

3B Scientific

BIOLOGY

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HUMAN BIOLOGY
PALAEANTHROPOLOGY
ZOOLOGY

BOTANY
CELL BIOLOGY
HEALTH EDUCATION

ECOLOGY
MICROSCOPY

BIOLOGY

Dear Customer,

Are you looking for ways to make learning even more interesting? If so, we hope you will be inspired by our new Biology catalogue.

Throughout this catalogue, you will see our extensive range of Biology and Health Education products. You will find lifelike models, replicas and specimens for Human Biology, Zoology and Botany, microscope slides, apparatus for many student experiments on subjects including Cell Biology and Genetics, models for Health instruction and much, much more.

You will also find our full range of products and all of our latest offers at www.3bscientific.com.

We hope that this catalogue will inspire you and, of course, your students and we look forward to receiving your orders and any suggestions for the future. Our team of experts are always available to answer any of your questions or queries, so please do not hesitate to contact us.

Yours sincerely,

Dr. Johannes Recht
Natural Sciences Business Field Manager

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Information about the Animal Cell model shown here can be found on page 24. ▶



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WQC

Quality Management ISO 9001 DEKRA certified

You can find even more products covering these topics on our web site.

Items marked this symbol are microscope slides, the details of which can only be seen under a microscope.



Advantages of 3B Scientific® Skeletons

- Accurately detailed natural cast of an adult skeleton (over 200 bones) with near-realistic size and weight
- Made of high-quality, tough materials, non-toxic
- Three-part mounted skull with individually inserted teeth and naturally shaped eye sockets
- Robust rib cage with shock-resistant, stable rib cartilage
- Quickly and easily removable limbs
- 5-wheeled stand with brakes
- Exceptional value for money
- 3 year guarantee
- Supplied with metal stand or hanging stand and transparent dust cover

More skeleton versions at 3bscientific.com!

Skeleton Model – Stan

Thanks to its very high quality and robust construction Stan, the standard model of a human skeleton, has been appreciated throughout the world for decades.

Height: approx. 170 cm resp. 186 cm
Weight: approx. 7.6 kg resp. 8.3 kg

Skeleton Model – Stan – Metal Stand with 5 Wheels
B-1013853

Skeleton Model – Stan – Hanging Stand with 5 Wheels
B-1013857



Skeleton Model – Sam – The Luxury Version

With Sam, you can demonstrate the movements of the skull via the head joints, and thanks to the fully flexible spine, you can adjust the model to place it in natural body postures. The unique combination of muscle origins and insertions, the numbered bones, flexible ligaments and flexible spine with a slipped disc between the 3rd and 4th lumbar vertebrae clearly the show medical and anatomical interest of this top model's more than 600 structures.

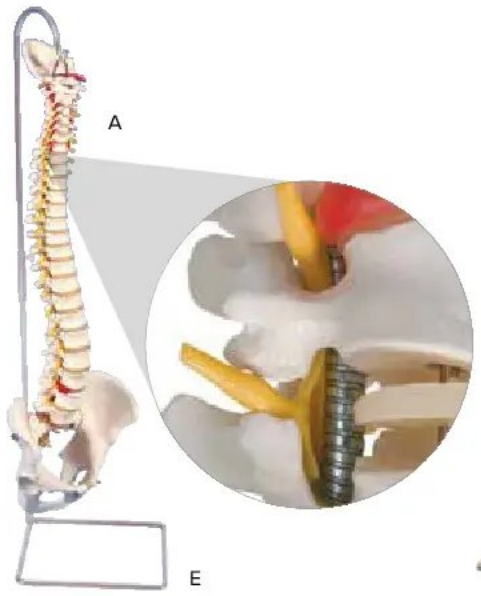
An overview of Sam's advantages:

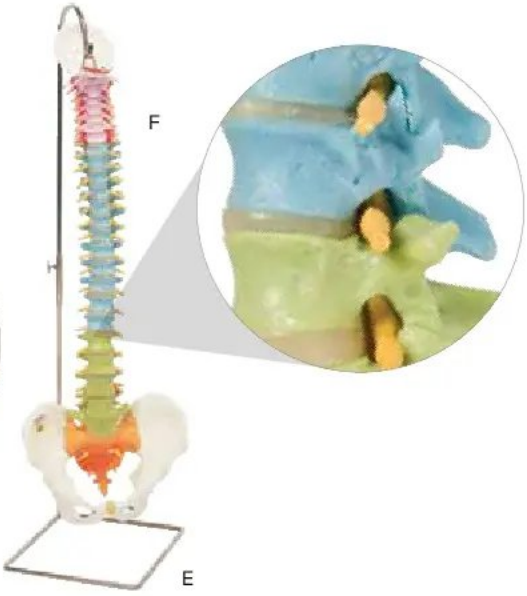
- Over 600 hand-numbered details identified in the handbook
- Hand-painted muscle origins and insertions
- Flexible spine and ligaments
- Slipped disc between the 3rd and 4th lumbar vertebrae
- Protruding spinal nerves and vertebral arteries

Height: approx. 176.5 cm resp. 192.5 cm
Weight: approx. 9.97 kg

Skeleton Model – Sam – Metal Stand with 5 Wheels
B-1013867

Skeleton Model – Sam – Hanging Stand with 5 Wheels
B-1013872





Robust Flexible Spine Model
Particularly robust model due to its special mounting on stable but flexible helical springs, making this spine model suitable for regular active use in lessons.
Full male pelvis. Stand is not included with spine (see below B-1000132).
Height: approx. 74 cm
Weight: approx. 2 kg
A. Robust Flexible Spine Model
B-1000130
B. Robust Flexible Spine Model with Femur Heads
B-1000131

Didactic Flexible Spine Model
Educationally designed with colour-coded differentiation of the sections of the spine.
Full male pelvis. Stand is not included with spine (see below B-1000132).
Height: approx. 74 cm
Weight: approx. 1.9 kg
F. Didactic Flexible Spine Model
B-1000128
G. Didactic Flexible Spine Model with Femur Heads
B-1000129

More options at 3bscientific.com!

Advantages of 3B Scientific® Spines

- Accurately detailed natural cast of an adult spine
- Near-realistic size and weight
- Made of high-quality, tough materials, non-toxic
- Consisting of occipital bone, neck (cervical) vertebrae, thoracic vertebrae, lumbar vertebrae, sacrum and coccyx and iliac wings
- Also available with femur heads
- Movable mounting for demonstrating healthy posture and spinal curvature
- Slipped disc between the 3rd and 4th lumbar vertebrae
- Protruding spinal nerves and vertebral arteries
- 3 year guarantee

Classic Flexible Spine Model
Full male pelvis. Stand is not included with spine (see below B-1000132).
Height: approx. 74 cm
Weight: approx. 1.8 kg
C. Classic Flexible Spine Model
B-1000121
D. Classic Flexible Spine Model with Femur Heads
B-1000122

E. Stand for Spinal Columns, 3 part
Stand made of nickel-steel with stable base for setting up on a table or a holder for wall mounting. Assembly accessories included.
B-1000132





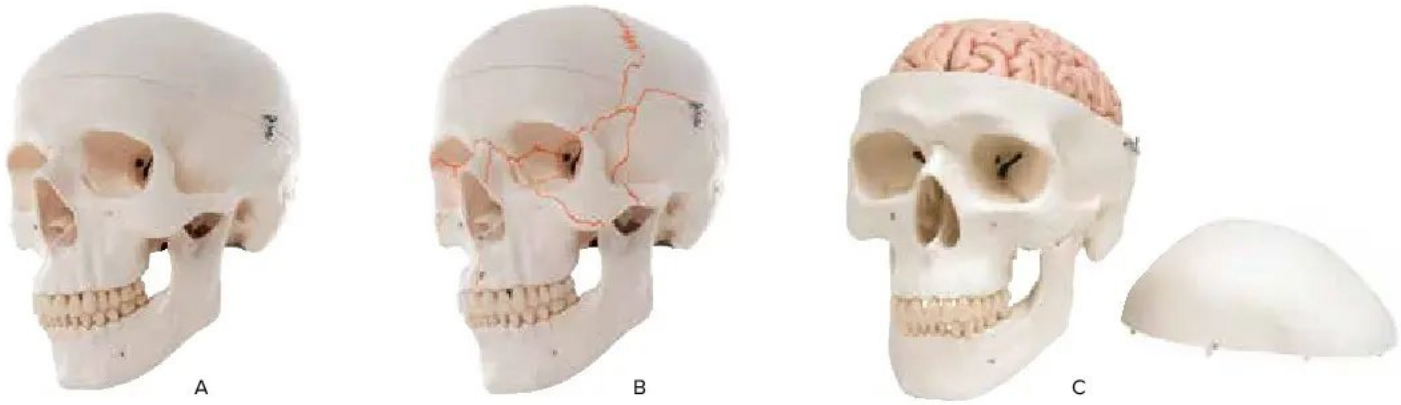


Beauchene Adult Human Skull Model – Didactic Coloured Version, 22 part

The best-selling 3B Scientific® Beauchene adult human skull is a natural cast of a human Beauchene skull of European origin. It illustrates the complex structure of the human skull in particularly clear fashion. The 22 authentically detailed individual bones can easily be put together at the well-defined seams in a stable structure thanks to inconspicuous connectors. The skull is therefore safe and simple to use at all times, without it falling apart unintentionally. The well-meshed seams illustrate the degree of fusing of a real human skull very realistically.

The bones are colour-coded for educational purposes in 9 different, so that the various parts of the skull can be easily distinguished. Paired bone plates share the same 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.

Dimensions: approx. 21x14x16 cm^3
Weight: approx. 0.7 kg
B-1000069



A B C

Advantages of 3B Scientific® Skulls

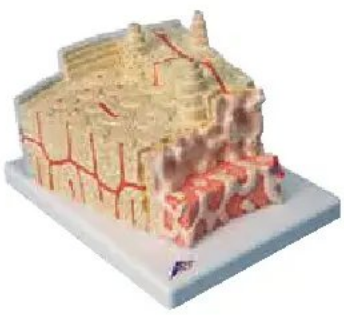
- High quality original human skull cast
- Handmade from hard, unbreakable plastic
- Highly accurate representation of the fissures, foramina, processes, sutures etc.
- 3 year guarantee

Classic Human Skull Model

The classic skull provides extraordinary detail. It can be disassembled into skull cap, base of skull and mandible. As an option, a 5 part brain can be purchased separately (B-1000226 see p.11) that fits into the skull. Model B-1000049 with 5 part brain. Model B-1000052 numbered with skull sutures drawn in colour. Including description. Dimensions: approx. 20x13,5x15.5 cm^3, Weight: approx. 0.6 kg resp. 1.1 kg

A. Classic Human Skull Model, 3 part
B-1000046
B. Numbered Human Classic Skull Model, 3 part
B-1000052
C. Classic Human Skull Model with Brain, 8 part
B-1000049

More options at 3bscientific.com



Bone Structure, 80 Times

This extremely detailed bone structure model depicts a three-dimensional section of a lamellar bone, showing a typical structure of a tubular bone enlarged 80 times. The bone structure model shows various planes 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. Supplied on base.

Dimensions: approx. 26x19x14.5 cm^3
Weight: approx. 0.8 kg
B-1000154



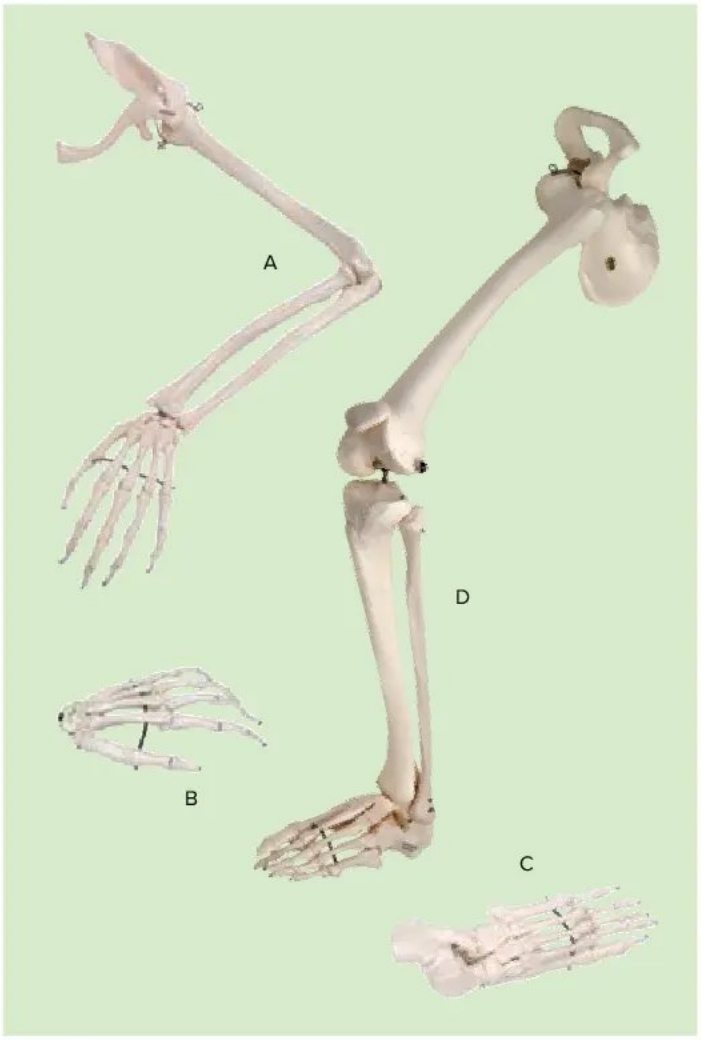
Cancellous Bone, 100 Times

The model shows the spongy bone inside the bone. Its filigree architecture is determined by influences such as pressure, bending and torsion. Using innovative micro CT technology, we have managed to reconstruct an exact 3-dimensional copy of a piece of cancellous bone from an original and enlarge it 100 times.

Dimensions: approx. 17x17x23 cm^3
Weight: approx. 0.29 kg
B-1009698

Advantages of Hand and Foot Skeletons

- Accurately detailed natural cast
- Hand-made from hard, unbreakable plastic
- Movable mounting
- 3 year guarantee



A. Arm Skeleton with Scapula and Clavicle
True-to-life model of the bones of the arm. Allows for realistic demonstration of the movement of joints.
Weight: approx. 0.6 kg
B-1019377

B. Hand Skeleton Wire Mounted
True-to-life model of the bones of the hand. Bones of the hand movably mounted on wires.
Weight: approx. 0.1 kg
B-1019367

C. Foot Skeleton Wire Mounted
True-to-life model of the bones of the foot. Bones of the foot movably mounted on wires.
Weight: approx. 0.2 kg
B-1019355

D. Leg Skeleton with Hip Bone
True-to-life model of the bones of the leg. Allows for realistic demonstration of the movement of joints.
Weight: approx. 1.3 kg
B-1019366

More models at 3bscientific.com!





Advantages of Functional Joint Models

- Extremely realistic, life size model of joints with tendons
- Fully movable to demonstrate the full range of physiological motion

Functional Shoulder Joint
Consisting of the scapula, clavical, portion of humerus and joint ligaments. On stand.
Dimensions: approx.16x12x20 cm^3
Weight: approx. 0.35 kg
B-1000159

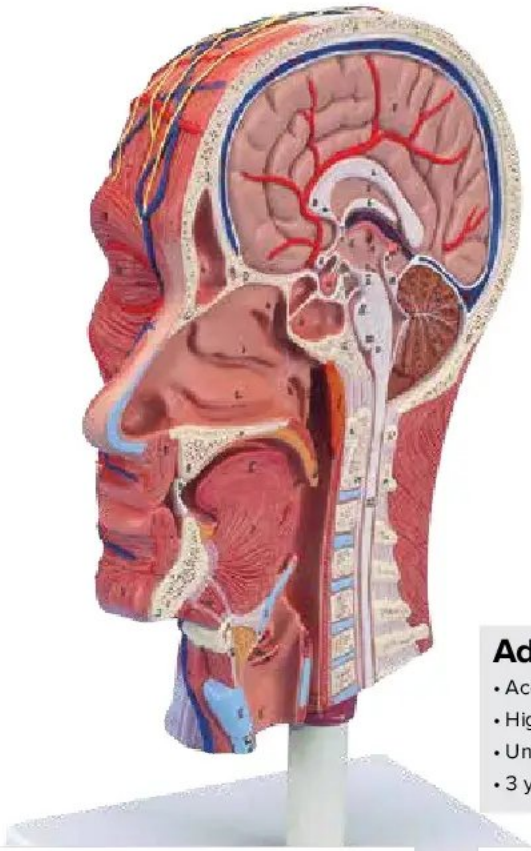
Functional Knee Joint
Model consists of portion of femur, tibia and portion of fibula; also includes meniscus, patella with quadriceps tendon and joint ligaments, including the ACL and PCL. On stand.
Dimensions: approx.12x12x34 cm^3
Weight: approx. 0.4 kg
B-1000163

Advantages of Miniature Joint Models

- Realistic model of joints at half life size
- Cross-section of interior of joints on base
- For demonstrating the possibilities of physiological motion
- Cartilage distinguished by colour

Mini Hip Joint with Cross Section
Consisting of hip bone and top part of femur. On stand.
Dimensions: approx.16x12x20 cm^3
Weight: approx. 0.2 kg
B-1000168

Mini Elbow Joint with Cross Section
Consisting of end part of humerus, ulna and radius. On stand.
Dimensions: approx.16x12x20 cm^3
Weight: approx. 0.2 kg
B-1000174







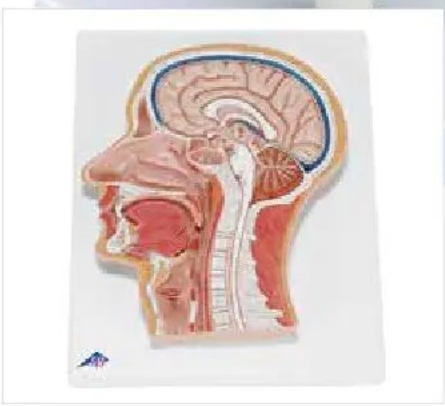
Half Head with Musculature

This high quality model represents the outer, superficial and the internal (median section) structures of head and neck. The half head with musculature is delivered on removable stand for easy display in a classroom or doctor's office. Important anatomical structures are present.

Dimensions: approx. 22x18x46 cm³
Weight: approx. 1.1 kg
B-1000221

Advantages of 3B Models

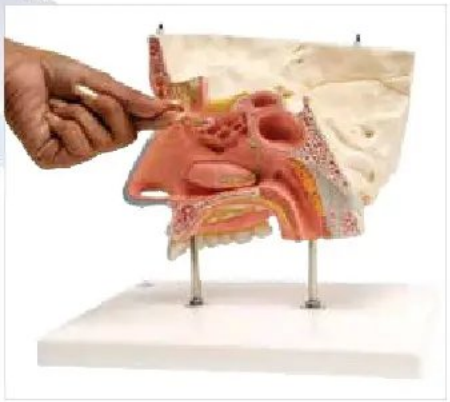
- Accurately detailed, hand painted
- High-quality, tough materials, non-toxic
- Unique value for money
- 3 year guarantee



Median Section of the Head

This relief model shows all relevant structures of the human head in great detail.

Dimensions: approx. 26x33x5 cm³
Weight: approx. 1 kg
B-1000219



Nose Model with Paranasal Sinuses, 5 part

This nose model illustrates the structure of the nose with the paranasal sinuses in the upper right half of a face enlarged 1.5 times.

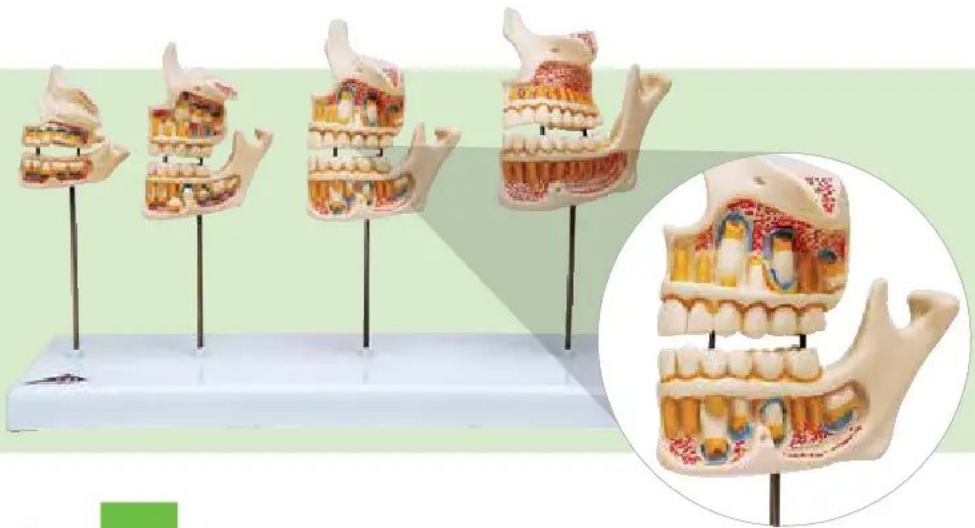
Dimensions: approx. 26x19x24 cm³
Weight: approx. 0.8 kg
B-1000254



Tongue Model, 2.5 Times Life Size, 4 part

This tongue model shows the lower jaw up to the second molar, the tongue with mouth floor musculature in median section and the right sublingual and submandibular gland. Tongue on removable base.

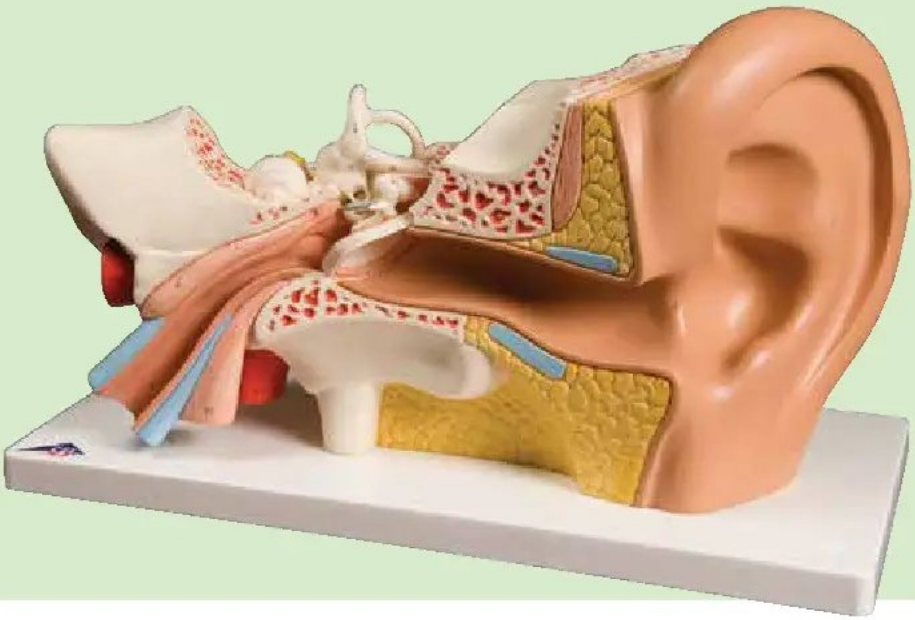
Dimensions: approx. 23x17x16 cm³
Weight: approx. 0.8 kg
B-1002502



Dentition Development

The dentition development model is cast from natural specimens, 4 upper and lower jaw halves from 4 different stages of dentition development: New born, approx. 5-year old child, approx. 9-year old child, young adult

Dimensions: approx. 33x10x20 cm³
Weight: approx. 0.5 kg
B-1000248



Ear Model, 3 Times Life Size, 4 part

This high quality model of the human ear represents outer, middle and inner ear. The detailed human ear model has removable eardrum with hammer, anvil and stirrup as well as 2-part labyrinth with cochlea and auditory/balance nerve. Ear on base for easy display in a classroom. This ear model is a great way to teach and study the anatomy of the human ear!

Dimensions: approx. 34x16x19 cm^3
Weight: approx. 1.25 kg
B-1000250



Functional Ear Model

This functional ear 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 functional ear model for the studying of various ear-functions from different angles at the same time. One single ear model may be studied by several students simultaneously in an action-oriented learning situation. Includes a four-colour explanatory chart. Don't just teach the anatomy and function of the human ear, show it!

Dimensions: approx. 20x26x34 cm^3
Weight: approx. 0.8 kg
B-1005052



Functional Eye

With this functional eye 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.

Dimensions: approx. 45x30 cm^2
Weight: approx. 2 kg
B-1005046

More models at 3bscientific.com!



Human Eye Models

Model of a human eye. Features sclera (white of the eye) and cornea plus muscle attachments, which can be separated into two halves, plus choroid with retina and iris, which is also separable into two, as well as a lens and a glass body. Mounted on base.

Dimensions: approx. 13x14x21 cm^3 resp. 9x9x15 cm^3
Weight: approx. 0.6 kg resp. 0.2 kg

A.Human Eye 5 Times Life Size, 6 parts
B-1000255

B. Human Eye 3 Times Life Size, 6 parts
B-1000259



Determining differences in time for sound to travel to right and left ears

Experiment Topics:

- Directions of sound
- Determining differences in time for sound to propagate to left and right ears
- Effect of linear distortions on cavity resonance

Equipment Set "Stereophonic Hearing"

Equipment set for investigation of directionality of sound and determining differences in time for sound to propagate to left and right ears by generation of knocking sounds in a closed tube. The effect of linear distortions on the directionality of cavity resonance can also be investigated by dipping two ends of a tube, at the same time or in alternation, into a beaker which is either empty or half-filled with water. The set consists of a stethoscope with various tubes and a plastic beaker in a rugged plastic case with foam inlays in the shape of the apparatus and a transparent lid.

Contents: 1 Stethoscope, 2 Spare earpieces
1 Tube (1 m), 2 Tubes (0.5 m), 2 Toothpicks,
1 Plastic beaker, 1 Storage case
B-1018551





Equipment Set "Sensory Physiology"

This sensory physiology kit allows students to conduct various experiments in the fields of hearing, seeing and feeling. All instruments of the kit come in a practical carrying case. The experiments and the underlying principles are described in detail in the supplied instruction manual.

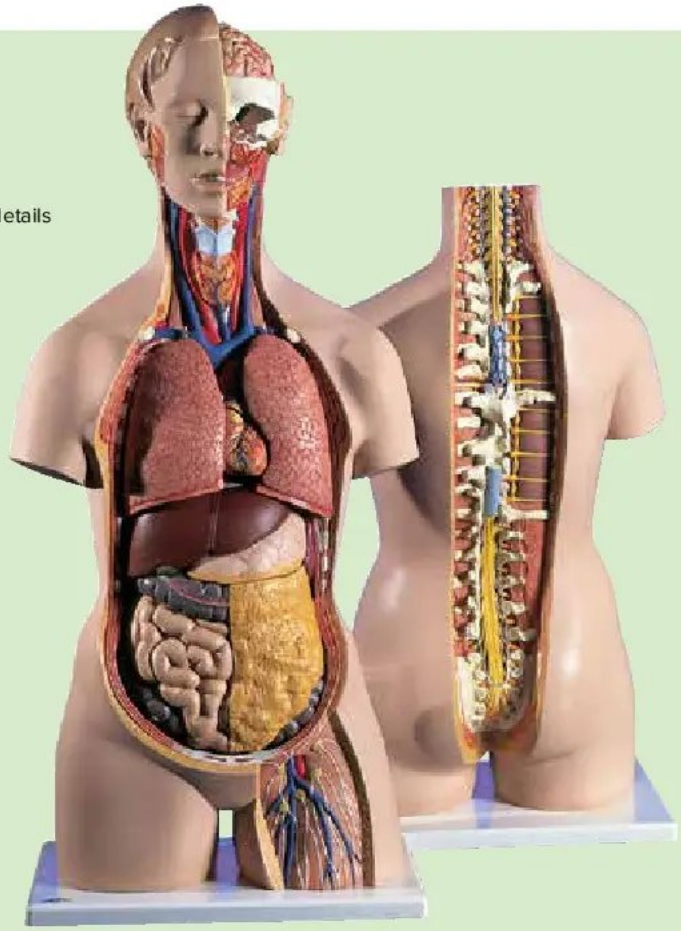
Contents: Carrying case with foam inserts, instrument for directional hearing, resonance tube, calipers, tactile hair, cold/hot probe, 4 transparent plastic cards for geometrical-optical illusions, "blind spot" test card, light-proof goggles with 8 attachments, 2 inversion prisms for the goggles, controllable motor with wall plug transformer, 3 pattern discs, experiment instructions on CD-ROM (pdf file) in German or English.
B-1005071

Inverting Spectacles

Spectacles with two fully rotatable inverting prisms in a shielded spectacle frame. The inverting prisms reverse incoming light rays, turning the world upside down, so to speak, and making it unexpectedly difficult for the wearer to perform even the simplest of daily tasks such as reaching for objects, drawing, moving about in a room etc.
B-1000895

Advantages of 3B Scientific® Torsos

- Hand-made from unbreakable plastic, non-toxic
- Accurately detailed, life size, hand-painted
- Developed and modeled in Germany
- Torsos including 3B torso guide with extensive descriptions of all anatomical details



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

This human unisex torso model has the unique feature of an open neck and back section going from the cerebellum to the coccyx. Vertebrae, intervertebral discs, spinal cord, spinal nerves, vertebral arteries, and many other features are represented in detail in this colourful replica of the human anatomy. This human torso model includes the following removable parts and organs: 7th thoracic vertebra removable, 6-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.

Dimensions: approx. 87x38x25 cm^3, weight: approx. 9 kg

B-1000193



Classic Unisex Torso, 12-part

The following components of this unisex 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

Dimensions: approx. 87x38x25 cm^3
Weight: approx. 8.6 kg

B-1000186

More torsos at 3bscientific.com!



Brain Model, 2 part

Contrasting colours are used to indicate various anatomic structures in the human brain, making this high quality model perfect for beginning anatomy studies of the human brain. Delivered with removable base.

Dimensions: approx. 15x14x17.5 cm^3
Weight: approx. 0.9 kg

B-1000222



Classic Brain Model, 5 part

This midsagittally sectioned model is an original anatomical cast of a real human brain. The brain is delivered on a removable base for easy display in the classroom. The components of the brain's left half are: Frontal and parietal lobe, Temporal and occipital lobe, Encephalic trunk, Cerebellum.

The brain model will fit inside the B-1000046 and B-1000052 skull models (see p. 6).

Dimensions: approx. 13x14x17.5 cm^3
Weight: approx. 0.9 kg

B-1000226



Neuro-Anatomical Brain, 8 part

This deluxe brain is medially divided. On the right half of this brain, you will find a coloured, systematic grouping and representation of the cerebral lobe. The left half of the brain shows: Pre- and post-central region, broca and Wernicke areas, Heschl's gyrus, brain nerves, ventricles. Both halves of this brain can be disassembled into: Frontal with parietal lobes, temporal with occipital lobes, half of brain stem, half of cerebellum.

Delivered on a removable base.

Dimensions: approx. 14x14x17.5 cm^3
Weight: approx. 0.9 kg

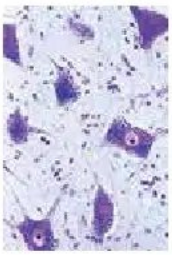
B-1000228



Nervous System, 1/2 Life Size

This nervous system relief model shows a schematic representation of the central and peripheral nervous system. An excellent nervous system model to study the structure of the human nervous system. This nervous system model is 1/2 life size and is a great teaching tool. The nervous system model is delivered on baseboard.

Dimensions: approx. 80x33x6 cm^3
Weight: approx. 3.5 kg
B-1000231



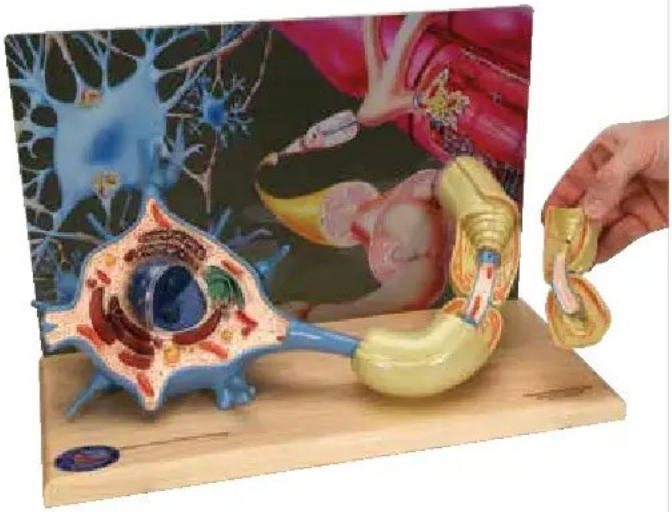


Series of Microscope Slides "Nervous System"

11 microscope slides with English text.

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

B-1004244



Motor Neuron Diorama

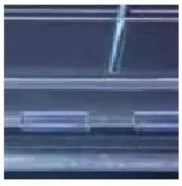
Motor neuron diorama magnified more than 2,500 times, this motor neuron model represents a fully three-dimensional reproduction of a motor nerve cell situated within a milieu of interacting neurons and a skeletal muscle fibre. The membranous envelope has been cut away from the neuron on the motor neuron model to expose the cytological ultra structure, 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 of the motor neuron model. A section of the axon lifts off of the motor neuron model to let you view the tightly-wound layers of the enveloping myelin sheath and neurolemma, as well as the Schwann cell which formed them.

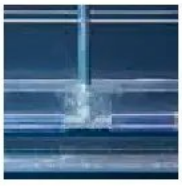
Motor neuron diorama mounted on a wooden base.

Dimensions: approx. 43x20x28 cm^3
Weight: approx. 3 kg
B-1005553









Experiment Topics:

- Simulation of continuous conduction along non-myelinated axons
- Simulation of salutatory conduction by means of a model experiment
- Transmission of information by neurotransmitters

Experiment Set "Conduction of Impulses to Nerve Fibres"

Model for simulating the conduction of impulses along nerve fibres.
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 required chemicals (hydrogen peroxide, sulphuric acid, sodium chloride solution) are not included.

Contents: 1 acrylic trough, 3 iron rods, 1 zinc electrode
15 jackets for isolation of sections of the iron rod, sand paper, detailed experimental instructions
B-1000538



Advantages of 3B Scientific® Heart Models

- Extremely detailed and true to life
- Life-size
- Ideal for demonstrations

Magnetic Heart Model, Life Size, 5 parts

This unique life-size model of a heart is a natural cast of a real human heart. The section across the central plane is particularly interesting. The model is distinguished from ordinary models by the following features:

- 2 atria and 2 ventricles show all the normal anatomical structures of the papillary muscles and heart valves
- Uniquely dissected in the median plane to optimally demonstrate the path of the oxygenated and deoxygenated blood
- The heart model shows both the diastolic and systolic state. In the model itself the valves are shown in the diastolic state and in the detail view on the base the valves are shown in the systolic state
- The heart valves are made of elasticated plastic making them very durable
- Easy and fun to use magnetic assembly (5 pieces) for easy demonstrations
- The base displays the heart in its natural position in the human body

Dimensions: approx. 25x21x13 cm^3
Weight: approx. 1.52 kg
B-1010006



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 the human heart. Heart just slightly smaller than life-size with exquisite anatomical detail throughout. Great model of the anatomy of the human heart. Stand included with this high quality heart.

Dimensions: approx. 19x12x12 cm^3
Weight: approx. 0.3 kg
B-1017800



Blood Messure 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.

Weight: approx. 0.4 kg
B-1005075

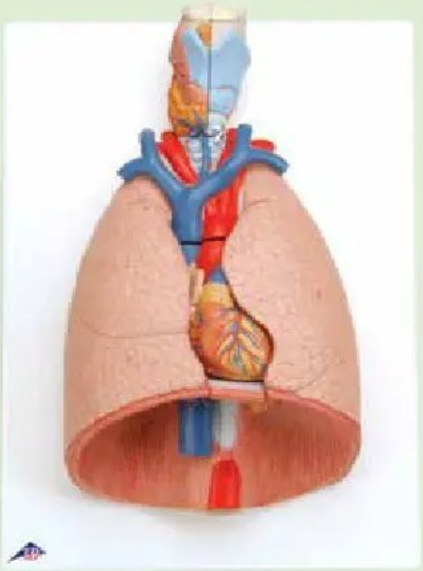


Functional Heart and Circulatory System

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. The functional heart and circulatory system are mounted on a baseboard with support legs and supplied with teacher's guide, red dye and syringe for refilling the system.

Dimensions: approx. 38x36x16 cm^3
Weight: approx. 1.5 kg
B-1005045

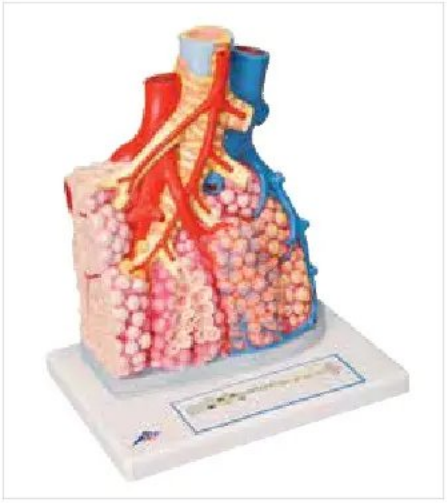
More heart models at 3bscientific.com!



Lung Model with Larynx, 7 part

The high quality lung model contains the following removable parts for added anatomical detail: 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 for easy display in classroom.

Dimensions: approx. 31x41x12 cm^3
Weight: approx. 2.2 kg
B-1000270



Pulmonary Lobule with Surrounding Blood Vessels

The model shows an external pulmonary lobe with a magnification of 130x. The following are represented: segmental bronchus and its terminal branches (bronchioles), alveolus opened on the right side, pulmonary vessels and their capillary networks, branch of a bronchial artery, pulmonary pleura, connective tissue septum on the left side, single opened alveolus with surrounding capillary network with a magnification of approx. 1000x on the rear side. A graphic image on the stand of the model shows the structure of the air way in the lungs up to the alveolus.

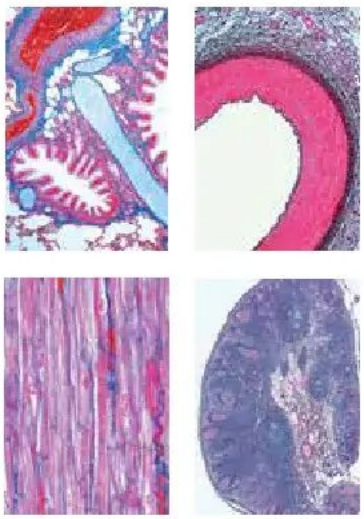
Dimensions: approx. 26x33x19 cm^3
Weight: approx. 1.35 kg
B-1008493

Series of Microscope Slides "Respiratory and Circulatory System"

10 microscope slides with English text.

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

B-1004238



Relief Model Digestive Tract

Life-size digestive system model that demonstrates the entire digestive system in graphic relief. Digestive System features: nose, mouth cavity and pharynx, oesophagus, GI tract, liver with gall bladder, pancreas, spleen. The duodenum, caecum and rectum of the digestive system are opened. The transverse colon wall is removable. Mounted on baseboard.

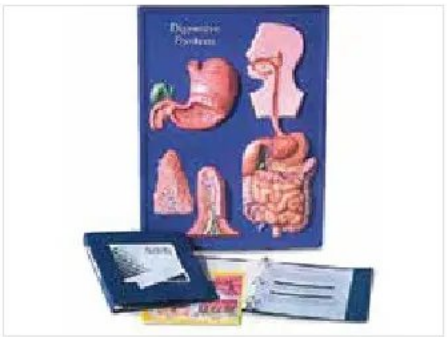
Dimensions: approx. 81x33x10 cm^3
Weight: approx. 4.4 kg

Digestive System, 2 part
B-1000306

Digestive System, 3 part
B-1000307

As for B-1000306. In addition, the front half of the stomach can be removed.

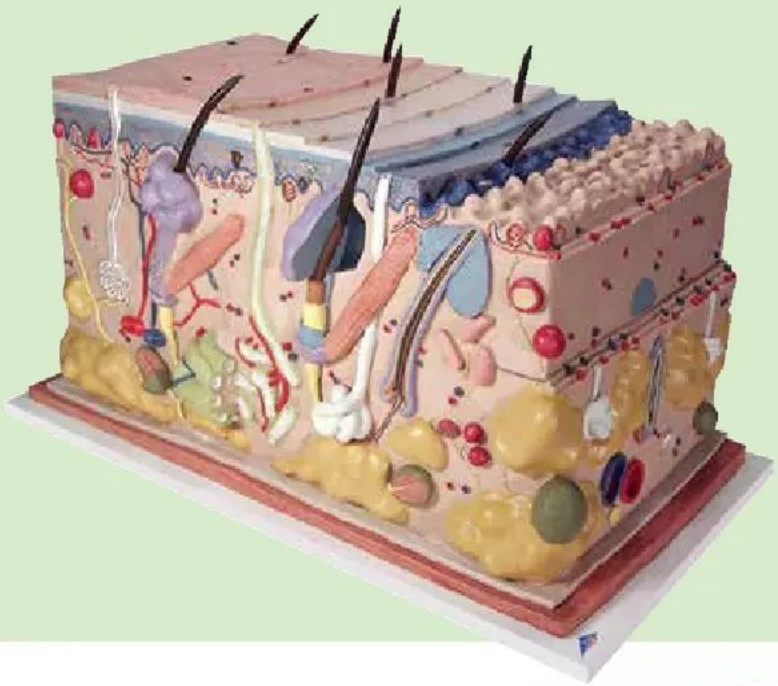




Digestive System Model Activity Set

Depiction of the digestive system in a relief model with sectional views and enlargements of the stomach and intestines. Supplied with ring binder containing background information for teachers, fundamental information for students, learning exercises, glossary, colour slides, copying templates and a key to the structures in the model. Text in English.

Dimensions: approx. 61x45 cm^2
Weight: approx. 0.87 kg
B-1005473



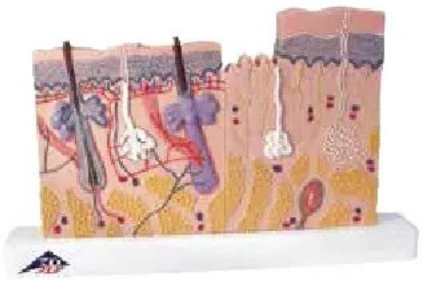
Advantages

- Large, authentically detailed model of skin
- Hairs, hair roots, sebaceous glands, sweat glands, receptors, nerves and blood vessels are all depicted
- Even the finest of structures can be identified

Block Model "Skin", 70 Times Life Size

This unique skin model shows a section of human skin in three dimensional form. Individual skin layers are differentiated, and important structures of the skin such as hair, sebaceous and sweat glands, receptors, nerves and vessels are shown in detail. The high quality skin block model is mounted on baseboard. Demonstrating the anatomy of the human skin has never been easier!

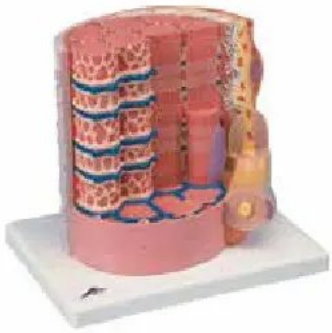
Dimensions: approx. 44x24x23 cm^3
Weight: approx. 3.6 kg
B-1000291



Skin Section, 40 Times Life Size

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

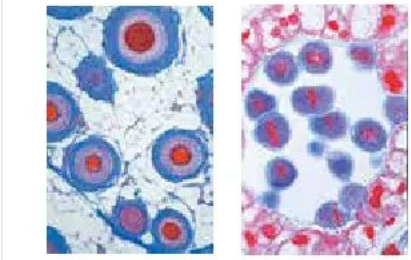
Dimensions: approx. 24x15x3.5 cm^3
Weight: approx. 0.2 kg
B-1000290



3B MICRO*anatomy*™ Muscle Fibre – 10,000 Times Magnified

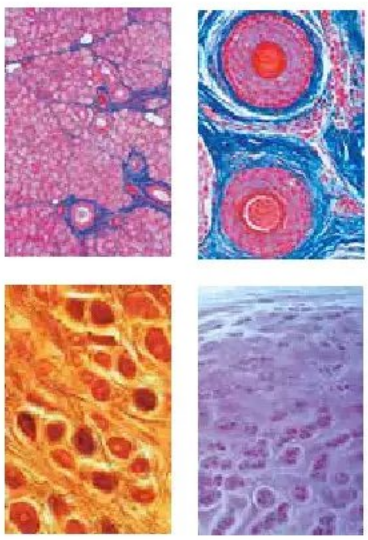
This micro-anatomy model magnifies the anatomy of the human muscle fibre approximately 10,000 times. This muscle model illustrates a section of a skeletal muscle fibre and its neuromuscular end plate. The muscle fibre is the basic element of the diagonally striped skeletal muscle.

Dimensions: approx. 23.5x26x18.5 cm^3
Weight: approx. 1.1 kg
B-1000213



Series of Microscope Slides "Human Scalp and Hair"

12 microscope slides with English text.
1. Human scalp, vertical sec. shows l.s. of hair follicles; 2. Human scalp, horizontal sec. shows t.s. of hair follicles; 3. Natural blonde and black hair; 4. Grey hair; 5. Eyelash; 6. Hair of beard 7. Hair from infant 8. Artificially bleached hair 9. Split hair tips; 10. Singed hair; 11. Eggs of louse attached to the hair, w.m.; 12. Human head louse (Pediculus capitis), w.m.
B-1004268



Series of Microscope Slides "Human Histology, Basic Set"

This set of 40 specially selected specimens demonstrate the key tissue and organs of human beings, along with accompanying text. The microtome slices are mostly 6 – 8 micrometres in depth. Use of well established and durable special colourings ensure clear, multi-coloured representation of tissue structures. Uses AZAN staining colours. 1. Squamous epithelium, human, isolated cells; 2. Areolar connective tissue, human w.m. 3. Hyaline cartilage, human t.s. 4. Compact bone, human t.s. 5. Striated muscle, human l.s. 6. Heart muscle, human l.s. and t.s. 7. Artery, human t.s. 8. Vein, human t.s. 9. Lung, human t.s. 10. Blood smear, human; 11. Spleen, human t.s. 12. Thyroid gland, human t.s. 13. Thymus gland from human child t.s. 14. Tongue, human t.s. 15. Tooth, human l.s. 16. Parotid, human gland t.s. 17. Esophagus, human t.s. 18. Stomach, human, fundic region t.s. 19. Duodenum, human t.s. (small intestine); 20. Colon, human t.s. (large intestine); 21. Pancreas, human t.s. 22. Liver, human t.s. 23. Vermiform appendix, human t.s. 24. Kidney, human t.s. 25. Adrenal (suprarenal) gland, human t.s. 26. Ovary, human t.s. 27. Uterus, human t.s. 28. Placenta, human t.s. 29. Testis, human t.s. 30. Epididymis, human t.s. 31. Cerebrum, human t.s. 32. Cerebellum, human t.s. 33. Spinal cord, human t.s. 34. Sympathetic ganglion, human t.s. 35. Skin of palm, human t.s. 36. Scalp, human, l.s. of hair follicles; 37. Scalp, human, t.s. of hair follicles; 38. Retina, human t.s. 39. Finger tip from foetus with nail development l.s. 40. Mammary gland t.s.
B-1004233

Also available with HE staining (haematoxylin-eosin). **B-1016657**

PALAEOANTHROPOLOGY



Replica Homo Neanderthalensis Skull (La Chapelle-aux-Saints 1)

Cast from a reconstruction of the La Chapelle-aux-Saints skull, the model skull is an accurate replica of one belonging to a 50-55 year old male Neanderthal from ancient Europe of the species Homo (sapiens) neanderthalensis. Early man.

Discovered at: southern France
Discovery: 1908
Age: approx. 35,000 to 45,000 years
Dimensions: approx. 22x16x22.5 cm^3
Weight: approx. 0.9 kg
B-1001294



More replica skulls at 3bscientific.com!



Replica Homo Erectus Pekinensis Skull (Weidenreich, 1940)

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.

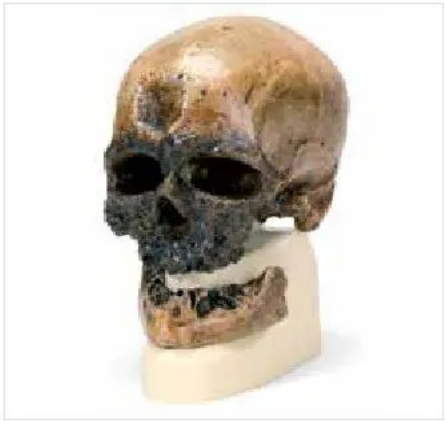
Discovered at: Zhoukoudian 40 km south west of Peking
Discovery: 1929-1936
Age: approx. 400,000 years
Dimensions: approx. 21x14.5x21.5 cm^3
Weight: approx. 0.9 kg
B-1001293



Replica Australopithecus Boisei Skull (KNM-ER 406 + Omo L7A-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 (Lake Rudolph)
Discovery: 1970
Age: approx. 1.7 million years
Dimensions approx. 18x18x22.5 cm^3
Weight: approx. 0.8 kg
B-1001298



Replica Homo Sapiens 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.

Discovered at: a cave in Vézèretal/ southern France
Discovery: 1868
Age: approx. 20,000 to 30,000 years
Dimensions: approx. 21.5x15x24.5 cm^3
Weight: approx. 0.9 kg
B-1001295



Advantages of 3B Scientific® Animal Specimens

- Completely genuine animal specimens
- All bones, no matter how tiny are mounted
- Depiction of natural animal anatomy
- Expert European manufacture, professionally prepared and cleaned of grease
- No yellowing
- No animals have been bred or killed solely for the purpose of making these specimens
- Origin and preparation of animals conform to legal stipulations
- No risk of infection due to infectious zoonotic pathogens (certified)
- Perfect for lessons on comparative anatomy, e.g. animals – humans



Dog Skeleton (Canis domesticus), Specimens

These genuine bone specimens from domestic dogs consist of approximately 280 individual bones, which have been reassembled and mounted on a wooden base. Two variants are available. The bones in the rigidly mounted skeleton are fixed together for the sake of better stability, while the flexibly mounted skeleton is particularly well suited for learning and understanding how dogs move. Since these products are assembled from natural specimens, the shape, dimensions and weights may vary.

Width: approx. 27 – 35 cm
Height: approx. 60 – 75 cm
Length: approx. 75 – 90 cm
Weight: approx: 3 – 5 kg

Dog Skeleton (Canis domesticus), Rigidly Mounted
B-1002537

Dog Skeleton (Canis domesticus), Flexibly Mounted
B-1002561

Cat Skeleton (Felis catus), Specimens

Prepared skeleton of a genuine domestic cat consisting of more than 230 bones and mounted on a wooden base. Two variants are available. The bones in the rigidly mounted skeleton are fixed together for the sake of better stability, while the flexibly mounted skeleton is particularly well suited for learning and understanding how cats move. Since these products are assembled from natural specimens, the shape, dimensions and weights may vary. Width: approx. 27 – 35 cm, Height: approx. 40 – 60 cm Length: approx. 50 – 70 cm, Weight: approx. 1.5 – 3 kg

Cat Skeleton (Felis catus), Rigidly Mounted
B-1002553

Cat Skeleton (Felis catus) in Glass Case, Flexibly Mounted
B-1002560

More genuine animal skeletons and skulls at 3bscientific.com!

Primate Skulls, Replica

Primate skulls particular suitable for comparative studies. With detailed description of distinctive features. The templates for the castings were original skulls belonging to the collections of the Johann Wolfgang Goethe University of Frankfurt am Main (chimpanzee) and the Senckenberg Research Institute and Natural History Museum in Frankfurt am Main (orangutan, gorilla). Natural cast made from unbreakable plastic.



A. Chimpanzee Skull (Pan troglodytes), Female. Replica

Dimensions: approx. 17x11.5x14 cm^3
Weight: approx. 0.5 kg
B-1001299

B. Orangutan Skull (Pongo pygmaeus), Male, Replica

Dimensions: approx. 22x16x18 cm^3
Weight: approx. 0.6 kg
B-1001300

C. Gorilla Skull (Gorilla gorilla), Male, Replica

Dimensions: approx. 26x16.5x19.5 cm^3
Weight: approx. 0.8 kg
B-1001301



Chicken Skeleton (Gallus gallus), Rigidly Mounted Specimen

Our anatomical skeleton model of a chicken consists of genuine bones, which are joined together for greater stability. The chicken skeleton is superbly suited to anatomical studies or comparative anatomy lessons since even the tiniest chicken bones are easily visible. No animals have been bred or killed solely for the purpose of making these specimens. Origin and preparation of animals conform to legal stipulations. For safe storage, the chicken skeleton is supplied inside a plastic case. Since these products are assembled from natural specimens, the shape, dimensions and weights may vary.

Height: approx. 60 – 70 cm
Width: approx. 40 – 60 cm
Length: approx. 50 – 60 cm
Weight: approx. 3.5 – 4.5 kg

B-1002534



"Pigeon Wings and Feathers (Columba palumbus)", Specimen

Examples of genuine wings and feathers from a wood pigeon in a transparent case. The features of the wings and feathers are labelled in English. Since these products are assembled from natural specimens, the shape, dimensions and weights may vary. Features: Differentiation between primary and secondary feathers of the wing, Feather types: down, pinion feathers, tail feathers and covert feathers

Dimensions: approx. 310x410x50 cm^3, Weight: approx. 1.4 kg

B-1002557

Advantages of 3B Scientific® Replicas

- Natural size
- Textured, realistic painting
- Typical distinguishing features included
- Modelled on a natural diorama
- Made and hand-painted in Germany

More replicas at 3bscientific.com!



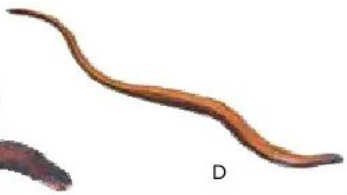
A



B



C



D

A. Midwife Toad (Alytes obstetricans masculum), Replica

Realistic model of a male common midwife toad with eggs wrapped around its back legs.

Dimensions: approx. 6x5x3 cm^3
Weight: approx. 36 g

B-1001276

B. Fire Salamander (Salamandra salamandra), Replica

True-to-life model of a fire salamander.

Dimensions: approx. 14x5x3 cm^3
Weight: approx. 115 g

B-1001267

C. Common Viper or Adder (Vipera berus berus), Replica

Realistic model of a poisonous common European viper.

Diameter: approx. 2.5 cm
Length: approx. 30 cm
Weight: approx. 80 g

B-1001290

D. Slow Worm (Anguis fragilis), Replica

Life-like model of a slow worm.

Diameter: approx. 1 cm
Length: approx. 30 cm
Weight: approx. 20 g

B-1001285

Insight into the life of a honey bee



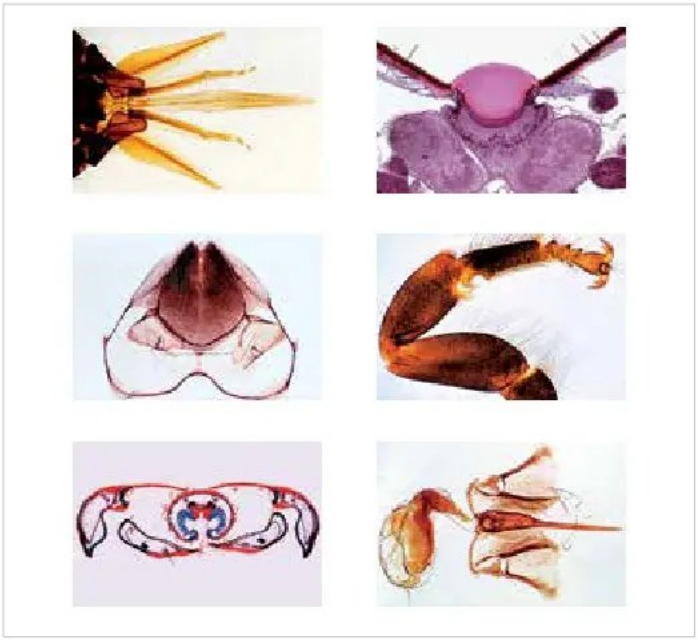
The Life of the Honey Bee (Apis cerana)

Numbered specimens in a high-quality acrylic block to give your students an outstanding insight into the life of a honey bee (Apis cerana). Descriptive text in English. The set contains: 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

Dimensions: approx. 21x12x4 cm^3

Weight: approx. 0.6 kg

B-1005971



Series of Microscope Slides "Honey Bees (Apis mellifica)"

18 microscope slides with English text.

1. Mouth parts of worker, w.m.
2. Mouth parts of worker, t.s.
3. Head with compound eyes and brain, t.s.
4. Cornea from eye, isolated and w.m.
5. Ocelli, w.m.
6. Antenna with sensory organs, w.m.
7. Anterior and posterior wing, w.m.
8. Anterior leg with eye brush, w.m.
9. Posterior leg with pollen basket, w.m.
10. Sting and poison sac, w.m.
11. Wax plate of worker, w.m.
12. Abdomen of worker, t.s. with intestine, nephridia, wax glands
13. Abdomen of queen, t.s. showing ovaries
14. Abdomen of drone, t.s. showing testis
15. Thorax of worker, t.s. showing muscles
16. Larva, entire specimen, sagittal l.s.
17. Nosema apis, causing bee dysentery, t.s. of diseased intestine
18. Bacillus larvae, causing foul brood, smear.

B-1004265

Teaching Case "27 Invertebrates (Invertebrata)"

Teaching case with 27 carefully prepared specimens, each enclosed in a fully transparent acrylic block to preserve the authentic colour. The case contains examples of all surviving sub-species of arthropods (Arthropoda): 21 hexapods (Hexapoda), 2 chelicerata (Chelicerata), 2 crustaceans (Crustacea), a myriapod (Myriapoda) and an example of the echinoderm family (Echinodermata). The selected examples were not hunted or trapped in the wild but derive from sustainable sources such as breeding sources or pest control work. Origin and preparation of animals conform to legal stipulations.

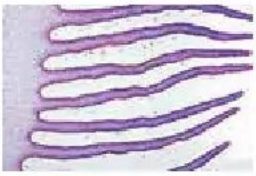
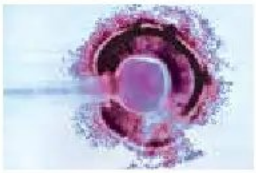


Common names (Scientific names)

1. Chafer beetle (Anomala Cuprea Hope); 2. Lady bug (Synonycha grandis); 3. Mole cricket (Gryllotalpa orientalis); 4. Praying mantis (Hierodula petellifera); 5. Paper wasp (Polistes olivaceus) 6. Asiatic honey bee (Apis cerana); 7. Ant (Pheidologeton latinodus); 8. Dung beetle (Catharsius molossus (Linnaeus); 9. Rhinoceros beetles (Xylotrupes Gideon); 10. Monarch Danaus genutia) 11. Longhorned beetle (Anoplophora chinensis) 12. Cicada (Cryptotympana atrata); 13. Shield bug (Eusthennes cupreus); 14. Wespspin Spider (Argiope bruennichii) 15. Dragonfly (Brochythemis coutaminata); 16. Cricket (Teleogryllus emma); 17. Australian cockroach (Periplaneta australasiae) 18. Scorpion (Urodaus novaehollandiae); 19. Centipede (Scolopendra); 20. Walking stick (Diapheromera femorata); 21. Onion fly (Delia antqua); 22. Chinese white shrimp (Penaeus chinensis); 23. Silkworm (Bombyx mandarina); 24. Crab (Nectocarcinus intigrifrons) 25. Star fish (Asterias amurensis); 26. Grasshopper (Catantops splendens) 27. Stag beetle (Odontolabis cuvera fallaciosa). Dimensions: approx. 42x33x8 cm^3. Weight: approx. 5 kg

B-1005970

BOTANY


Series of Microscope Slides "Fungi and Lichen"

20 microscope slides with English text.

Phycomycetes:

1. Mucor mucedo, w.m. of hyphae showing sporangia; 2. Rhizopus nigricans, w.m. of hyphae with developing zygotes. Synchytrium endobioticum, potato black wart, t.s. of infected tissue; 4. Plasmodiophora, t.s. of cabbage rot.

Ascomycetes:

5. Claviceps purpurea, t.s. of sclerotium; 6. Tuber rufum, truffle, t.s. of fruiting body showing asci; 7. Peziza sp., cup-fungus, t.s. of fruiting body with asci 8. Erysiphe sp., mildew, t.s. of leaf with perithecia; 9. Penicillium sp., blue mold on orange-rind, t.s. of hyphae with conidiophores; 10. Aspergillus glaucum, brown-mold, w.m. of hyphae with sporangia; 11. Saccharomyces sp., yeast, budding, w.m. 12. Taphrina pruni (Exoascus pruni), plum pockets, t.s. with haustoria and asci.

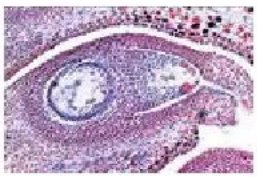
Basidiomycetes:

13. Puccinia graminis, t.s. of uredinia on wheat; 14. Puccinia graminis, wheat rust, t.s. of aecidia on infected barberry leaf; 15. Ustilago zeae, corn smut, infected tissue, t.s. 16. Psalliota sp., mushroom, l.s. through pileus and lamellae; 17. Boletus edulis, pore fungus, l.s. through pores; 18. Lycoperdon gemmatum, puff-ball, t.s. of fruiting body.

Lichens:

19. Xanthoria, lichen, t.s. of thallus showing hyphae with symbiotic algae 20. Xanthoria, t.s. of apothecium.

B-1003971

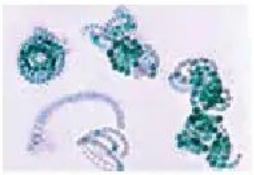



Series of Microscope Slides "Gymnospermae"

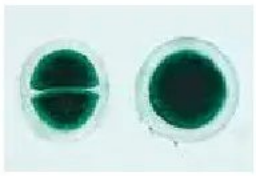
15 microscope slides with English text.

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

B-1003974








Series of Microscope Slides "Algae"

30 microscope slides with English text.

Cyanophyceae:

1. Chroococcus, a single-cell alga, w.m. 2. Anabaena, w.m. of filaments with heterocysts; 3. Nostoc sp., t.s. of colony with hormogonia; 4 Aphanizomenon, w.m. showing heterocysts; 5. Scytonema, unbranched filaments with false branching, w.m. 6. Stigonema, branching filaments w.m. Chromophyta 7. Diatoms, fresh water, recent, mixed; 8. Diatoms, showing protoplasmic structure.

Conjugatae:

9. Spirogyra, vegetative filaments w.m. 10. Spirogyra, scalariform conjugation and zygotes following conjugation, w.m. 11. Zygnema, w.m. of vegetative filaments; 12. Desmids, strewn slide showing several forms.

Chlorophyceae:

13. Chlamydomonas, biflagellate cells, w.m. 14. Pandorina morum, biflagellate cells in a spherical colony, w.m. 15. Volvox, spherical colonies with daughter cells, w.m. 16. Pediastrum, stellate colonies, w.m. 17. Oedogonium, w.m. of filaments with sex organs, macrandrous 18. Cladophora, with multinucleate cells; 19. Draparnaldia glomerata, filaments with clusters of branches; 20. Ulva lactuca, green alga showing thallus of one celled layer; 21. Vaucheria., w.m. of oogonia and antheridia.

Charophyceae:

22. Chara vulgaris, thallus with sex organs.

Phaeophyceae:

23. Fucus serratus, antheridia and oogonia t.s. on one slide; 24. Fucus spiralis, monecious, t.s. of conceptacle with oogonia and antheridia 25. Ectocarpus, plurilocular, w.m. 26. Laminaria saccharina, thallus with sporangia t.s.

Rhodophyceae:

27. Polysiphonia, thallus with antheridia; 28. Polysiphonia, thallus with cystocarps; 29. Polysiphonia, thallus with tetraspores; 30. Batrachospermum.

B-1003970

More sets of microscope slides at 3bscientific.com!

Advantages

- The flower can be taken apart
- The lever mechanism can be demonstrated

Meadow Clary Blossom (Salvia pratensis), Model

At 15 times magnification, the model shows the detailed structure of a single flower with its pollination mechanism. For further illustration, the model separates into four components. The typical lever mechanism for picking up pollen which then sticks to the bodies of insects can also be demonstrated.

Dimensions: approx. 25x25x37 cm^3
Weight: approx. 0.6 kg
B-1000534









Pea Blossom (Pisum sativum), Model

The model shows the detail of an individual flower enlarged by a factor of about 8 to 1 and with a pollen scattering mechanism included. The true-to-life models can be dismantled into 12 parts for even greater clarity. On the base, there is also an 8-to-1 enlargement of an open ripe pea pod.

Dimensions: approx. 25x20x35 cm^3
Weight: approx. 1 kg
B-1000535



Chamomile Blossom (Matricaria chamomilla), Model

The chamomile plant belongs to the family popularly known as asters, composites, daisies or sunflowers (Asteroideae, formerly known as Compositae). In our models of the flower of a real chamomile, both inflorescences and individual flowers are depicted in a highly detailed and clear fashion. Inflorescences are enlarged by a factor of 10 to 1 with a cut-away along their length to display the internal and external structure. The flowers in full bloom are enlarged by 70 to 1, allowing for a detailed look at their interior. Inflorescences and flowers are mounted securely on a stand with its own base.

Dimensions: approx. 23x25x30 cm^3
Weight: approx. 0.7 kg
B-1000533

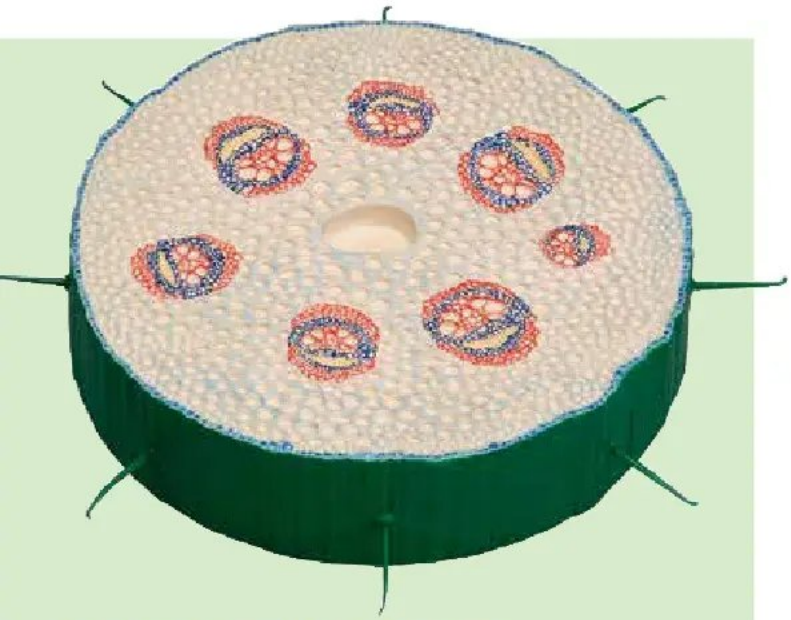


Cherry Blossom with Fruit (Prunus avium), Model

This model shows the blossom of a wild cherry tree (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.

Dimensions: approx. 20x22x26.5 cm^3
Weight: approx. 1 kg
B-1000530

Our flowers bloom at any time of year!



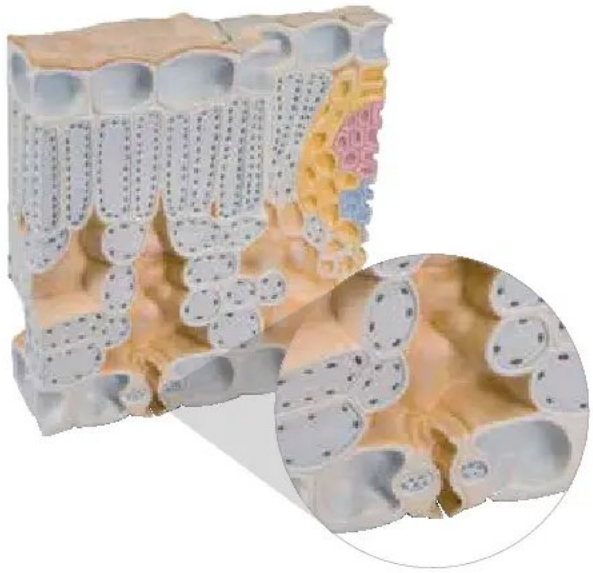
Stem Cross Section of Creeping Buttercup (Ranunculus repens), Model

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.

Dimensions: approx. 28x7 cm^2

Weight: approx. 0.8 kg

B-1002506



Leaf Cross Section of Beech (Fagus silvatica), Model

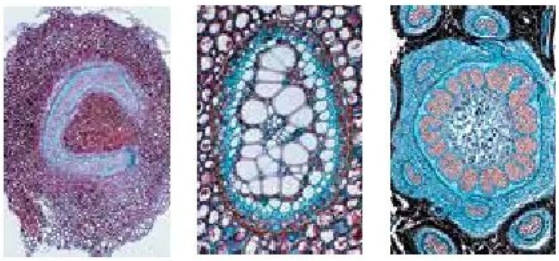
This plant model shows the histological structure of a beech leaf (fagus silvatica). The leaf structure is magnified 1500 times.

Dimensions: approx. 29x29x8.5 cm^3

Weight: approx. 2 kg

B-1002504

More plant anatomy at 3bscientific.com

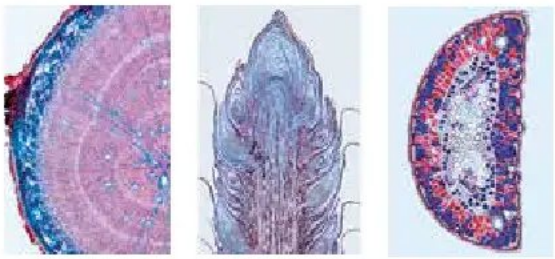


Series of Microscope Slides "Arrangement and Types of Vascular Bundles"

13 microscope slides with English text.

1. Protostele. Psilotum, stem t.s.
2. Actinostele. Lycopodium, stem t.s.
3. Polystele. Pteridium, rhizome t.s. concentric bundles with inner xylem
4. Ectophloic siphonostele. Osmunda, rhizome t.s.
5. Amphiphloic siphonostele. Adiantum, rhizome t.s.
6. Dictyostele. Polypodium, rhizome t.s.
7. Eustele. Ranunculus, stem t.s., open collateral bundles
8. Eustele. Lamium, stem t.s.
9. Eustele. Cucurbita pepo, stem t.s., bicollateral bundles
10. Atactostele. Zea mays, stem t.s., closed collateral bundles
11. Arrangement of bundles similar to atactostele in a dicot plant. Podophyllum, stem t.s.
12. Concentric vascular bundles with outer xylem. Convallaria, rhizome t.s.
13. Radial concentric vascular bundle. Ranunculus, root t.s.

B-1004255



Series of Microscope Slides "Angiospermae Leafs"

15 microscope slides with English text.

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

B-1003978

Experiment Topics:

- When do water plants produce oxygen?
- How much oxygen do water plants produce?
- What factors affect the photosynthesis?



Experiment Set “Photosynthesis”

With the help of this equipment set, it is possible to observe the process of photosynthesis using water plants as an example. The set can be used to investigate how photosynthesis depends on the light intensity, the wavelength of the light, the CO_2 content of the water and various other parameters. It can be used for students to experiment with by themselves or by the teacher for demonstration purposes. The accompanying CD-ROM contains not only detailed information for teachers including theoretical background for each experiment but also a worksheet (report) which can be completed by the students.

Contents:

1 Beaker (1 l), 1 Funnel, 1 Universal bracket, 4 Collection vessels,
2 Rubber bungs, 4 Colour filters (blue, yellow, red, green)
4 Neutral density filters, Instructions on CD-ROM in German and English

B-1012864

Additionally required:

Illumination Equipment “Photosynthesis” B-1013528



Illumination Equipment “Photosynthesis”

The illumination equipment serves as a source of light and a stand for performing the experiments with the Experiment Set “Photosynthesis”.

Contents:

1 Tripod
1 Acrylic plate 150x150x3 mm^3
1 Bosshead
1 Halogen lamp, 12 V DC/20 W, GU4 socket with plug-in power supply, 12 V DC / 2 A for 115 V / 230 V, 50 / 60 Hz

B-1013528



Experiment Set “Plant Pigments & Photosynthesis”

Investigate pigments in plants with the help of chromatography – simply and safely. Marked by green chlorophyll in the summer, the abundance of pigments in plant leaves becomes evident in autumn. Falling temperatures and lower light conditions causes chlorophyll to breakdown making different types and amounts of the pigments obvious through visible colour variations. Students will separate these plant pigments using a technique called paper chromatography. Through this process, the pigments migrate on a specially treated paper, with each pigment's migration rate dependent on its solubility and degree of attraction to the paper. This kit has the great advantage that whole classes in school can use paper chromatography to isolate plant pigments without having to employ toxic solutions. The materials provided are sufficient for a class of 40 students to carry out the experiment.

Contents: 2 ml of plant pigments from autumn leaves, 2 plastic capillary pipettes, 20 chromatography filter paper strips, 2x30 ml chromatography solvent, 20 chromatography vials, 1 ml green leaf pigment sample, 1 ml pigment activating solution, 10 medicine beakers, 20 microcentrifuge tubes, 10 rulers, 1 plastic pipette

Additionally required equipment not included: scissors, water, wax crayon

B-1005929

CELL BIOLOGY AND GENETICS



Animal Cell Model

The two piece animal cell model shows the form and structure of a typical animal cell as viewed by an electron microscope. All important organelles are shown in raised relief and displayed in colour, e.g.: nucleus, mitochondrion, smooth endoplasmic reticulum, rough endoplasmic reticulum, basal membrane, collagen fibres, golgi apparatus, microvilli, lysosome.

Magnification: approx. 10,000:1
Dimensions: approx. 21x11x31 cm^3
Weight: approx. 800 g

B-1000523



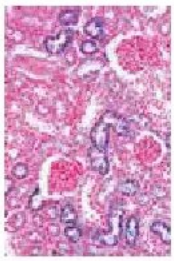
Plant Cell Model

The two piece plant cell model shows the structures of a typical plant cell as viewed by an electron microscope. The cytoplasm and all important organelles of the plant cell are in raised relief and displayed in colour. Features included in the plant cell model: cell wall, cell membrane, nucleus, smooth endoplasmic reticulum, rough endoplasmic reticulum, ribosomes, chloroplasts, mitochondria, dictyosomes/golgi apparatus.

Magnification: approx. 10,000:1
Dimensions: approx. 20x11.5x33 cm^3
Weight: approx. 2 kg

B-1000524





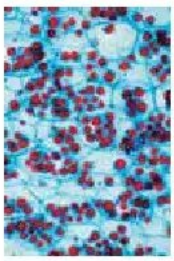


Series of Microscope Slides "The Animal Cell"

12 microscope slides with English text.

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

B-1003981





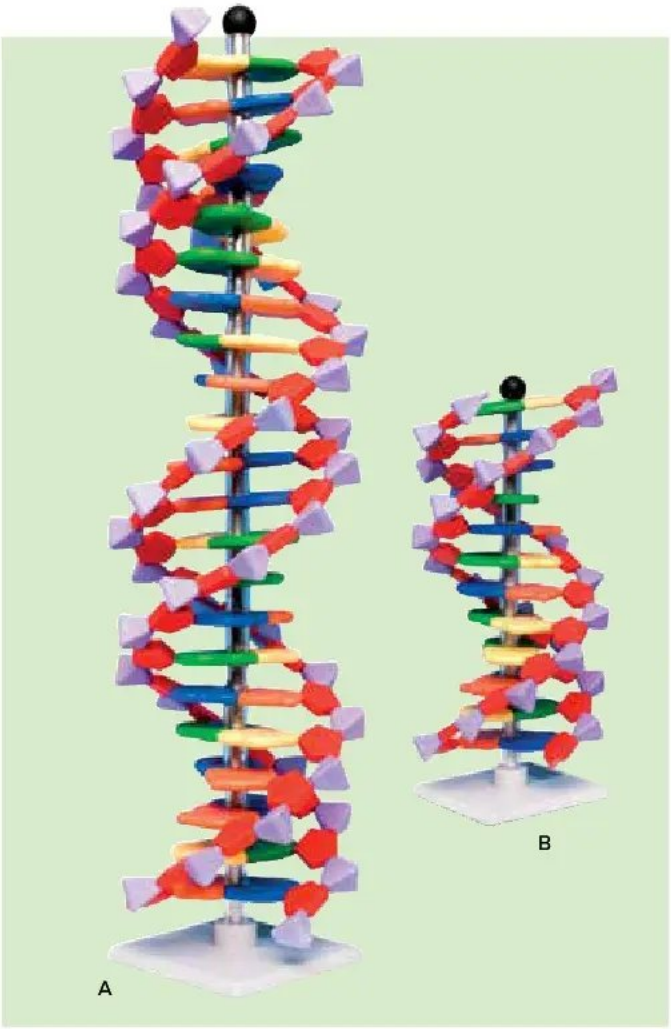


Series of Microscope Slides "Plant Cell"

12 microscope slides with English text.

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

B-1003982



Advantages

- Simple differentiation of components by means of six easily distinguishable colours.
- Representation of hydrogen bonds between thymine and adenine and the three hydrogen bonds between cytosine and guanine
- Representation of major and minor grooves on the surface of the double helix
- Purine bases (adenine, guanine) and pyrimidine bases (cytosine, thymine) differ in size

DNA Double Helix Model, miniDNA® Kit

Molecule model kit for a right-handed double helix with colour-coded components for representing the bases containing nitrogen as well as pentoses and phosphate groups from which DNA is composed. Can be used to demonstrate DNA replication in model as well as complementary base pairing. Supplied with assembly instructions and stand.

	Colour	B-1005297	B-1005298
Thymine	orange	11	6
Adenine	blue	11	6
Guanine	green	11	6
Cytosin	yellow	11	6
Deoxyribose	red	44	24
Phosphate	purple	44	24

A. DNA Double Helix Model, 22 Segments, miniDNA® Kit
Dimensions: approx. 44x11x11 cm^3, Weight: approx. 500 g
B-1005297

B. DNA Double Helix Model, 12 Segments, miniDNA® Kit
Dimensions: approx. 24x11x11 cm^3, Weight: approx. 330 g
B-1005298

The building blocks of life!

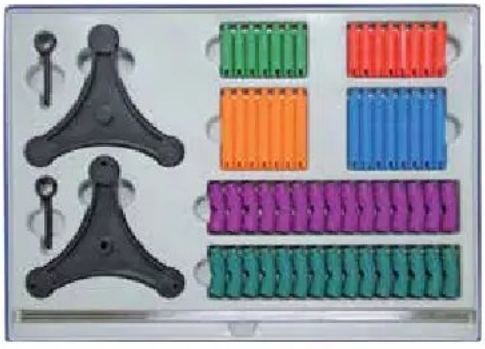
Advantages

- Simple differentiation of components by means of six easily distinguishable colours.
- Purine bases and pyrimidine bases differ in size.
- No possibility of confusion when assembling the adenine-thymine and guanine-cytosine base pairs.

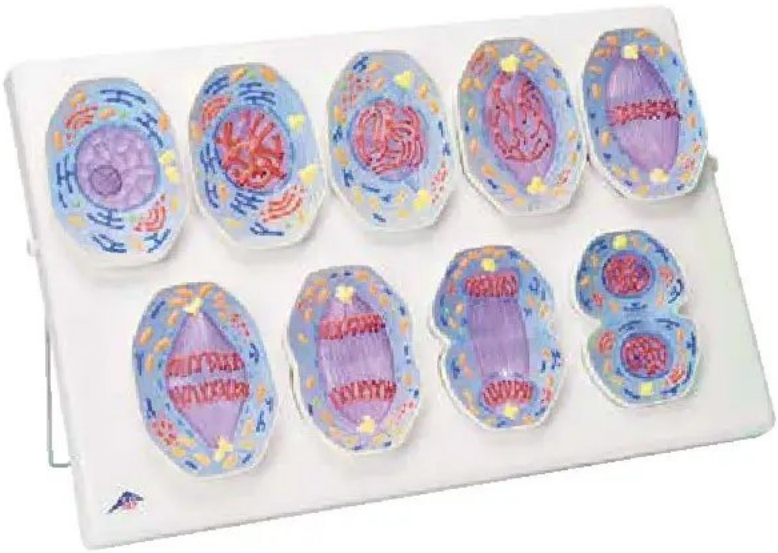
DNA Double Helix Model, Student Kit

Student kit with colour-coded components allowing quick and easy assembly of spiral DNA double helix. Clear depiction of how the helix turns through a full 360° after every ten base pairs. It can also be used to explain replication and transcription in understandable fashion. The process of assembling the kit also helps students to learn the terminology.

Dimensions: approx. 12.5x35 cm^2
Weight: approx. 400 g
B-1005300





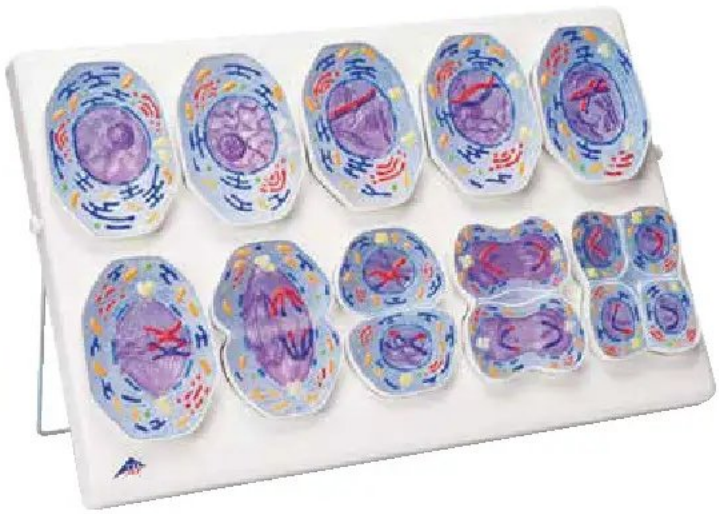


Mitosis Model

The three-dimensional relief model shows the following 9 phases of mitosis on the basis of a typical mammal cell:

1. Interphase
2. Prophase
3. Early prometaphase
4. Later prometaphase
5. Metaphase
6. Early anaphase
7. Later anaphase
8. Telophase
9. Cytokinesis

Dimensions: approx. 60x40x6 cm^3
Weight: approx. 1.7 kg
B-1013868



Meiosis Model

The three-dimensional relief model shows the 10 stages of meiosis on the basis of a typical mammal cell:

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

Dimensions: approx. 60x40x6 cm^3
Weight: approx. 1.7 kg
B-1013869

Advantages of Mitosis and Meiosis Models

- Chromosomes coloured according to modified AZAN staining colours
- Cell components are colour-coded in accordance with educational aspects
- Attaching magnets on the rear
- Storage system, free-standing or hanging up.
- Supplied with detailed description and copying templates
- Enlarged 10,000 times

More items for mitosis and meiosis at 3bscientific.com!





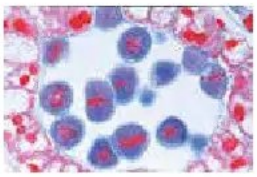
Series of Microscope Slides "Mitosis and Meiosis Set I"

6 selected microscope slides with depictured accompanying brochure

1. Mitosis, l.s. from Allium root tips showing plant mitosis stained with iron-hematoxyline
2. Mitotic stages in sec. of red bone marrow
3. Meiotic and mitotic stages in sec. of Salamandra testis
4. Lilium, anther t.s., microspore mother cells showing telophase of first and prophase of second division
5. Giant chromosomes, smear from salivary gland of Chironomus
6. Ascaris megalocephala embryology. Sec. of uteri showing maturation stages.

B-1013468





Series of Microscope Slides "Mitosis and Meiosis Set II"

5 selected microscope slides with depictured accompanying brochure

1. Mitosis, l.s. from Vicia faba (bean). root tips showing all mitotic stages. Iron hematoxyline
2. Lilium, anther t.s., microspore mother cells showing telophase of first and prophase of second division
3. Mitotic stages in sec. of whitefish blastula showing spindles
4. Spermatogenesis with meiotic and mitotic stages, sec. of testis of grasshopper
5. Paramaecium, in fission, nuclei stained

B-1013474

Embryo Development of Common Frog (Rana temporaria), 12 Stages
Using a common frog (Rana temporaria) as an example, the various stages of development of an embryo are shown: cleavage (morula and blastula), gastrulation (gastrula), neurula and organogenesis enlarged 30 times.
Dimensions: approx. 37x36x13 cm^3
Weight: approx. 1.5 kg
B-1002501

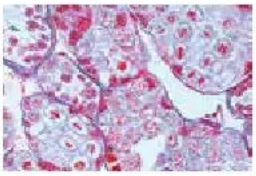






Series of Microscope Slides "Frog Embryology (Rana)"
10 microscope slides with English text.
1. Frog, morula, l.s.
2. Frog, blastula. l.s. shows blastocoel with macro- and micromeres
3. Frog, gastrula, sagittal l.s. shows germ layers, dorsal lip, yolk plug
4. Frog, neurula, t.s. showing primordium of notochord
5. Frog, early tail bud stage, t.s. with neural tube, notochord
6. Frog, early tail bud stage, sagittal l.s. with primordium of brain, segmentation of mesoderm
7. Frog, hatching stage, t.s. region of head or gills
8. Frog, hatching stage, t.s. region of mid-body
9. Frog, young tadpole, t.s. head
10. Frog, young tadpole, t.s. thorax or abdomen.

B-1003985





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

B-1003983

More items for cell biology and genetics at 3bscientific.com



Experiment Set "Osmosis and Diffusion"
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 wastes. 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.

Contents: 30 ml red dye solution, 30 ml blue dye solution,
20 transparent beakers, 4 m dialysis tube, 250 ml glucose solution,
50 glucose test strips, 60 medicine beakers, 20 plastic pipettes,
30 ml starch indicator solution (IKI), 250 ml starch solution, 4 m cord.
Detailed description in German and English
Suitable for first and second stage secondary teaching.
Weight: approx. 850 g
B-1005961



Experiment Set "Osmosis Simulation"
Student experiment to visibly demonstrate osmosis and simulate an elementary process in our cells. The two sides of a U-tube are separated by a semi-permeable membrane. One side is filled with pure water and the other is filled with a concentrated sugar solution. After a length of time the liquid level on one side rises higher than the other because water can pass through the membrane into the solution with the higher concentration of sugar in order to make the concentrations even out. For comparison purposes, concentrated solutions of other substances can also be used. The volume of water which has passed through the membrane can be read off from a glass capillary tube.

Contents:
1 U-tube with stand
1 Glass capillary tube
30 ml solution of food dye
10 Semi-permeable membrane foils
170 g Sucrose
Weight: approx. 910 g
B-1005960

Osmosis – A key topic not just in ecology and evolutionary biology



Experiment Set "Paternity Testing"
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 identity of a child's father.

Contents:
3 x 150 ml DNA samples (mother, father and child)
2 x 125 ml TBE buffer concentrates
400 ml 0.8% agarose gel ready for melting and casting
100 ml DNA dye concentrate
1 Dye tray
Detailed description in German and English
Weight: approx. 1.3 kg
B-1005939



Experiment Set “DNA Fingerprint”

DNA fingerprinting is an important method used in molecular genetics. It is now inconceivable, for instance, for criminal forensics to do without it. Other examples of areas where it can be applied are paternity tests, the analysis of genetic diseases, and identifying victims after natural catastrophes or accidents. This method can be demonstrated in a game involving criminal investigations with the help of the DNA Fingerprint Experiment Set. During this procedure, DNA fragments are generated by way of a polymerase chain reaction (PCR), and then separated using gel electrophoresis. In our kit, however, the DNA fragments have already been separated so that the pupils only have to carry out electrophoresis. Using the DNA profiles thus obtained, your pupils can draw their conclusions about where they come from. While doing this, the pupils learn about the practicalities of using molecular genetics techniques, and will be able to discuss the DNA profiles in detail once they have completed the experiment. This topic is also a wonderful way of introducing a discussion about other potential applications for DNA finger printing, as well as about associated legal and ethical issues. Enough for 10 experiments

Contents:

120 µl DNA from a victim
120 µl DNA from the scene of the crime
120 µl DNA from suspect n° 1
120 µl DNA from suspect n° 2
50 ml electrophoresis buffer, 50x conc.
6 g agarose
1.5 ml DNA staining solution, 200x conc.
Dimensions: approx. 40x40x15 cm^3
Weight: approx. 1 kg

B-1013458

Additionally required:

Electrophoresis Chamber S
B-1012852
DC Power Supply for Electrophoresis 0 – 300 V, 0 – 400 mA
B-1010263
Microlitre Pipette, 0.5 – 10 µl
B-1010263
Pipette Tips, Crystal, up to 10 µl
B-1013424

A. DC Power Supply 0 – 300 V, 0 – 400 mA

Stabilised power supply with two outputs for operating electrophoresis chambers. Timer (1 – 999 min.) with alarm function.
Mains voltage: 100 – 240 V, 50/60 Hz
Dimensions: approx. 12x15x18 cm^3
Weight: approx. 0.6 kg
B-1010263

B. Electrophoresis Chamber S

Transparent acrylic chamber for carrying out experiments using the DNA Fingerprint Experiment Set. The bottom is transparent to UV light, allowing observation of how electrophoresis progresses over time by means of fluorescent dyes. Safety cover with built-in electrical terminals and two different rack positions for simultaneous investigation of 2x12 samples.
Dimensions: approx. 21x11x3.4 cm^3
Weight: approx. 0.7 kg
B-1012852

C. Microlitre Pipette, 0.5 – 10 µl

Microlitre pipette with a volume display that can be set easily and accurately and an inbuilt pipette tip ejector system. Pipette tips are not included.
Dimensions: approx. 25x6.5x4 cm^3
Weight: approx. 150 g
B-1013416

D. Pipette Tips, Crystal, up to 10 µl

1000 tips for microlitre pipettes.
B-1013424



HEALTH EDUCATION

Human Embryonic Development Model in 12 Stages

The model represents the development of the human germ cells from fertilisation until the end of the 2nd month of pregnancy in 12 stages. Each stage can be taken off and demonstrated separately.

- Ovum at time of fertilisation (conception) with male gamete (sperm)
- Zygote at 2-cell stage, approx. 30 hours after fertilisation
- Zygote at 4-cell stage, after around 40-50 hours
- Zygote at 8-cell stage, after around 55 hours
- Morula
- Blastocyst after around 4, 5 and 8-9 days
- Germ cells at approx. 11th and 20th day
- Embryo at around the end of the 1st and 2nd month of pregnancy

Dimensions: approx. 65x34.5x6 cm^3
Weight: approx. 1.55 kg
B-1001257







Pregnancy Pelvis, 3 part

This anatomy model is a representation of a median section through the female pelvis at 40 weeks pregnant with a removable Fetus. Study the normal position of child before birth with this model plus the human reproductive and urinary systems. A uterus with embryo in 3rd month of pregnancy is mounted on base for added detail.

Dimensions: approx. 38x25x40 cm^3
Weight: approx. 3.8 kg
B-1000333

3B Scientific® Pregnancy Series – 5 Stages

This series shows the most important stages of development of embryo or foetus. All models are mounted together on a base.

- 1st Month Embryo
- 2nd Month Embryo
- 3rd Month Embryo
- 5th Month Foetus (breech position)
- 7th Month Foetus

Dimensions: approx. 13x41x31 cm^3
Weight: approx. 2.1 kg
B-1000331



Teaching Case “10 Contraceptives”

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 and contains the following items: 1 polystyrene penis, 24 condoms, 5 female condoms, 2 sample packages of pills, 1 intra-uterine device, 1 cervical cap, 1 diaphragm spermicide gel, 1 applicator for diaphragm spermicide gel, 1 diaphragm, 1 period calendar.

B-1002385

Additionally recommended:

Set of 12 Condoms

B-1019307



Condom Demonstration Model

Demonstrate the proper use of condoms by using this realistic model. Consists of an erect penis mounted on a stand, 12 condoms, syringe and artificial semen (UV-fluorescent fluid) to simulate ejaculation.

Delivered with carrying bag.

Dimensions: approx. 35.5x15x16.5 cm^3

Weight: approx. 2.3 kg

B-1005560

Consumables:

Set of 12 Condoms

B-1019307

250 ml Artificial Semen

(fluid which fluoresces under UV light)

B-1005561



Condom Training Models

This economic set consists of 20 polystyrene penis models, and provides a means of practising 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. Delivered without condoms. Length: approx. 14.5 cm

B-1005115

Additionally required:

Set of 12 Condoms

B-1019307



A



B

A. Intra-Uterine Device – Demonstration Model

Demonstration and practice model to demonstrate correct positioning of an intra-uterine device inside the uterus. Made of durable plastic, the model features a transparent cover which allows easy visualisation of insertion and placement of an I.U.D. (I.U.D. not included).

Dimensions: approx. 6x40x45 cm^3

B-1005766

Additionally required:

B. Intra-Uterine Device

B-1008817



HI-Virus, Model

This model of the human immunodeficiency virus (HIV), 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. Mounted on base.

Dimensions: approx. 18x13x13 cm^3

Weight: approx. 0.7 kg

B-1000336



Giant Molar with Dental Cavities, 15 Times Life Size, 5 part

This giant molar model depicts an upper triple-root molar and separates into 5 parts. The molar features a longitudinal section through the crown, two roots and the pulp cavity. The giant molar contains removable pulp and three tooth inserts with different stages of advanced cavities. On stand.

Dimensions: approx. 24x12x13 cm^3
Weight: approx. 1.5 kg

B-1013215



Giant Dental Care Model, 3 Times Life Size

This giant dental care model, large enough to be 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 of the dental care model. Teach kids the proper teeth cleaning techniques using the giant toothbrush included with this dental care model.

Dimensions: approx. 18x23x12 cm^3, Weight: approx. 1.5 kg

B-1000246

Replacement Toothbrush for Giant Dental Care Model

Replacement part for **B-1000246**. Length: approx. 36.5 cm

B-4000098



Lower Twin-Root Molar Showing Cavities, 2 part

This set is a demonstration of an adult molar with a double root showing advanced decay along its lengthways cross-section. Mounted on a stand from which it can be removed.

Dimensions: approx. 23x17x17 cm^3
Weight: approx. 0.6 kg

B-1000243



Complete MyPlate Kit

MyPlate is an advisory programme promoted by the United States Department of Agriculture. It categorises food into five groups: fruit, vegetables, grain foods, food containing protein and dairy foods. These are arranged on a symbolic dinner plate intended to remind the public what a “healthy plate at meal times” should look like.

This set contains five dinner plates, the presentation stand and the food set in a comprehensive MyPlate training set. The 42-item food set contains 9 sorts of fruit, 11 types of vegetable, 8 grain foods, 8 protein foods and 6 different dairy products.

B-1018318



Smoker Model
This small hand-held model actually smokes a cigarette and collects the tar 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.
Dimensions: approx. 13x29x5.7 cm^3
B-1005577

Smokey Sue – "The Dangers of Smoking"
Smokey Sue dramatically demonstrates the quantity of tar collected in the lungs when a single cigarette is smoked. The tar, normally inhaled directly into the lungs, is collected in a transparent tube, and thus shows the quantity of tar which reaches the lungs with each cigarette very clearly. Delivered with stand, 3 collection tubes, and carrying bag.
Dimensions: approx. 15x35.5x16.5 cm^3
Weight: approx. 1.15 kg
B-1005565

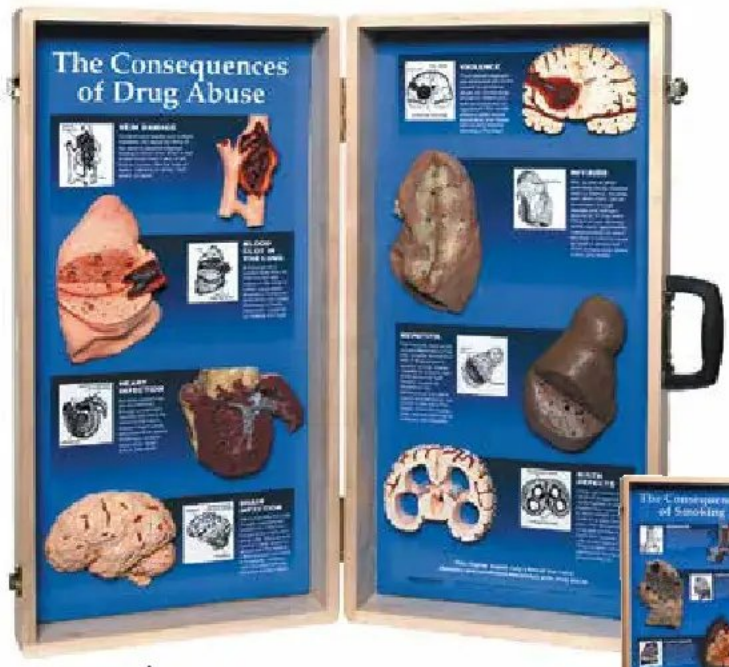


A New Dimension in Courses to Explain the Dangers of Drink Driving



Replacement Tubes for Smoker Model (not shown)
B-1012433
Set of 100 Replacement Bags for Smoker Model (not shown)
B-1015570

Goggles for Simulating Drink Driving
The state of been drunk and how that affects vision and co-ordination can be extremely effectively, realistically and intensely simulated by wearing these goggles. Young people in particular will unavoidably become aware of the danger that comes from drinking and driving. Supplied with case.
B-1005576



A


B


C

3D Information Boards
Detailed boards with hand-painted models clearly showing the consequences of drug, alcohol or tobacco abuse on our organs. The brief explanations in English are ideal for lessons.
In carry-case.
Dimensions: approx. 71x68 cm^2
A. Consequences of Drug Abuse, 3D Info Board
B-1005583
B. Consequences of Alcoholism, 3D Info Board
B-1005580
C. Consequences of Smoking, 3D Info Board
B-1005582



With cardiac failure as one of the leading causes of death, let Basic*Billy*™ show that it is not difficult to provide help and save lives through correct cardiac massage and ventilation technique.

Basic*Billy*™

The basic life-support simulator Basic*Billy*™ is suitable both for broad education in schools, clubs and first-aid courses and for medical training. You benefit from the following features:

- Torso with shoulders and essential anatomical features for finding the ideal pressure point for heart compression massage
- Head with breathing tract for mouth-to-mouth and mouth-to-nose resuscitation
- The head can be stretched out to free the respiratory tract
- Resuscitation via masks is also possible
- Realistic force of reaction from the chest of an adult or child thanks to two easily replaceable springs
- Realistic compression depth of 5–6 cm (adult) and 4–4.5 cm (child) prepare those performing the exercises for authentic human responses
- Audible signal when the correct compression depth is reached
- Inexpensive disposable respiratory tracts ensuring hygienic usage and easy cleaning and maintenance of the simulator
- The high quality of the materials and product ensure functionality and durability even under major stress
- Developed and manufactured in Germany

Scientific basis:

Basic*Billy*™ provides students with results regarding force and depth of compression during cardio-pulmonary resuscitation. The optimum values for force and compression have been statistically determined for adults and children and worked into the product design.
Basic*Billy*™ meets the latest guideline regulations of the European Resuscitation Council (ERC) and the American Heart Association (AHA) regarding heart-lung resuscitation.

Contents:

1 Basic body with removable chest, 2 Springs (red = adult; green = child), 2 Telescopic guides (red = adult; green = child), 2 Face masks, 1 Torso skin, 2 Face skin pieces and holder for lung bags, 10 Lung bags (5 x adult; 5 x child), 1 Disinfectant solution, 1 Carrying bag

Dimensions: approx. 60.5x35.5x19 cm^3

Weight: approx. 2.36 kg

Basic life support simulator Basic*Billy*™, Light Skin
B-1012793

Basic life support simulator Basic*Billy*™, Dark Skin (not shown)
B-1017679

CPR*Lilly*PRO™ – Your ideal choice for professional CPR training.



CPR*Lilly*PRO™

CPR*Lilly*PRO™ including the training tablet is the best choice for your professional CPR training courses. Using the software, you can guide the exercises and control the simulator, creating highly realistic training scenarios. All the relevant parameters can be monitored comfortably and easily via the tablet provided, and stored away for subsequent analysis. Trainers and trainees will very quickly attain the chosen training target via the direct feedback feature.

Displayed feedback parameters on the included training tablet:

- Compression depth
- Compression frequency
- Hand position
- Head tilt
- Respiration volume/speed (combined)
- Respiration pressure

Dimensions: approx. 78x39x26 cm^3
Weight: approx. 9 kg

CPR*Lilly*PRO™, with Tablet, Light Skin
B-1017773
CPR*Lilly*PRO™, with Tablet, Dark Skin (not shown)
B-1017775

CPR*Lilly*™

CPR*Lilly*™ offers realistic requirements for first-aid training. The carotid pulse and eye movement can be controlled individually by hand. You benefit from the following features:

- The upper body, dressed in everyday clothing with a zip jacket, shows all the important anatomical reference points.
- Head with breathing tract for mouth-to-mouth and mouth-to-nose resuscitation
- Resuscitation via masks is also possible
- The head can be stretched out to free the respiratory tract
- Movable jaw for use of jaw thrust manoeuvre.
- Individual carotid pulse.
- CPR*Lilly*™ can react to the trainee by opening her eyes when spoken to.
- Realistic force of reaction from the chest of an adult
- Realistic compression depth of 5–6 cm (adult) prepare those performing the exercises for authentic human responses. A tone (which can be deactivated) will sound, when the correct compression depth is reached.
- Use of disposable air bags and an isolated air chamber system makes using CPR*Lilly*™ hygienic and highly economical over a long period. The face masks can be cleaned and exchanged easily
- All material used throughout the production process complies with the highest standards in terms of quality and durability, and is non-hazardous.
- Developed and manufactured in Germany.

Dimensions: approx. 78x39x26 cm^3
Weight: approx. 8 kg

CPR*Lilly*™, Light Skin
B-1017772
CPR*Lilly*™, Dark Skin (not shown)
B-1017774



CPR*Lilly*™ – Reliable to use in any CPR training course.

For training in cardio-pulmonary resuscitation. CPR*Lilly*™ is designed in accordance with current guidelines from the American Heart Association (AHA) and the European Resuscitation Council (ERC).



Teaching Case "Soil Analysis"

This analysis set can be used to reliably identify important soil parameters without prior knowledge of chemistry. The case contains all the necessary reagents, equipment and accessories. It can be used to identify the concentrations of the following substances in the soil: nitrate, nitrite, ammonium, phosphate and potassium. It is also possible to determine soil structure, acidity (pH value), density and humidity. Identification cards can be used to make colour comparisons to a high level of accuracy and can be used in the classroom. The set contains a thorough introduction in English, French, Spanish and German.

Contents:

Calcium chloride solution ($CaCl_2$) sufficient for 110 soil extracts, calcium acetate lactate solution (CAL) sufficient for 7 soil extracts, 1 set of scales, 1 soil sieve, 1 funnel, 1 double-ended spatula, 3 syringes, 1 spray bottle, 1 measuring cylinder, 1 can, 2 shakers, 1 plastic shovel, 100 folded filters, 1 set of instructions

Dimensions: approx. 43x51x17 cm^3

Weight: approx. 2.4 kg

B-1018516



Teaching Case "Environment" (ECOLABBOX)

The ECOLABBOX box is a veritable mobile laboratory for carrying out water, soil and air experiments out in the field. You can detect and measure the most important substances that have an effect on our environment. All in all, 21 fundamental experiments concerning the environment are described and these are suitable for groups of schoolchildren aged 12 and above. All reagents conform to German water hazard classification 0, meaning that they pose no dangers when disposed of. An adjustable carrying strap for use when out and about – on a bicycle for example – is also provided.

Contents: Reagent test sets each containing enough for 50 water investigations (pH, phosphate, ammonium, nitrate, nitrite and hardness in water), extraction solutions for approximately 30 soil extracts (phosphate, ammonium, nitrate and nitrite), 1 magnifying glass, 1 special tweezers, 1 water-resistant DIN A4 underlay, cress seeds, 6 sample tubes, 1 graduated beaker, 1 sample bottle, 1 shaker, 1 funnel, 2 plastic pipettes, 1 filtration stand, 30 filtration paper, 1 colour chart, 1 detailed handbook in German or English

Dimensions: approx. 38x30x11 cm^3

Weight: approx. 2.5 kg

Teaching Box "Environment" (ECOLABBOX), German

B-1003787

Teaching Box "Environment" (ECOLABBOX), English

B-1003792

pH – Indicator Test Sticks

For fast pH – value determination . The indicator area on the plastic stick will not fade out (will not bleed). Well distinguishable scaling. Package with 100 sticks. Description in English and German.

A. pH – Indicator Test Sticks, pH 0 – 14

B-1003794

B. pH – Indicator Test Sticks, pH 0 – 6

B-1003795

C. pH – Indicator Test Sticks, pH 4.5 – 10

B-1003796

pH – Indicator Test Sticks, pH 5.1 – 7.2 (not shown)

B-1017231

pH – Indicator Test Sticks, pH 7 – 14 (not shown)

B-1003797



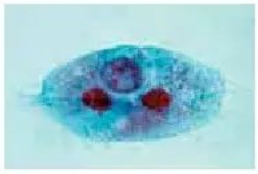
A



B



C







Series of Microscope Slides "The Microscopic Life in the Water, Part I"

25 microscope slides with English text.

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

B-1004260

More sets of microscope slides and CD-ROMs at 3bscientific.com







Equipment Set "Environment Explorer"

Strong and versatile set of equipment for taking water and plankton samples, for catching flies, beetles, suspended particles, aquatic insects etc. or for collecting small creatures in soil from the beds of watercourses. The key component is a telescopic pole to which the various nets and collecting vessels can be attached.

	Name	Description
B-1003780	Telescopic Pole	Can be extended from 145 to 270 cm
B-1003778	Water Landing Net	Strong aluminium ring, nylon net, mesh size 0.8 mm, diameter 200 mm, depth max. 310 mm
B-1003779	Wire Sieve Net	Robust design, edge reinforced with metal ring mean that distortion is almost impossible, diameter 200 mm
B-1003781	Plankton Net, 65 µm	Aluminium ring, diameter 200 mm, silk gauze, mesh size 65 µm, collecting vessel 100 ml
B-1003782	Plankton Net, 105 µm	Aluminium ring, diameter 200 mm, silk gauze, mesh size 105 µm, collecting vessel 100 ml
B-1013196	Water Sampling Beaker	Graduated polythene beaker (1000 ml) with spout, adjustable angle of inclination for beaker, pouring direction can also be changed



Water Tester

This digital water tester measures the physico-chemical concentrations of hydrogen ions (pH), dissolved salts (electrical conductivity / EC) and dissolved ions (evaporation residue, TDS) in a measuring solution. An integrated temperature sensor also serves to measure the temperature in °C or °F automatically compensate the values. The electrodes supplied can be simply switched if necessary. A compact and robust case made from sturdy plastic protects the device from splashes. The device has a battery charge indicator and an automatic off function that activates if no measurements are taken for 8 minutes.

pH:	0 – 14 ± 0.01
EC:	0 – 3.999 µS ± 2%
TDS:	0 – 2.000 mg/l ± 2%
Temperature:	0 – 60 °C ± 0.5 °C
Protection class:	IP 64
Power supply:	4x 1.5 V for approx. 100 hours of operation
Dimensions:	approx. 16.3x4x2.6 cm^3
Weight:	approx. 0.1 kg

B-1017859



Advantages of Low-Temperature LED Lighting

- Uniform illumination of object
- No heating of the sample after long periods of viewing
- Long lifespan, no need to change bulbs





Monocular Course Microscope Model 100 LED (230 V, 50/60 Hz)
The monocular course microscopes model 100 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 microscopes are equipped with rechargeable batteries and can be used without a mains connection.
B-1005406

Binocular Course Microscope Model 300 LED (230 V, 50/60 Hz)
Course microscopes model 300 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. Available accessories include planar and semi-planar achromatic objectives and a dark-field condenser.
B-1013144

Art. No.	B-1005406	B-1013144
Stand	All-metal stand, arm firmly connected with base, pinion knobs attached on both sides of the stand for coarse and fine focusing	Robust, all metal stand with arm permanently connect to the base. Focussing by means of coaxial 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 Siedentopf 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 with pointer and eyepiece lock	Pair of wide field eyepieces WF 10x18 mm
Objectives	Revolving nosepiece with 3 achromatic objectives	Revolving nosepiece with 4 achromatic objectives 4x / 0.10, 10x / 0.25, 40x / 0.65, 100x /1.25 (oil)
Enlargement	40x, 100x, 400x	40x, 100x, 400x, 1000x
Object Stage	110x120 mm² with 2 specimen clips	x-y cross table, 125x130 mm², with object guide and coaxial adjustment knobs perpendicular to the object stage, adjustment range 70x30 mm²
Illumination	Adjustable LED lighting integrated in base, power supplied by rechargeable battery, 230 V, 50/60 Hz charger	Adjustable LED lighting integrated in base, power supply 230 V, 50/60 Hz
Condenser	Bright-field condenser N.A. 0.65, iris diaphragm, filter holder and blue filter	Abbe condenser N.A.1.25 with iris diaphragm, filter holder and blue filter, focussed via rack and pinion drive
Dimensions	approx. 175x135x370 mm³	approx. 282x148x357 mm³
Weight	approx. 2.9 kg	approx. 5.2 kg
Supplied	Complete with dust cover	





More microscopes at 3bscientific.com

Digital microscopes B-1013152 and B-1013153 are characterised by their robust design, their fine optical and mechanical properties and their ease of operation. The built-in 1.3-megapixel camera allows specimens to be viewed through the ocular and on a computer screen at the same time and provides well-focused images with authentic colour. There is a choice of two models: a monocular microscope with low temperature LED illumination and a binocular microscope using a halogen lamp. Professional ScopeImage software allows both static images and videos to be recorded as well as featuring image editing plus measurement and evaluation capabilities.

Art. No.	B-1013152	B-1013153
Description	**Digital Monocular Microscope with Built-in Camera**	**Digital Binocular Microscope with Built-in Camera**
Stand	All metal stand, arm firmly connected with base, coaxial knobs attached on both sides of the stand for coarse and fine focusing	
Tube	Monocular inclined 45°, head rotation 360°	Binocular inclined 45°, head rotation 360°
Eyepieces	Wide field eyepiece WF 10x18 mm	Pair of wide field eyepieces WF 10x18 mm
Objectives	Revolving nosepiece with 4 achromatic objectives 4x / 0.10, 10x / 0.25, 40x / 0.65, 100x / 1.25 (oil)	
Enlargement	40x, 100x, 400x, 1000x	
Object Stage	x-y mechanical stage, 125x115 mm², with object guide, adjustment range 70x20 mm²	x-y mechanical stage, 140x140 mm², with object guide, adjustment range 75x50 mm²
Illumination	Adjustable LED lighting integrated in base. Universal 100 V to 240 V, 50/60 Hz power supply	Adjustable 6 V, 20 W halogen lamp integrated in base. Universal 100 V to 240 V, 50/60 Hz power supply
Condenser	Abbe condenser N.A.1.25 with iris diaphragm , filter holder and filter, focussed via rack and pinion drive	
Camera Sensor	1/3" CMOS, 1.3 Mpixel, colour image	
Power Supply	Via USB 2.0	
System Requirements	WIN2000, WINXP, Vista, WIN7 und WIN8	
Dimensions	approx. 130x180x390 mm³	approx. 220x180x390 mm³
Weight	approx. 2.5 kg	approx. 8.5 kg
Supplied	Complete with dust cover	





Stereo Microscope, 40x, Transmitted-Light Illumination LED (230 V, 50/60 Hz)

Stereo microscopes model 40x 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. The low-temperature LED illumination allows samples to be viewed for longer without heat affecting the prepared specimen. It also has the advantage of being longer lasting, eliminating the need to change bulbs.
Power is supplied to the LED illumination via rechargeable batteries, so that the microscope can also be used without a mains connection.
B-1013128

Stereo-Zoom Microscope, 45x (230 V, 50/60 Hz)

The robust 45x stereo-zoom microscope models are characterised by their ease of operation and their fine optical and mechanical qualities. They are equipped with a 0.7x to 4.5x zoom objective allowing magnifications from 7 to 45 times the original size. The ocular features a high eye point, making them highly suitable for those who wear spectacles. Two halogen lights for reflected and transmitted illumination which can be activated independently ensure that the object is evenly lit with uniformly bright light. Thanks to the fine optical equipment the stereo-zoom microscopes provide a very bright, distortion free image with excellent resolution.
B-1013376

Art. No.	B-1013128	B-1013376
Stand	Metal stand, column firmly connected with base, pinion knobs attached on both sides for coarse and fine focusing	
Tube	Binocular inclined 45°, interocular distance adjustable between 55 and 75 m	Binocular inclined 45°, interocular distance adjustable between 54 and 75 mm, head rotatable by 360°
Eyepieces	Pair of wide field eyepieces WF 10x 20 mm with eyepiece lock and rubber eyepiece cups, one eyepiece with pointer	Pair of wide field eyepieces WF 10x 20 mm, rubber eyepiece cups
Objectives	Revolving nosepiece with objective 2x/4x	Zoom objective, 0.7x to 4.5x
Enlargement	20x/40x	7x to 45x
Object Plate	Base with detachable object plates (plastic, black/white and glass) 95 mm dia. and 2 specimen clips	
Illumination	LED, top and transmitted light illumination, power supplied by rechargeable battery, 230 V, 50/60 Hz charger	Top-, transmitted- and mixed-light illumination, adjustable 12 V, 15 W halogen lamp, power supply 230 V, 50/60 Hz
Dimensions	approx. 190x300x115 mm^3	approx. 250x220x350 mm^3
Weight	approx. 2.9 kg	approx. 6 kg
Supplied	Complete with dust cover	

More microscope accessories at 3bscientific.com!



Biology Dissecting Kit

Stainless steel instruments presented in a single-fold vinyl case.

Contents: 1 ruler, 15 cm, 1 scalpel blade holder n° 4, 5 scalpel blades n° 20, 1 pipette, 1 pair of scissors, straight, 14 cm, 1 dissecting probe, with plastic handle, 13 cm, 1 dissecting needle with plastic handle, 13.5 cm, 1 pair of forceps, blunt tip, 11.5 cm

Dimensions: approx. 7.6x17 cm^2

B-1005964



Dissection Kit

Extensive dissecting set in an attractive imitation leather pouch, with high-quality stainless steel instruments.

Contents:

1 pair of scissors, sharp tip, 11.5 cm
1 pair of scissors, sharp tip / blunt tip, 14 cm
1 pair of forceps, sharp tip, with stem, 11.5 cm
1 pair of forceps, blunt tip, 14 cm
1 pair of forceps, sharp tip, 12 cm
1 one-piece scalpel, 4 cm blade
1 scalpel blade holder n° 4
5 scalpel blades n° 20
1 dissecting needle, 13 cm
1 dissecting needle, lancet, 15 cm

Dimensions: approx. 21x13x3 cm^3

B-1003771



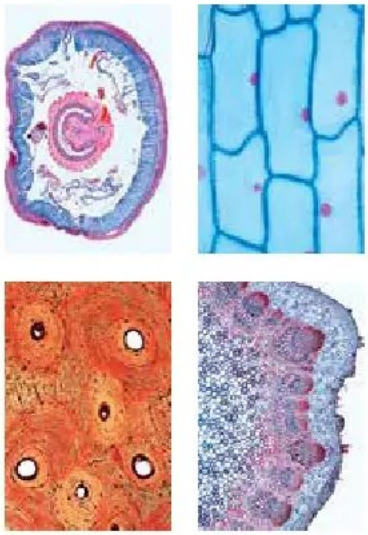
Digital Camera for Microscope, 8 Mpixel

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. 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. Separate ScopePhoto 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.

B-1013379

Camera Sensor	1/2.5" CMOS, colour image
Pixel Size	1.75 µm X 1.75 µm
Sensitivity (V/Lux-sec)	1.3
Resolution	3264 X 2448, 8 Mpixel
Dynamic Range	75 dB
Wave Length	400 – 650nm
Exposure	ERS (Electronic Rolling Snap)
White Balance	automatic/manual
Output	USB 2.0
Programmable Control	Image size, brightness, gain, exposure time
Power Supply	via USB interface 2.0, USB cable 2.5 m in length
Camera Housing	oxidised metal housing
Dimensions	110x50x50 mm^3 approx.
Weight	260 g approx.
Microscope Adapter	2 adapters 30 mm dia. and 30.5 mm dia.
System Requirements	Windows XP (SP2) / Vista / Windows 7/8



Series of Microscope Slides “School Set A” (Basic Set)

25 microscope slides with detailed accompanying text.

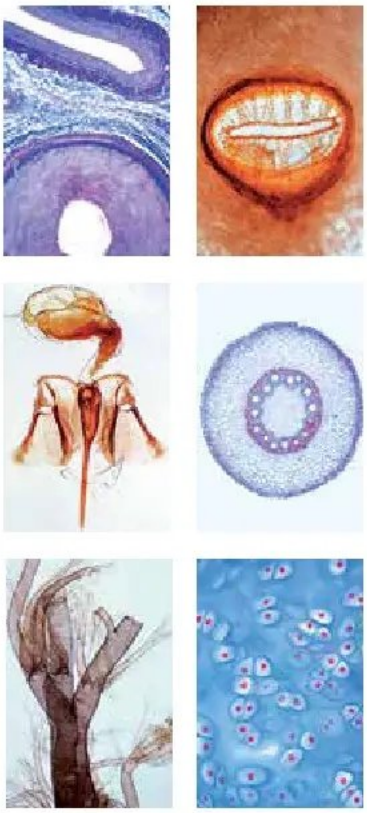
Zoology: 1. Amoeba proteus, w.m. showing nucleus and pseudopodia; 2. Hydra, w.m. extended specimen to show foot, body, mouth, and tentacles; 3. Lumbricus, earthworm, typical t.s. back of clitellum showing muscular wall, intestine, typhlosole, nephridia etc.; 4. Daphnia and Cyclops, small crustaceans from fresh water 5. Musca domestica, house fly, head and mouth parts (proboscis) w.m.; 6. Musca domestica, leg with clinging pads (pulvilli); 7. Apis mellifica, honey bee, anterior and posterior wing.

Histology of Man and Mammals: 8. Squamous epithelium, isolated cells from human mouth; 9. Striated muscle, l.s. showing nuclei and striations; 10. Compact bone, t.s. special stained for cells, lamellae, and canaliculi; 11.Human scalp, vertical section showing l.s. of hair follicles, sebaceous glands, epidermis 12. Human blood smear, stained for red and white corpuscles.

Bacteria and Cryptogams: 13. Bacteria from mouth, smear Gram stained showing bacilli cocci, spirilli, spirochaetes; 14. Diatoms, strewn slide of mixed species; 15. Spirogyra, vegetative filaments with spiral chloroplasts; 16. Mucor or Rhizopus, mold, w.m. of mycelium and sporangia; 17. Moss stem with leaves w.m.

Phanerogams: 18. Ranunculus, buttercup, typical dicot root t.s., central stele; 19. Zeamays, corn, monocot stem with scattered bundles t.s.; 20. Helianthus, sunflower, typical herbaceous dicot stem t.s.; 21. Syringa, lilac, leaf t.s. showing epidermis, palisade parenchyma, spongy parenchyma, vascular bundles; 22. Lilium, lily, anthers with pollen grains and pollen sacs t.s.; 23. Lilium, ovary t.s. showing arrangement of ovules; 24. Allium cepa, onion, w.m. of epidermis shows simple plant cells with cell walls, nuclei, and cytoplasm; 25. Allium cepa, l.s. of root tips showing cell divisions (mitosis) in all stages, carefully stained.

B-1004261



Series of Microscope Slides “School Set B” (Supplement for A)

50 microscope slides with detailed accompanying text.

Zoology and Parasitology: 1. Paramaecium, nuclei stained; 2. Euglena, a common flagellate with eyespot 3. Sycon, a marine sponge, t.s. of body; 4. Dicrocoelium lanceolatum, sheep liver fluke, w.m.; 5. Taenia saginata, tapeworm, proglottids of various ages t.s.; 6. Trichinella spiralis, l.s. of skeletal muscle showing encysted larvae; 7. Ascaris, roundworm, t.s. of female in region of gonads; 8. Araneus, spider, leg with comb w.m.; 9. Araneus, spider, spinneret w.m.; 10. Apis mellifica, honey bee, mouth parts of worker w.m. 11. Apis mellifica, hind leg of worker with pollen basket w.m.; 12. Periplaneta, cockroach, chewing mouth parts w.m.; 13. Trachea from insect w.m.; 14. Spiracle from insect w.m.; 15. Apis mellifica, sting and poison sac w.m.; 16. Pieris, butterfly, portion of wing with scales w.m.; 17. Asterias rubens, starfish, arm (ray) t.s. showing tube feet, digestive gland, ampullae.

Histology of Man and Mammals: 18. Fibrous connective tissue of mammal; 19. Hyaline cartilage of mammal, t.s.; 20. Adipose tissue, stained for fat; 21. Smooth (involuntary) muscle l.s. and t.s.; 22. Medullated nerve fibres, teased preparation of osmic acid fixed material showing Ranvier’s nodes; 23. Frog blood smear, showing nucleated red corpuscles; 24. Artery and vein of mammal, t.s.; 25. Liver of pig, t.s. showing well developed connective tissue; 26. Small intestine of cat, t.s. showing mucous membrane; 27. Lung of cat, t.s. showing alveoli, bronchial tubes.

Cryptogams: 28. Oscillatoria, a common blue green filamentous alga; 29. Spirogyra in scalariform conjugation, formation of zygotes; 30. Psalliota, mushroom, t.s. of pileus with basidia and spores; 31. Morchella, morel, t.s. of fruiting body with asci and spores; 32. Marchantia, liverwort, antheridial branch with antheridia l.s. 33. Marchantia, archegonial branch with archegonia l.s.; 34. Pteridium, braken fern, rhizome with vascular bundles t.s.; 35. Aspidium, t.s. of leaf with sori showing sporangia and spores.

Phanerogams: 36. Elodea, waterweed, stem apex l.s. showing meristematic tissue and leaf origin; 37. Dahlia, t.s. of tuber with inuline crystals; 38. Allium cepa, onion, w.m. of dry scale showing calcium oxalate crystals 39. Pyrus, pear, t.s. of fruit showing stone cells; 40. Zea mays, corn, typical monocot root t.s.; 41. Tilia, lime, woody dicot root t.s. 42. Solanum tuberosum, potato, t.s. of tuber with starch and cork cells; 43. Aristolochia, birthwort, one year stem t.s. 44. Aristolochia, older stem t.s. shows secondary rowth; 45. Cucurbita, pumpkin, l.s. of stem with sieve tubes, annular and reticulate vessels, sclerenchyme fibres; 46. Root tip and root hairs 47. Tulipa, tulip, epidermis of leaf with stomata and guard cells w.m., surface view; 48. Iris, typical monocot isobilateral leaf, t.s.; 49. Sambucus, elderberry, stem showing lenticells and cork cambium, t.s.; 50. Triticum, wheat, grain (seed) sagittal l.s. with embryo and endosperm.

B-1004262

More sets of microscope slides and supplementary CD-ROMs at 3bscientific.com!

3B Scientific® Product Range



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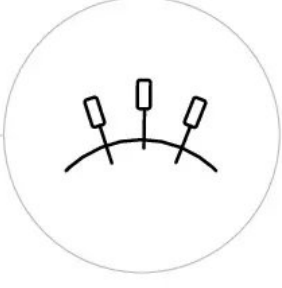


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