
ISBN 978-3-8294-0005-3

S0002-1.0

3B MUSCLE*trainer*™ – Master the muscles in the blink of an eye!

Do you need to learn all about the human muscle system? Then the 3B MUSCLE*trainer*™ is just what you require. With it's 248 high quality digital images, 241 muscles and more than 200 associated anatomical structures, the 3B MUSCLE*trainer*™ is the ideal tool to help you revise for your exam or simply refresh your knowledge.

Optimal Exam Preparation:
- Over 440 different muscles and structures
- Origin, Insertion, Innervation and Function can be displayed

Interactive Quiz-Function with:
- Variable Quiz parameters
- Number of attempts
- Time pressure
- Immediate and systematic quiz evaluation
- Long term graphical learn control over all areas

Additional Benefits:
- 5 Language version: English, French, Spanish, Portuguese, German, (Latin)

Info about:
- Spinal Nerve Segment
- Associated Joints
- Important clinical and sports aspects
- Zoom to 200% – no interpolation!
- Fully hyperlinked index
- Runs directly from CD-ROM

Excellent for medical, physiotherapy and sport science students, sport and fitness trainers, healthcare professionals, etc.

Sorry, returns cannot be accepted once item has been opened.

S0001-2.0

3B ANATOMY*trainer*™ – The clever way to study

Are you training to become a doctor, dentist, physiotherapist etc.?
Then the 3B ANATOMY*trainer*™ is the right tool to help you achieve your ambitious goal. Almost 400 high resolution digital images and almost 3,000 exam relevant anatomical structures give you fast access to human anatomy. Furthermore, the unique structure of the 3B ANATOMY*trainer*™ helps you organize your study time, allows you to perform complex test routines, immediately analyzes your results and monitors your long term learning progress.

NEW:
- Any number of Memo Boxes can be saved as a study list and reopened at a later point in time – this allows you to adapt the subject areas for study even more specifically to your needs
- The study lists can be exchanged among different users of the 3B ANATOMY*trainer*™ 2.0 – ideal support when preparing for exams!
- Extensive printing functions for the illustrations, lists of terms, Memo Box, etc.

Optimal Exam Preparation:
Unique new Quiz function with selectable parameters such as:
- Subject areas to be tested
- Time pressure
- Number of attempts
- Multiple choice mode (what is it?)
- Location questions (where is it?)
- Instantaneous and systematic analysis of quiz results
- Organization of revision tasks with long term progress evaluation

Additional Benefits:
- 5 Language version: English, French, Spanish, Portuguese, German, (Latin)
- 3D selection figure
- Zoom to 200% - no interpolation
- Fully hyperlinked index
- Extra glossary with over 300 general terms explained
- Runs directly from CD ROM. No installation necessary.

S0003-1.0

3B NEURO*trainer*™ – Quick help for clever students

Do you want to study the structures of the brain without going crazy? Then the 3B NEURO*trainer*™ is the right programme for you. Over 800 anatomical terms and 110 accurate illustrations are waiting to be interactively used by you throughout this complex field of human anatomy. The unique quiz function and the clearly organized status of your study progress allow for steady planning of your objectives. Therefore, together with the lectures and prep course, the NEURO*trainer*™ provides optimal support for exam revision.

Optimal Exam Preparation:
Unique new Quiz function with selectable parameters such as:
- Subject areas to be tested
- Number of attempts & Time pressure
- Multiple choice mode (what is it?)
- Location questions (where is it?)
- Instantaneous and systematic analysis of quiz results
- Organization of revision tasks with long term progress evaluation
- Direct access to quiz from Memo-Box
- Exchange of quiz and study lists

Additional Benefits:
- 5 Language version. English, French, Spanish, Portuguese, German, (Latin)
- Extensive printing functions
- Zoom to 200% – no interpolation
- Fully hyperlinked index
- Extra Glossary with over 300 general terms explained
- Runs directly from CD ROM. No installation necessary.

System requirements for S0001-2.0, S0002-1.0, S0003-1.0 and W14021

Windows: 98/NT/2000/ME/XP*:
Pentium processor 200 MHz, 64 MB RAM, 8x CD-ROM drive, Monitor resolution 640 x 480, 32.000 Colours (16 Bit), Sound card (*Not applicable for W14021)
Macintosh: Power PC, Mac OS 7.5 / 56 MB free RAM
8 x CD-ROM drive/Monitor resolution 640 x 480, 32.000 Colours (16 Bit)

W14021
ISBN 978-3-8294-0001-5

W14021

CD-ROM Histopathology, English (Macintosh/Windows)
This presentation of a histopathology course unites the view of microscopic illustrations with spoken explanations in a handy manner. The programme accompanies medical students through the entire course of histopathology but it also allows the experienced practitioner to revise basic knowledge.

3B NEURO*tables*™
On 21 pages with over 60 detailed illustrations the 3B NEURO*tables*™ reveal the human brain in various views and sectional layers. The anatomical structures of the individual illustrations are numbered and named on each page.
The 3B NEURO*tables*™ cover the following areas: Brain, spinal medulla, brain stem, brain stem centre & cerebellum, diencephalon, cerebrum, cerebral nerves, vessels & ventricular system, functional systems
Printed on size A4, tear-resistant, washable plastic with spiral binding.
30.5x23x0.5 cm; 0.25 kg

S0090

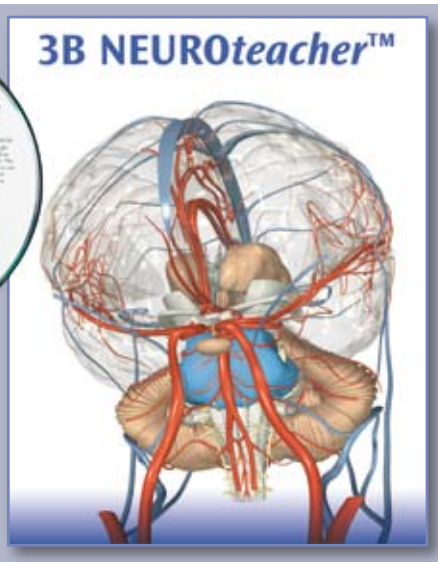
3B NEURO*tables*™ in German
ISBN 978-3-8294-0007-7

S0190

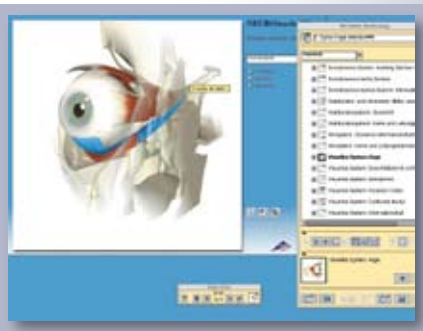
3B NEURO*tables*™ in English
ISBN 978-3-8294-0008-4

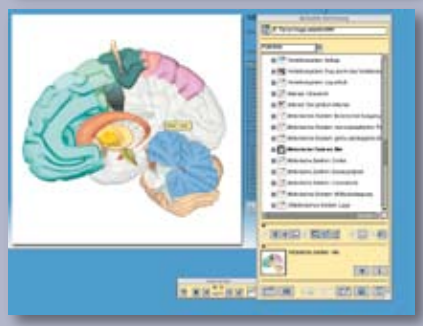
S0290

3B NEURO*tables*™ in French
ISBN 978-3-8294-0009-1



S1000-1.0





Unique Worldwide – the 3B NEURO*teacher*™

The 3B NEURO*teacher*™ *is a worldwide unique lecture program on DVD-ROM to assist you in preparing and giving lectures in the field of neuroanatomy. You can either edit the lectures provided and adapt them to your individual needs or design new ones. Topographical anatomy and morphology, functional systems and vessels of the CNS are shown in 74 different 3D media objects (3D images & animations) with over 800 structures labelled. The 3D images can be rotated freely and can be shifted or zoomed. When the mouse is rolled over a structure, the structure is labelled. When a structure is selected from the list, the image will automatically rotate to reveal the structure. The structure itself is displayed either in Latin or in the user language (English, German, French, Portuguese or Spanish). Lectures can even be made available to students via network or collected on your laptop for use in external lectures or presentations.*

You can order the DVD-ROM with the full version of the 3B* NEURO*teacher*™ *free of charge for a 7 day testing period.

The DVD-ROM includes around 5 gigabytes of teaching material. A library includes the 74 labeled 3D media objects and 10 ready-prepared classic lectures:
- Highlights
- The CNS (Neuraxis)
- The Brain (Encephalon)
- Spinal Cord, Brainstem and Cerebellum
- The Diencephalon
- The Cerebrum
- The Cranial Nerves
- Ventricular System and Arteries
- The Motor System
- Sensory Systems

The 3B NEURO*teacher*™ supports the usage of a broad pallet of file formats:
- Graphic format: .bmp; .jpg; .gif; .tif; psd; .pct; .tga; .png
- Multimedia: .swf; .dir; .dxr; .dcr
- Video format: .mov (QT 2, 3, 4); .avi
- Audio format: .wav; .mp3; .aif; .au; .swa
- Text format: .htm; .txt; .rtf

S1000-1.0-01

3B NEURO*teacher*™, Single User License

S1000-1.0-15

3B NEURO*teacher*™, Fifteen User License

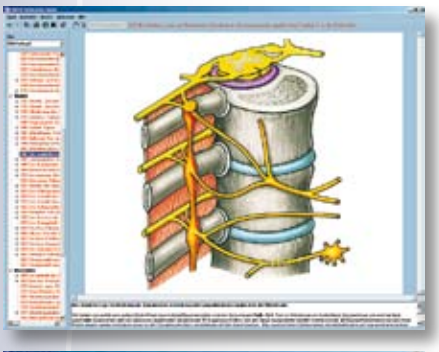
System Requirements for 3B NEURO*teacher*™:
- Windows: Windows 98/ME/NT4 (SP3)/2000, Processor: Intel Pentium III or compatible, 450 MHz, RAM: 128 MB
- Macintosh: Mac OS 8.1 or higher, MAC OS X not yet supported, Processor: Power PC, G4; RAM: 80 MB available
- Monitor resolution: 800 x 600 pixels, colour depth 16 bit, high colour, 3D graphic card recommended

Worlddidac Award

THE NEW LIEDER PROGRAM OF INTERACTIVE CD-ROM

We offer a new range of CD-ROMs for interactive learning and teaching in school and colleges.
All pictures and illustrations are taken from our own stocks to provide superior quality. Newly developed programs guarantee easy installation and unproblematic running. Every CD comprises the following topics:

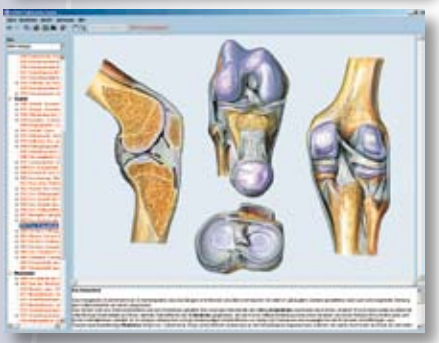
- Comprises a great variety of beautiful diagrams, colour photos, tables, anatomical pictures, electron and X-ray photographs, impressive life cycles, human photographs, landscape photographs, scenes, test data and results, necessary for teaching the subjects.
- Comprises all necessary photomicrographs of microscopic slides, which can be observed by five different steps of magnification by using a „MicroScope“. The slides can be moved under this microscope and can be observed in all its parts.
- Comprises all necessary drawings matching the pictures, with explanations of all the parts.
- The same number of comprehensive explanatory texts to help understand the pictures.
- A special test program to check the students' knowledge in several levels of difficulty. A variable number of random selected pictures have to be identified. After a successful run the students receive notes about their progress in learning. By repeating the test any improvement will by revealed by the program.
- A comprehensive index, a search function and a user friendly browser for all pictures and texts on every CD-ROM.
- All pictures can be shown in full-screen size, just by pressing the ENTER button.
- Special accompanying material, which enables evaluation of what has been seen, and creative learning is an important part of the program. Drawings, sketch- and worksheets are supplied for many of the pictures on the CD. They are stored in full printing quality (high resolution of 300 to 600 dpi). After printing the drawings may be supplemented or coloured. In addition, the worksheets – which maybe be copied – can be used as accompanying material for class tests.
- The novel demo program features the functionality to start a self-running demo of the program in sequential or random order. A sophisticated presentation mode allows the user to prepare a collection of chosen pictures for an impressive full-screen presentation.
- The complete set of images on this CD can be displayed in thumbnail view for a comprehensive overview of all available material.
- A comprehensive index. The entire set of material, that is, pictures, supplemental texts and slides, and drawings, are accessible via the main program's dropdown-menu Tools – "Search picture…“ or "Select picture“.
- The texts will be provided in several languages by pre-selection when starting the program. The program surface is adapted to the well-known "WINDOWS™-LOOK“.
- All pictures and texts can be printed by the user.
- The CD works with all Windows versions (WINDOWS™ 95, 98, NT, 2000, XP and VISTA). The resolution is 960 x 640 or higher for superior quality. Full colour representation with over 1 Million colors (depending on the screen). Optionally the CD runs also on PowerMac G4 and higher with WINDOWS™ emulation.
- The size of the desktop and the windows for texts and pictures can be scaled and adapted to the requirements of the user.



W13504

Histology of man and mammals

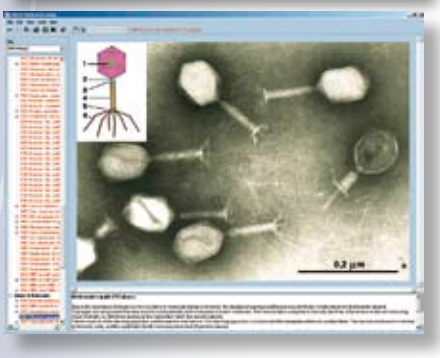
The body of every animal consists of an array of many organs, each of which must perform certain functions within the organism as a whole. The closer study of these organs calls for the preparation of very thin slices of tissue. These slices, when seen through the microscope, show that organs are made of great numbers of wildly differing cells and tissues which, thanks to special staining techniques, can be told apart by the different colours they adopt. Cells, epithelial tissue, support tissue, teeth, muscle tissue, nerve tissue, digestive organs, glands, respiratory organs, blood and blood vessels, lymphatic organs, urinary and excretory organs, sexual organs, spermatogenesis, oogenesis, endocrine glands, scalp and hair, sense organs, central nervous system.



W13517

Division (Mitosis and Meiosis)

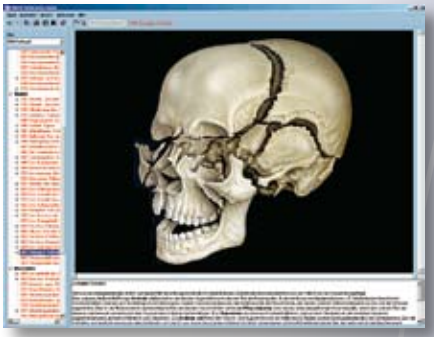
A fundamental feature of all living creatures is that their organism grows. The actual growth of multicellular organisms results from the increase in the number of cells. Cell divisions make it possible for a single fertilized egg cell to give rise to millions and billions of cells. In the process, chromatin, as carrier of hereditary information, is duplicated, then halved in a highly accurate manner and then transferred to both daughter cells. The complex process of meiosis, the reduction division. Through meiosis not only is the number of chromosomes halved, but also the utterly important rearrangement of chromosome sets and the exchange of segments ("crossing over“ process) both take place. The process of cell division is explained through classical examples of known animals and plants. Fine structure of the cell and its nucleus. The sequence of a normal cell division (mitosis) in chronological steps. Resting nucleus, contraction, division and separation of the daughter chromosomes, recombination of hereditary traits and reduction in the number of chromosomes through meiosis, primordial sex cells, entering of a sperm in the egg cell (ovum), prophase, first and second meiosis, dismissal of the sperm's flagellum (tail), mixing of male and female chromosome sets, translation of chromosomes to egg nucleus, mature egg cell with male and female pronuclei, fertilization, cleavage, embryo formation, schematic representation of all phases. The slides, coloured by means of a special staining technique, depict the individual cell structures in contrasting colours.



W13506

Feeding organs and metabolism in the human body

Proteins, carbohydrates and fats as components of our nutrition, minerals and vitamins, nutriment entails foodstuff intake, digestion and resorption, health through a balanced diet, mouth, gullet and esophagus, tooth forms, tooth development, tooth renewal, milk-teeth and permanent teeth, cavity-causing bacteria, salivary glands: structure, location and function, human stomach, cardia, fundus, pylorus, function of the gastric glands, intestine and digestion process, location and points of support of the digestive organs. Intestine wall layers, villi, crypts, glands, fine structure of the intestinal villus, human large intestine (colon), digestive enzymes as organic catalysts, constructive metabolism (anabolism) and destructive metabolism (catabolism, conversion to energy), function of human liver and pancreas, the liver's glandular character and its function, affections of the pancreas, function of islets of Langerhans, insulin and diabetes. Function of human urinary organs: kidneys, ureter and urinary bladder, detoxification of the body by the kidneys as a fundamental, vital process, the human body water and salt budget.



W13507

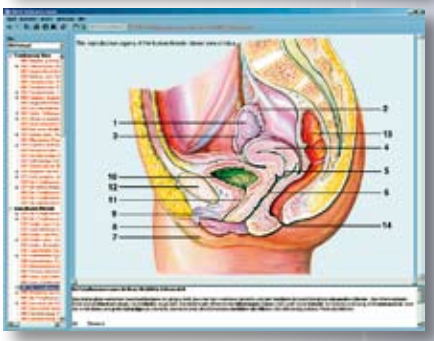
Sense organs as a window to the world

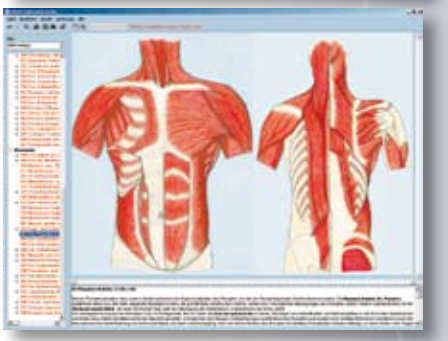
The sense organs have the task of furnishing information to the individual about himself and his environment. The ability to perceive stimuli and react to them is, together with the capacity for movement, nourishing oneself and reproducing, one of the primordial characteristics of living protoplasm. Even amoebae react to touch and light, as well as to chemical and temperature stimuli. Over the course of evolution, first some individual cells and then complex organ systems specialized in perceiving and processing stimuli. The nature of light, eye and retina structure, accommodation and adaptation, image formation, movement vision, spatial vision (depth perception). Connection mechanisms in the retina and the brain, the physiological-psychological components of visual perception, ocular affections, optical illusions, colour vision and colour blindness, colours and psyche, ear and hearing, formation of sound waves. Development and structure of the human ear, middle ear, inner ear, cochlea, organ of Corti, directional hearing, hearing centres, structure of the labyrinth, perception of rotation and spatial orientation. The chemical senses, the sense of smell, location of the olfactory region, nose conchas and olfactory epithelium. The sense of taste, the tongue's tasting areas, papilla foliata, vallate papilla and fungiform papilla, fine structure. The skin as organ of touch, touch corpuscles, warmth and cold receptors, sense of temperature and thermal receptors, pressure receptors, sensitivity differences caused by touch stimulation, conscious awareness of the position and muscle movements, muscle spindle and Golgi tendon apparatus, processing of self-awareness information.

W13509

The human respiratory and circulatory systems, the human heart

The pathways through which oxygen reaches the cells varies from organism to organism. In the case of unicellular beings, oxygen diffuses directly from the environment into the cell. In the case of higher organisms, including humans, a transportation system in the body distributes oxygen taken from the environment by a specialized organ (gills, lungs). Nose and nostrils, the larynx as respiratory and voice organ, windpipe (trachea), lung position and structure, alveoli, blood irrigation, gaseous exchange, volume of air respired, regulation of breathing, lung diseases, damage of the breathing organs caused by environmental factors. Blood as mediator between the cells in the body and the environment: using the circulatory pathways, blood transports different substances: nutrients, respiratory gases, intermediate and end products of metabolism, active substances and substances of the immune system. Blood components, blood groups, blood clotting, antibodies, rhesus intolerance. lymphatic system, the human immune system and its functions, anatomy of the heart, cardiac valves, heart muscles, functions and impulses. Electrocardiogram, blood circulation, arteries, veins and capillaries. Regulation of blood pressure, measuring blood pressure, exchange of substances between capillaries and tissues.

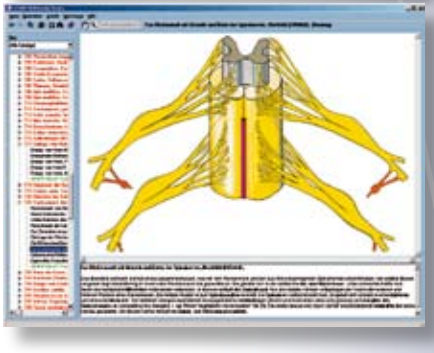


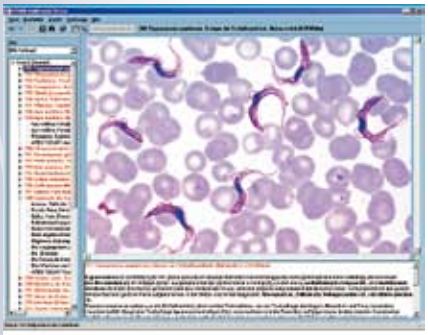


W13513

Hormones, hormone system and control

Hormones are substances produced chiefly by the endocrine glands. They are brought by the blood stream to the areas of the body where they exert their effect and influence through ferments the most important vital processes, such as metabolism, development and growth. They adapt the body to different environmental conditions and safeguard the preservation of the species. Alterations of hormone balance can have serious physical and psychological consequences. Nature and function of hormones. Thyroxin, adrenaline, insulin, sexual hormones, hormones of the hypophysis, effects of castration, human dwarfism, gigantism, acromegaly and obesity, the thymus, development of hormone glands. Control of hormone release, interaction between releasing and gonadotropic hormone, feedback control of peripheral hormones, influence on gene activity, protein synthesis, neurosecretion, second messenger, cascade mechanism. Dovetailed operation of different hormones, inhibiting and stimulating factors, synthetic hormones, regulation of blood sugar content, stress, heart infarct, animal production, anabolica, pills, insect hormones, plant hormones, auxin.

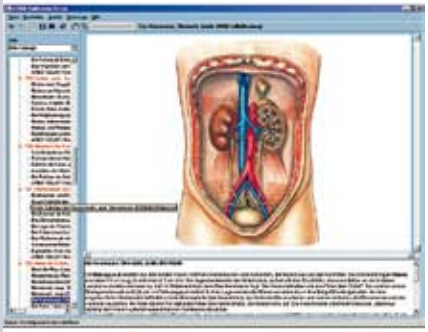


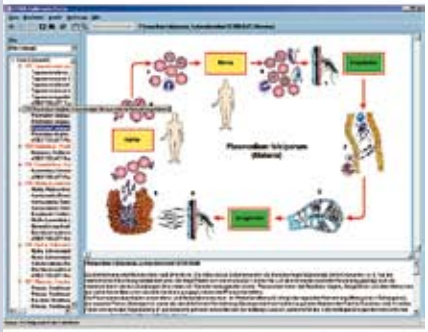


W13510

Reproduction and sex instruction

Reproduction serves for the preservation of the species. The number of germ cells must balance losses caused by environmental factors (predators, climate, catastrophes), so that the number of reproductive individuals remains constant within certain parameters. The CD provides a vivid introduction into the biology of reproduction from unicellular organisms through to mammals, providing detailed representations of human reproduction and furnishing other teaching material for sexual instruction. Sexual and asexual reproduction. Fertilization of the ovum and fusion of both haploid nuclei. The different types of egg cells and the corresponding types of cleavage. Gastrulation, neurulation, formation of germ layers. Examples of organ development. Structure and function of male and female sexual organs. Testis, epididymis, spermatogenesis, spermatozoa. Structure of the uterus wall. Menstruation cycle and fertilization. Changes in uterine lining (endometrium). Ovulation, admission of the ovum into the fallopian tube, fertilization, development in the fallopian tube and embedding in the endometrium. Growth of the foetus in the uterus. Embryonic and maternal circulation. Foetus in the uterus, placenta, umbilical cord, amnion. Developed foetus in the womb. Start of the birth process, entrance of the amniotic sac into the birthing canal and birth are described.

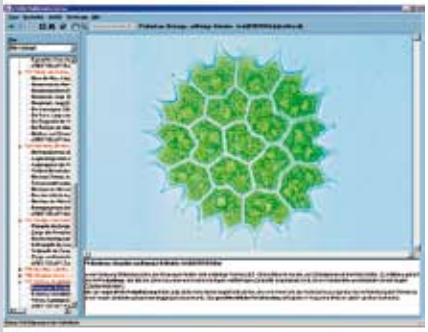




W13511

Nervous system and transmission of information Part I

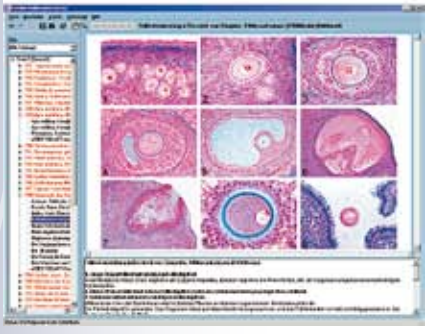
Introductory CD for the nervous system. View of the entire human nervous system. Occurrence of the typical nerve cells in the human nervous system. Fine structure of a neuron, composition of the nerve, motor end plates, glial cells, nerve cells and nerve tissue. Neuron, ganglion, centres, reflex arcs, automatism. Embryonic development of the human nervous system. Neural plate, neural groove, formation and closure of the neural tube. Description of the development of different nervous systems of invertebrates and vertebrates facilitates understanding of the human nervous system. Formation of the neopallium from concentric growth rings. Phylogenetic tree of mammalian brain convolutions. Connection between brain sensory and motor nerves and various body areas. Development of the thalamus into a relay station. Progressive concentration and differentiation in the brain, component parts and their relation to each other. Increase in organizational complexity.



W13512

Nervous system and transmission of information Part II

The human central, peripheral and autonomic nervous system. Spinal cord: structure and function. Function of grey and white matter. Diagram of reflex connections. Examination of human reflexes and of diseases affecting the nervous system: polio, syphilis, sclerosis, paraplegia. Embryonic development and hierarchical structure of the brain. Structure and function of brain stem, cerebrum and cerebellum. Course of typical sensory and motor tracts. Perception, conduction and transmission of information. Conscious and unconscious movement controls. The brain is simultaneously connecting and controlling organ: for that reason, information perception, conduction and transmission are treated in a special section: resting potential at the axon sheath and its change. Transmission of information over the synaptic gap. Types of synapse. Stimulus propagation along the axon. The brain's blood supply: as the controlling organ of our body is the brain the biggest consumer of energy. The blood-brain barrier. Brain stem, hindbrain and cerebellum. Brain lesions (diving accident, stroke). The autonomic nervous system, antagonistic effect between the sympathetic and parasympathetic part. Regulation of body temperature. Control of the emptying of the urinary bladder, transmitter and inhibiting substances at synapses and motor end plates.



W13514

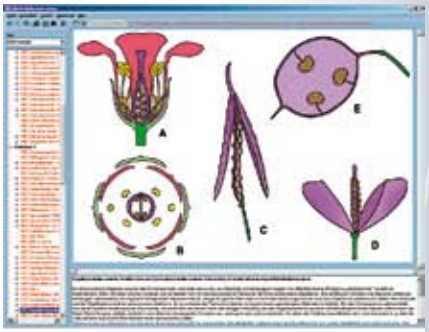
W13514 Heredity and genetics of man, Part I

The basis of both CD's in this series is the range of newest findings in the field of human genetics. As an introduction, the basic knowledge on formal genetics is first imparted, illustrated and explained using many examples from medical genetics. Detailed description of hereditary transmission: Autosomal dominant inheritance, autosomal recessive mode of inheritance, X-chromosomal inheritance, multifactorial and mitochondrial inheritance. Part 2 shows the different types of human tissue cultures, sex chromatin in both normal and pathological numbers of gonosomes through the analysis of Barr bodies, drumsticks and F-bodies. Analysis of metaphase chromosomes by various banding techniques. Chromosomal aberrations and their phenotypic consequences. Secondary chromosomal aberrations following exposure to clastogens and repair defects. Examples from tumour cytogenetics.

W13515

Heredity and Genetics of Man, Part II

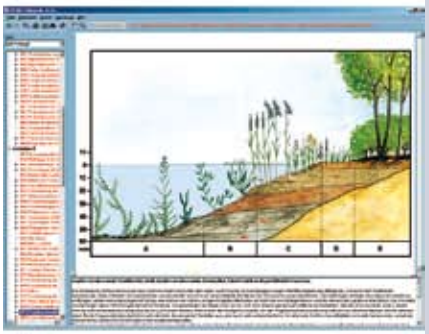
Introduction to the principles of molecular genetics. The focus lies on the application of new techniques in medical genetics and in genetic counselling. Furthermore, subject matters such as population genetics, mutations, imprinting, blood group systems and appearance of tumors will be discussed. Subject matters in the last section include principles of genetic counselling and prenatal diagnostics, biopsy of chorionic villi, amniocentesis (fetal blood sampling). Reasons for seeking genetic counselling, effects of damaging to the fetus, risk calculation, consanguinity, genetics of behaviour, and many examples derived from findings in research on twins and the genetic trees of trait bearers. New, extraordinarily high-quality images facilitate visual instruction, while detailed accompanying texts place this series at the highest level of modern teaching standards.



W13518

Cytology and Molecular Biology

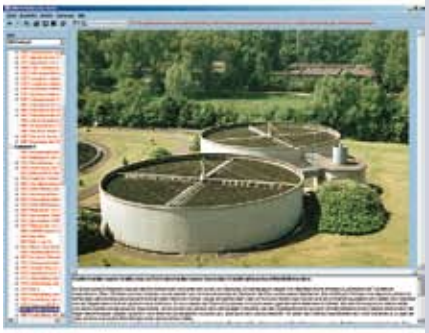
In cytology and molecular biology, cell nuclei and chromosomes are conspicuous structures. Their role in cellular activity, their function and importance in heredity and cell division, as well as aspects of molecular biology will all be discussed. This CD offers a wide range of images and text covering the multiple types of nuclei and chromosomes, including images of mitosis and polyploidy. Typical animal cell and typical plant cell. Living nuclei, nuclear forms and functions. Giant chromosomes. Polyploid nuclei. Fine structure of cell nucleus. Structure of chromosomes. Mitosis. Individuality of chromosomes. Chromosome structure, gene location (loci), reduction division, crossover and chiasmata, gene expansion and arrangement, replication. Proving the material structure of the gene. Structural properties of DNA. Identical replication as a cause of hereditary constancy. DNA, RNA and protein synthesis as causes of character formation. Genetic code and molecular mechanisms in mutations. Didactic guiding concepts: relations between structure and function on the molecular level. Explanation of genetic observations through molecular properties and reactions. The findings illustrated through the hypotheses, methods and experiments that led to those findings.



W13521

Mendelian Laws, Modification and Mutation

In order to establish the fact that heredity is governed by laws, it is necessary to mate living beings that exhibit certain differences from each other. The first experiments in this regard were performed by Augustinian priest Gregor Mendel in the 1860's on the garden of his monastery in Brünn. He crossed different strains of peas and kept track of hereditary transmission of particular characteristics in hundreds of plants over a number of generations. He thus found significant number rules and could thereby gain fundamental insights into the nature of heredity. The term „variability" groups all those alterations in living beings that, on account of not being hereditary, fall within the category of „modificability". By contrast, alterations that can be passed on through heredity all called mutations. There is no doubt that changes in the hereditary makeup, i.e. mutations, made evolution possible in the first place.



W13520

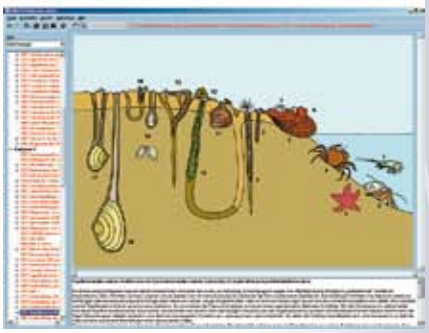
The Wonder of the Animal Cell

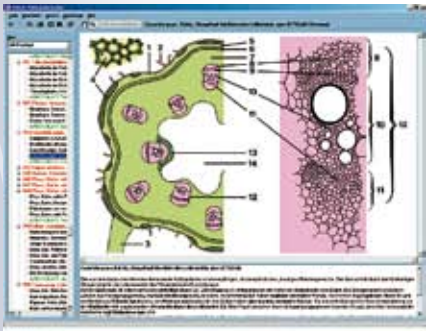
The cell is the basic element of all living organisms. In unicellular organisms, a single cell performs all those vital processes for which multicellular organisms have developed specialized cells: muscle cells can contract, glandular cells secrete substances, sensory cells perceive stimuli and transform them into impulses, nerve cells conduct impulses, connective tissue cells produce an intercellular substance, red blood cells transport oxygen, white blood cells fight pathogens, sex cells insure reproduction and propagation of species. The multiplication of cells results from their division. To increase their effectiveness, cells form tissues. Different tissues work together to perform certain tasks and thereby form an organ. This CD introduces in a graphically clear manner into the variety of cells and tissues occurring in the animal and human body.

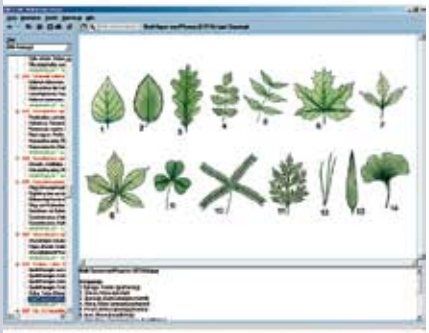
W13522

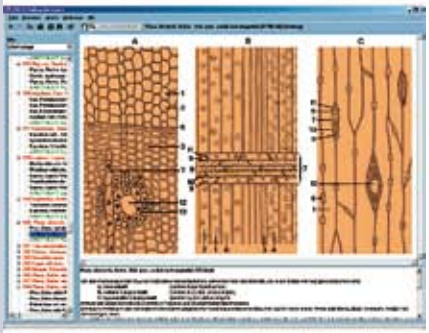
The World of Insects

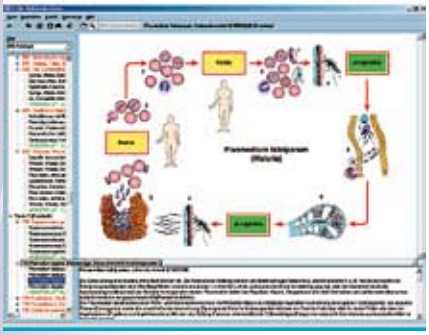
With over 1 million species, arthropods are by far the largest animal group on this planet. They include insects, spiders, millipedes and crustaceans. They share such characteristics as segmented legs and a hard external skeleton made of chitin, which encloses the entire body like an armor and serves both as protection and support. Many microscope enthusiasts started their hobby observing small insects and insect parts. That is easy to understand, considering that insects are ubiquitous and easy to catch. This CD reveals the enormous variety of insects and their fine structures using selected examples.











W13523

Zoology in the Classroom

Morphology, the study of the structure of organisms and of the relationship among their constituent organs, together with taxonomy, the science dealing with the relationships among organisms and their classification into a hierarchical system, are closely associated. Without morphology and taxonomy, biology could not be conducted in a meaningful way. When taught separately, both are tedious subjects for nearly every student. But if the teacher puts structure, function and relationship into a meaningful context, analyzes these factors and shows how a taxonomic unit propagates throughout the available habitats, i.e. when radiation takes place, and when it finally becomes evident that a certain ”blueprint“ has been ”invented“, these otherwise dry subjects gain life and become interesting. This CD offers some interesting insights into some problems regarding structure and function within the context of animal taxonomy. The CD contains a wealth of colour photographs, illustrations and detailed diagrams of basic body structures of the animal classes, as well as micro and macrophotographs that may be enlarged to full-screen size or printed at the touch of a button.

W13524

The Wonder of the Plant Cell

Few things in living nature are so multifaceted as the forms that plant cells can adopt. Depending on their function, they can be symmetrical and smooth-walled filling cells, repeatedly-branched trichomes, star-shaped, ring-shaped, corkscrew-shaped or reticular vessel cells, shut-off cells, storage cells with substances including crystals, woody cells, pollen cells with superficial features characteristic to each plant, etc. Even the leafless plants stand out for their multiplicity of forms: unicellular and multicellular green algae, blue algae, golden algae, fire algae, and particularly the diatomea, with their wildly varying shell forms possessing a remarkable aesthetic appeal.

W13525

Botany in the Classroom

The purpose of this CD is the same as that of CD W13523, but focused on botany. Plant-derived foodstuffs form the basis of human nourishment. Given that modern students enjoy ever diminishing opportunities to observe or take part in sowing, cultivating, harvesting and utilization of crops, this CD attempts to fill that void. The most important crops are listed, noting their flowering periods in Roman numerals. Pictures of plants and data on their provenance, history, cultivation and utilization provide the teacher a wealth of material for a varied and interesting botany lesson.

W13526

Biology of Flowers and Fruits

One of the identifying features of higher plants is the occurrence of flowers and fruits, whose complex structure under the microscope makes for interesting observations. Some plants, such as conifers, build male and female germinal elements in different flowers. The formation of seeds and fruits is determined by the different modes of dispersal, such as by means of edible fruit flesh or of dehydration-resistant grains. Flower biology or ecology examine and describe the interactions occurring in the pollination process between flowers and their non-living and living environment. Among the external forces that make pollen dispersal possible are wind, water and transportation by animals. Of these three, pollination through animals ranks as the uppermost method, being the most effective and common of all.

W13527

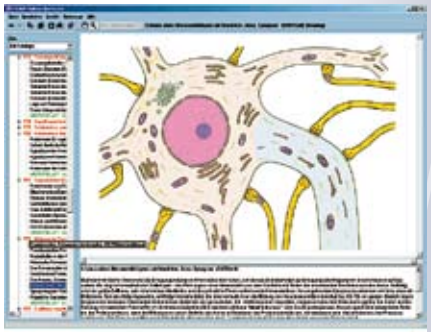
Crop Pests and Controls

Since man started to practice agriculture, he had to ”defend“ his crops against damaging organisms. Often, a large part, if not all, of a harvest is lost to harmful plants or pests, mostly caused by different types of fungi. For their multiplication and propagation, these fungi produce colossal amounts of extremely resistant spores. Exact knowledge of the way of life of these harmful plants is necessary to combat them effectively. The pictures, showing crops affected by pests, will be of interest to hobby gardeners and farmers alike. The CD deals also with a very promising aspect of global environmental protection: biologic pest control. Using well-known, easy to follow examples, the subject is explained and its goal made more accessible.

W13516

Our Environment, Threats and Protection

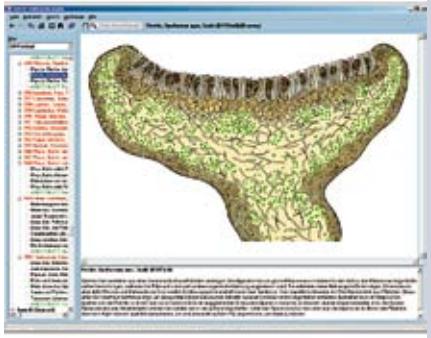
The relentless advance of technology in nearly all areas of life, together with consequences that more often than not exert an influence on our natural make-up, represent a steadily increasing threat to the environment. Comprehensive environmental protection is therefore urgently needed. The new school curricula reflect this need, by including chapters on "Environment, Environmental Threats, Environmental Protection". This CD attempts to provide a vivid support to such classroom work. Based on representative examples in the areas of Landscape, Soil, Water and Air, it shows which activities threaten the make-up of our natural environment and how the resulting perils can be confronted.



W13519

Biotopes und Ecosystems

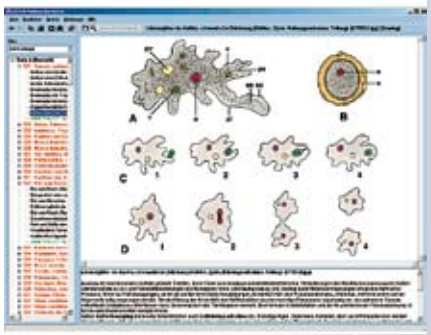
Habitats left in their natural state are becoming increasingly rare. Using selected examples, these habitats' wealth of species, the problems of preserving them and the importance for the overall ecological framework even of small biotopes are documented and discussed. This CD aims at presenting the animal and plant populations of these habitats using typical examples, dealing with their adaptations and their place in the ecosystem. Nearly all photographs were taken in situ, in order to preserve authenticity. The accompanying texts provide detailed explanations on the biology of each species and the emergence and ecology of each habitat. Animal and plant population of a fishpond and a puddle. tarn, moor, timber forest, mountain meadows, shallow coastal waters.



W13528

Life in Water

The fascinating underwater world first reveals its diversity when seen under the microscope. The photographs of this CD unveil the multitude of interesting living organisms that can be found in a single drop of water taken from a pond. It is like a window into a new, wonderful world: the fascinating, improbably rich realm of the smallest living beings. The astonishment caused by things invisible to the naked eye and the joy of watching these tiny creations of Nature provide the basis and stimulus for a lively schoolroom teaching experience. Simultaneously, these small creatures constitute the first link in a feeding chain which leads through small crustaceans and ever larger water animals to humans. The interaction between the tiniest organisms and fishes is sensitive even to small habitat alterations, such as changes in water temperature or in oxygen content.



Further interactive CD-ROMs for teaching in school and education

W13529
Our Waters, Pollution, Protection and Recycling

W13530
The Origin of Life and Evolution

W13531
Embryology and Development

W13532
Evolution in Examples

W13533
Anatomy of Phanerogams

W13534
Anatomy of Cryptogams

W13535
Human Parasites and Diseases

W13536
The Forest as a Habitat

W13537
The World of Butterflies

W13538
Edible and Poisonous Mushrooms

W13539
Healing and Poisonous Plants

W13540
Art Forms in Nature – The Realm of the Infinitesimal

W13541
The Structure of Matter, Part I: Fundamentals

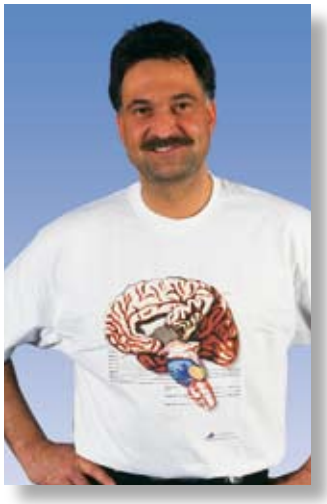
W13542
The Structure of Matter, Part II: Petrography and Mineralogy

Anatomical T-Shirts / Silk Neckties

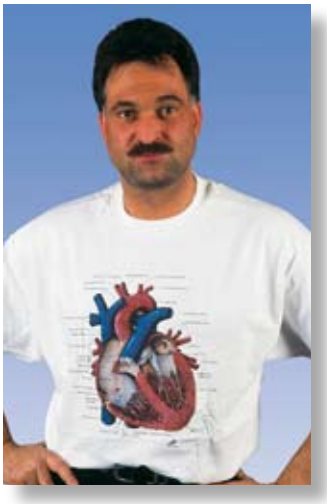
100% pre-shrunk cotton

Musculature
XL = W41013
L = W41014

Skeleton
XL = W41011
L = W41012



Brain
XL = W41039
L = W41040



Heart
XL = W41017
L = W41018

Spine
XL = W41031
L = W41032

“I’m going one step further”
XL = W41099

Silk Neckties

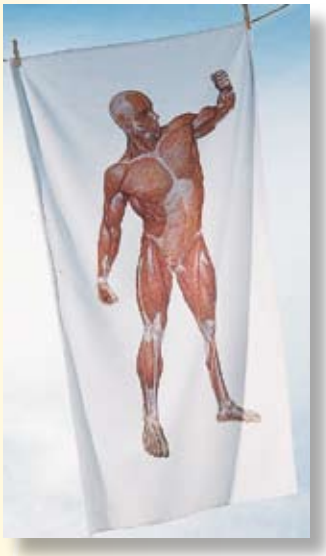
“Going one step further”
W41066 pink
W41067 black

W41063
Spine, black

W41064
“Eating Skeleton”, red

W41065
“No Smoking”, blue

Sport-Skeleton-Neckties
W41060 black
W41061 red
W41062 grey



W11841

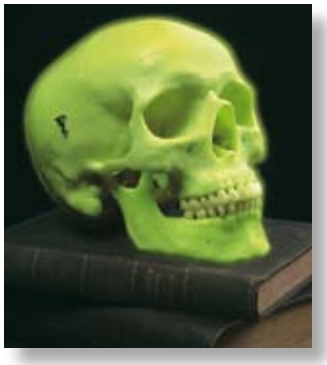
Bath Towel “Muscleman”
145x77 cm

W40046

Magic Thinking Cap
This cap doesn’t make you any cleverer but you’ll surely stand out in a crowd. 100% cotton, one size fits all.

W40919 Gonorrahea, blue
W40920 Gonorrahea, grey

W40919



W40048

A20/N

Neon Skull

This skull is an illuminating example of human anatomy. As you have come to expect from 3B Scientific®, all anatomical details are not only true but glow in the dark as well! A great gift for Halloween or for those students or friends needing a flash of inspiration.
20x13.5x15.5 cm; 0.6 kg

T11005

Desktop Mini-Skull

An anatomical as well as ana(c)omical addition to your home or office.

W18001/1

Mini-Skeleton for Mini-Budget

Surprise your friends, patients or colleagues with this unusual ana(c)omical gift.
48 cm

W18001/1

W40048

Jumbo-Sized Lumbar Mug

A90

W10700

VB90

A70/1

A90

Femur Bone Penholder

Without pens.
45 cm; 0.01 kg

W10700

Finger Bone Pen

16 cm

VB90

Bone with Knot

A thigh bone paper-weight with a knot to remind practitioners.
0.3 kg

A70/1

Lumbar Penholder

Show everyone that you really have got backbone with this unusual and interesting desk accessory. Without pens.
0.01 kg

Article	Motif
W40001	Key Ring Skull
W40003	Key Ring Heart
W40004	Key Ring Spine
W40005	Key Ring Hand
W40006	Key Ring Foot
W40007	Key Ring Hip
W40008	Key Ring Knee
W40009	Key Ring Molar

W10702

12 Eye Key Rings

With movable eyeball, diameter 2.8cm. The set includes 4 keyrings each in green, blue, red.

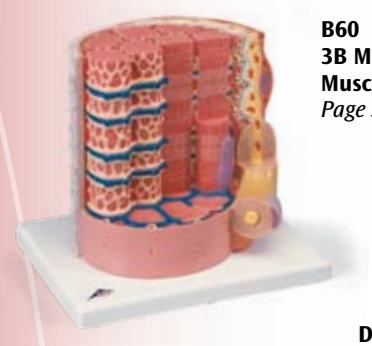
W10702

W10701

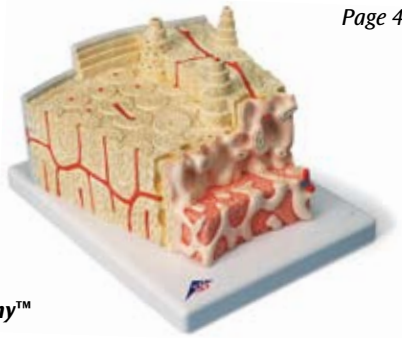
Injection Pen

12.7 cm

W10701



B60
3B MICRO*anatomy*™
Muscle Fibre
Page 30



K13
3B MICRO*anatomy*™
Kidney
Page 46

D17
3B MICRO*anatomy*™
Tongue
Page 51

A79
3B MICRO*anatomy*™
Bone Structure
Page 12

F16
3B MICRO*anatomy*™
Eye
Page 60

G42
3B MICRO*anatomy*™
Artery and Vein
Page 43

K24
3B MICRO*anatomy*™
Liver
Page 45

K23
3B MICRO*anatomy*™
Digestive Tract
Page 45

INDEX

INDEX

3B Scientific History

The international 3B Scientific group of companies is the world's largest and most experienced manufacturer of anatomical teaching aids. The oldest production site was set up as early as 1819 in Budapest, Hungary. The continuously growing success of 3B Scientific is the result of global expansion, based on the production and sales of high-quality medical and scientific teaching aids available at fair prices. The internationally registered brand name 3B Scientific® can be found around the world in the fields of natural sciences, medical training and patient education. The product range includes artificial skeletons, spines, organs, torsos, charts, medical simulators and software as well as products for lectures in biology and physics. The company has been awarded the DIN EN ISO 9001:2000 certification for the excellent quality of its services, products and organizational structures. This official step towards quality management emphasizes the continuing process of innovation, product improvement and customer orientation that is associated with the brand name 3B Scientific®.

3B stands for: ***Best Quality*** ***Best Value*** ***Best Service***

1819 Calderoni founded in Budapest, Hungary
1912 Training Workshops of the German Hygiene Museum founded in Dresden
1948 Paul Binhold Lehrmittelfabrik founded in Hamburg
1950 Production of the first plastic skeleton
1952 First skeleton manufacturing plant opened
1963 New headquarters at Rudorffweg, Hamburg
1965 Introduction of the Torso product line
1970 Introduction of the Binhold company logo
1979 Anatomical models first exported to the USA
1983 First manufacturing of injection moulded skeleton parts
1986 Care simulators added to the product range
1988 Anatomical models first exported to Japan
1991 DHM Lehrmittelfabrik GmbH founded in Dresden
1993 Acquisition of Calderoni and foundation of Biocalderoni in Hungary
1995 American 3B Scientific founded in Atlanta, USA
1996 New logo for the 3B Scientific Group
1997 Nihon 3B Scientific founded in Niigata, Japan
1998 France 3B Scientific founded in Bartenheim, France
1998 Merger of Paul Binhold Lehrmittelfabrik GmbH and DHM Lehrmittelfabrik to form 3B Scientific GmbH
1999 China 3B Scientific founded in Suzhou, China
2000 DIN EN ISO 9001:2000 certification
2001 Introduction of the full 3B Scientific® product range for physics
2002 Italy 3B Scientific founded in Bologna, Italy
2003 España 3B Scientific founded in Valencia, Spain
2003 UK 3B Scientific founded in Weston-super-Mare, United Kingdom
2004 All-European distributor of SEIRIN® acupuncture needles
2004 Acquisition of ELWE Didactic GmbH in Klingenthal
2005 Acquisition of TELTRON® brand name and production
2005 Russia 3B Scientific founded in St. Petersburg.
2006 Brasil 3B Scientific founded in Joinville, Brasil.
2007 Thai 3B Scientific Co Ltd., founded in Bangkok, Thailand

For order address, please see back cover of this catalogue.

...going one step further

Order

Address _____

_____

_____

_____

In case of questions concerning your order

Telephone _____

Fax _____

E-mail _____

Profession _____

Product No.	Product Description	Quantity	Unit Price	Total
3B Catalogue	Physics ☐ Medical ☐ Experiments ☐		Free of Charge	
			Total Order Value	
			VAT	
			Invoice*	

Thank you for ordering 3B Scientific® Products

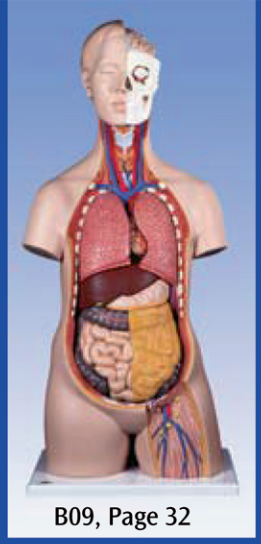
*All prices are ex works, uninsured, packing in export cartons included. Shipping costs will be calculated separately according to your country and order volume and will be added to the order confirmation for your approval.

Date, Signature _____

X64E 09/2009

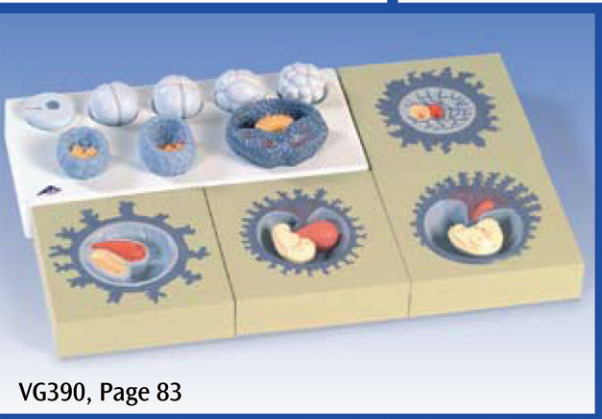
A291, Page 17

F10, Page 58



B09, Page 32

M34/1, Page 12



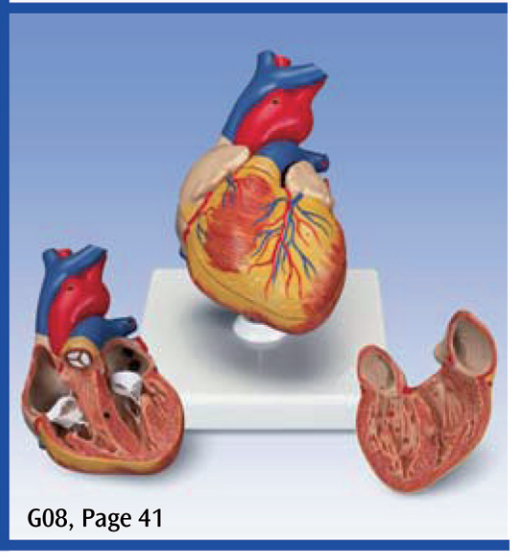
VG390, Page 83

A10, Page 8

U30706, Page 92

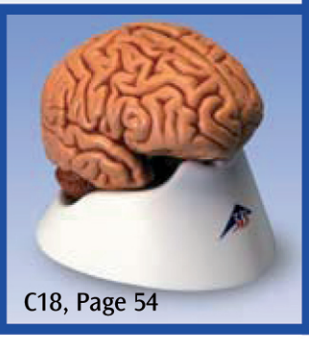
T30016 T30015

Page 70



G08, Page 41

T21023, Page 73



C18, Page 54