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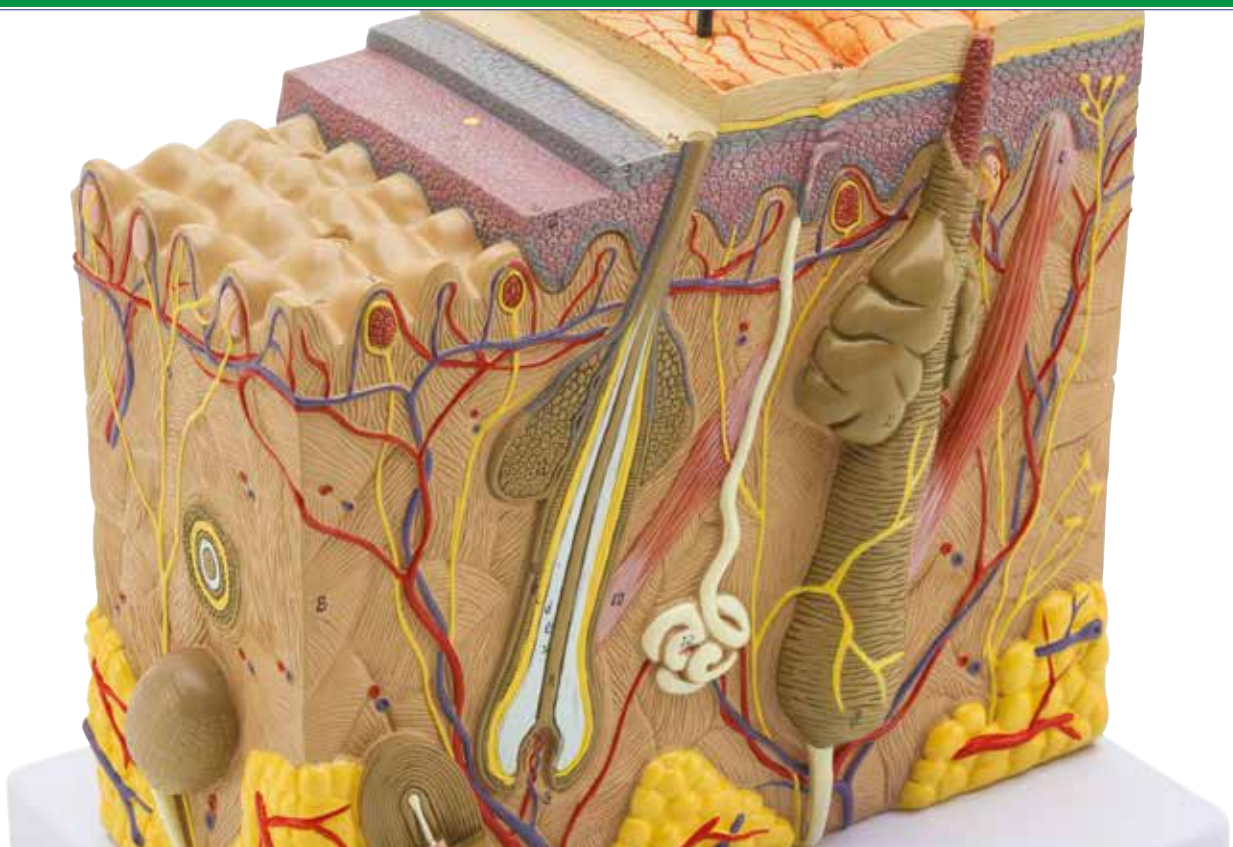
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Teaching guide in digital format



Minimum invoiced order: € 130,00 + VAT




Set for the demonstration of plants' respiration
To demonstrate that, during cellular respiration, the plants absorb oxygen.




5661

Set for the demonstration of germinating seeds breathing
To demonstrate how seeds absorb oxygen during the germination period.




5663

Set for the demonstration of CO2 emission and heat production in germinating seeds
For the study of two other phenomenon of the germination phase of seeds.



5664

Set for the demonstration of plants' traspiration
To demonstrate that, during the cellular respiration, the plants absorb oxygen and for the quantification of the phenomenon in different environmental conditions with different plants.



5665

Set for the demonstration of radical pressure
To demonstrate the existence of the radical pressure's phenomena.




5666

Set for the demonstration of aquatic plants' respiration
To show how during the phenomena of photosynthesis, the plants emit molecular oxygen.



5667

Dutrochet's endosmometer for the demonstration of osmotic pressure
To show how plants absorb water through the osmosis phenomenon.



5668

Set for the demonstration of mineral salts absorption in plants
To demonstrate the difference in the development between plants fed with mineral salts and plants which are not fed.



5669

Section of flower HS2830

It is a model in relief in which the main parts are highlighted: stem, petals, styles, and pistils. Fitted with coloured transparent sheets.

Size: 46 x 62 cm

**HS2830****Root, stem and leaf's section HS2840**

It is a model in relief in which the main parts of the root, stem and leaf are highlighted. Fitted with english teaching guide and coloured transparent sheets.

Size: 46x62 cm.

**HS2840****Plant physiology****5660**

This kit includes all the items previously described: 5661, 5663, 5664, 5665, 5666, 5667, 5668, 5669.

Repeated items have been eliminated in order to reduce total cost.

10 Feasible experiments**Topics**

- Introduction: atmospheric pressure
- Respiration in germinating seeds .1
- Heat production in germinating seeds
- Respiration in germinating seeds .2
- Absorption of oxygen in plants .1
- Absorption of oxygen in plants .2
- Production of oxygen by water plants
- Dutochet's endosmometer
- Root pressure
- The rise of water in plants by transpiration
- Absorption of minerals in plants

Equipment supplied

- | | | |
|-----------------------------|---|-------------------------------------|
| 1 Rod 47 cm | 1 Pair of glass tubes with capillary | 1 Funnel 80 mm |
| 1 Bosshead | 1 3-sphere expansion tube with stopper | 1 Pipet aspirator with three valves |
| 1 Base | 1 Capillary tube with plate and stopper | 1 Bottle of baryta water |
| 1 Ring holder | 1 Glass tube 20x200x2 mm | 1 Beaker 600 ml |
| 1 Bottle of sodium chloride | 1 Endosmometer | 1 Round flask 500 ml |
| 1 Rod 25 cm | 2 Insufflators with flask | 1 Test tube 16 x 150 mm |
| 2 Pliers with clamp | 1 Thermometer with stopper | 1 Box |
| 1 Test tube 5 x 7 x 30 mm | 1 Bottle of potassium hydroxide | 1 pdf teaching guide |
| 1 Three necked bottle | 2 Bottles of coloured liquid | |
| 1 Pair of tubes with tap | 1 Bottle of nutrient salts solution | |

**5660****Earth Sciences Experimental chamber 9035**

The Earth Sciences experimental chamber has been designed for the study of biological phenomena. The students can explore, in a close and conditioned system, biological, physical and chemical phenomena. The item is fitted with a pressure control system, and with several connections for ScienceCube sensors.

Topics

- Creation of artificial clouds through pressure;
- Adiabatic cycles
- Study of Archimede's thrust
- Variation of the boiling point
- Study of relative humidity
- Boyle's Law

Equipment supplied

- | | |
|----------------------------|---------------|
| 1 Experimental chamber | 1 Microphone |
| 1 Temperature sensor | 1 Vacuum pump |
| 1 Gas pressure sensor | 1 Valves |
| 1 Relative humidity sensor | |

Equipment required, not supplied

- | |
|---------------------------------------|
| 1 ScienceCube Pro Interface code 9001 |
| 1 Dissolved oxygen sensor code 9030 |

*Suitable to be used with sensors***9035****Kit for experiments on photosynthesis 9040**

The kit for experiments on photosynthesis allows the study of earth and water plants, observing their breathing, or seeds' germination, and measuring quantitatively what occurs.

Equipment supplied

- | | |
|---------------------------|-------------------------------|
| 1 Cell for photosynthesis | 1 Platinum temperature sensor |
| 1 CO ₂ sensor | |

Equipment required, not supplied

- | |
|---------------------------------------|
| 1 ScienceCube Pro Interface code 9001 |
| 1 Dissolved oxygen sensor code 9030 |

*Suitable to be used with sensors***9040**

Potometer 7212

Item for measuring the plants' water absorption speed. It consists of a bottle for water, a glass support for plants and a graduated tube for measuring.



7212

Peach blossom MBT004

This model shows the basic structure of the peach blossom: the receptacle, the calyx, the corolla, the stalk and the pistil. The ovary can be opened, showing the two pendulum ovules and the placenta. Diameter: 35 cm.



MBT004

Modular cherry blossom with fruit T21019

This model shows the cherry blossom (decomposable in 3 parts) enlarged 7 times and the fruit enlarged 3 times. The wrapper which contains the seeds can be extracted. Height: 32,5 cm.



T21019

Pollination process MBT022

Model of angiosperm flower which shows the process of its dual pollination. Size: 33x26x3 cm.



MBT022

Leaf section MBT007

This model shows the vessels and the internal and external structure of a leaf. Cross and longitudinal sections. Size: 45x16x20 cm.



MBT007

Germination fay TE05

Made of plastic with plexiglas transparent cover with two boles. Size: 36x24x18h cm.



TE05

Model of germination HS2850

On this model in relief the germination of monocots and dicots plants is shown. The students can notice the similarities and the differences in seed's development according to both cases. Fitted with english teaching guide and coloured transparent sheets. Size: 62x46 cm.



HS2850

Root MBT006

This model shows the morphology of a root's cross and longitudinal sections, its internal structure included. Size: 60x20x17 cm.



MBT006

Dicotyledon's stem MBT005

This model shows the histological structures of a dicotyledon's stem in the cross and longitudinal section. Size: 34x26x16 cm.



MBT005

pH meter for soil TE07

To measure soil's acidity degree.



TE07

Transparent plastic basin H20

18x11x14 cm with cover.



H20

Igrometer for soil TE08

To measure soil's humidity degree. With built-in light meter to check if plants are correctly exposed to light.



TE08

Insects collector 7006

It consists of a transparent plastic container with cover, equipped with two transparent small flexible tubes.



7006

Landing net 7007

Suitable for collection of small fishes and insects. Length: 32 cm.



7007

Dissection table 7008

It consists of a metallic tray covered by a washable layer.
Size: 28x20 cm.



7008

Berlese's selector 7217

Item for the extraction of microarthropods from soil's samples. The lamp progressively dries up the soil and there are the animals move to the bottom, they go through the support net and fall in the alcohol solution that fix them.

For the observation of this fauna, the stereomicroscopes mentioned on microscopy series are particularly indicated.



7217

Animal and plant cell with activity set HS2057

These are two decomposable models which permit to explore the structure and the functions of the animal and plant cells. It is fitted with coloured transparent sheets and with an english teaching guide.

Models' diameter: 20,5 cm.



HS2057

Animal Cell HS2055

Model of cell that enables exploration of the structure and functions of the animal cell.



HS2055

Plant Cell HS2056

Model of cell that enables exploration of the structure and functions of the plant cell.



HS2056

Stetoscope model 3104

This model of stethoscope is very similar to the one used by doctors to auscultate.



3104

Kit for experiments on digestion 7016

Particularly suited to primary school

Topics

- Digestive system
- Proteins digestion
- Fats digestion
- Food rout

Equipment supplied

- 1 Beaker 100 ml
- 1 Plastic stirrer
- 2 Test-tubes with stopper
- 1 Dropper
- 1 Bottle of chloride acid
- 1 pdf teaching guide



To perform the experiments on fats and proteins digestion it is necessary to buy pepsin and pancreatin in a pharmacy.

7016

Pulmonary capacity meter 7223

Blowing the lung air into the cylinder through a straw, the piston raises. Thus it is possible to evaluate the volume of the inhaled air.



7223

Kit for experiments on digestion

7023

Suitable for secondary school.

7 Feasible experiments

Topics

- Digestion of starches
- Digestion of proteins
- Digestion of fats
- Enzymes

Equipment supplied

1 Beaker, 250 ml	1 Tripod support	1 Bottle of albumin
1 Beaker, 100 ml	1 Ceramic centre gauze	1 Bottle of chloride acid, 10% solution
1 Test-tubes holder	1 Spoon	1 Bottle of biuret
1 Pencil dropper	10 Test-tubes with bung	1 pdf teaching guide
1 Plastic stirrer	1 Bottle of dentured alcohol	1 Case
25 Filter paper discs	1 Bottle of Lugol's solution	
1 Alcohol burner	1 Bottle of starch	

To perform the experiments on fats and proteins digestion it is necessary to buy pepsin and pancreatin in a pharmacy.



7023

Plant and animal life

8613

How does a plant breath ? How does the process of photosynthesis occur? What happens if we try to change some significant parameters while we study a vegetable's activity? Do the eye and the skin breath? The answer to these questions is in the biology books, without the support of an adequate experimentation. Thanks to the on-line items mentioned in this section the teacher can observe " live" the behaviour of biological organisms, and then analyze the experimental data to establish relations between parameters and try to represent them mathematically.

Topics

- Experiences on human respiration
- Human eye's breathing
- Respiration and photosynthesis of plants
- Skin breathing
- Fermentation of yeasts
- The effect of temperature on the cold-blooded organisms
- Cellular respiration

Equipment supplied

1 Bunchner flask, 1000 ml
1 Glass flask, 300 ml with stopper
1 Glass beaker, 600 ml
1 Rubber bung O ₂
1 Rubber bung CO ₂
1 T junction for breath
1 Junction with suction cap
1 Glasses suited for sensor
1 Compressed air
1 Mouthpiece for breath
1 Tweezers
1 Tinfoil
1 Red filter
1 Thermometer
1 Teaching guide pdf
1 Case



Equipment for online use - not supplied

1 O ₂ sensor code 9044	1 Interface code 9001
1 CO ₂ sensor code 9089	



Even the skin absorbs oxygen from the air.



Human breath: inhaling and exhaling.



Suitable to be used with sensors

8613

Kit for experiments on breathing

7017

This kit allows yuo to simulate the functioning of lungs during the two phases of breathing and to reveal the presence of carbon dioxide in the exhaled air.

Equipment supplied

1 Pulmonary model	1 Tripod support
1 Breathed for carbon dioxide	1 pdf teaching guide
1 Vacuum pipette	1 Case
1 Bottle of water lime	



7017

Set of spare filters for the kit on smoking effects

7201

Set of 25 spare filters.

7201

Kit on the consequences of smoking

7200

This kit has been designed to show to the students the effects of smoking on our organism and to convince them to avoid smoking. It consists of: 25 filters with support, vacuum pump e comparison sheet for the determination of the quantity of tar in cigarettes.

The kit enables performance of 5 different didactic activities.

The cigarettes are not supplied.



7200

EXPLORING OUR SENSES**5719**

The sense organs are the instruments through which the body can receive and process the stimuli coming from outside. With the material provided in this collection teachers can enrich their lessons through the exhibition of sense organs' models and conducting meaningful experiments, on physical and chemical stimuli. Even the students, divided into six working groups, can perform simple experiments through which:

- they acquire the knowledge that every sensation contributes to the perception of the outside world;
- they learn to distinguish the information coming from each sense;
- they learn the potentialities and limits of their sense organs and the hygienic standards for their correct use;
- they understand the importance of the connection between the sense organs and the brain in perception.

70 feasible experiments**Topics****TOUCH**

- The skin
- Skin's sensibility
- Touch's stimuli
- Pressure's stimuli
- Pain's stimuli
- Temperature & heat
- Thermal stimuli
- Hot and cold receptors
- To see through touch
- Fingerprints
- The skin's hygiene

SIGHT

Light sources and illuminated bodies
 Light propagation
 Light transports energy
 The eye: a light receiver
 Lenses
 The eye as an optical system
 Eyes' defects and their correction
 Resolving power of the eye and visual acuity
 The eye-brain system
 The persistence of images on the retina
 Temporal synthesis of colors
 Spatial synthesis of colors
 Binocular vision
 Sense of depth
 Stereoscopic vision
 Field of view
 Optical illusions
 How to help the sight

OLFACTION

- What's the matter like
- The matter's aggregation stages
- Changes of state
- The nose: the organ of smell
- How smells are detected
- How smells are identified
- How we get used to smells
- The nose's hygiene

TASTE

- The tongue and the taste buds
- How we taste different tastes
- The four main tastes
- Taste and olfaction
- Taste and sight
- Good and bad smells

HEARING

- Oscillating motion
- Graphical representation of the oscillating motion
- When we hear a sound
- Why we hear sounds
- Acoustic waves
- How acoustic waves turn into sounds
- The ear: a receiver of acoustic waves
- The ear-brain system
- The limits of audibility
- The distinctive features of sound
- The sensibility of auditory apparatus
- How to reinforce the auditory sensibility
- Stereo phonics
- Echo, reverberation and boom
- Cure of auditory apparatus

Equipment supplied

- | | |
|---|--|
| 1 Linear ruler | 1 Model of eye |
| 6 Droppers | 1 Model of ear |
| 1 Tuning fork with case and small hammer | 1 Model of skin |
| 1 Vibrating plate | 1 Model of skin |
| 1 Stethoscope | 1 Model of nose |
| 1 Ultrasonic whistle | 6 Petri dishes |
| 1 Xylophone | 3 Beakers 250 cc |
| 1 Electrical Newton disc | 6 Teaspoons |
| 6 Stereoscopic glasses | 6 Tables on eye's structure |
| 2 Binoculars | 6 Tables on resolving power of the eye |
| 6 Magnification lenses | 1 Snellen chart |
| 1 Solar energy motor | 6 Tables on eye blind spot |
| 1 Batteries-holder | 6 Tables on images' persistence |
| 2 Connection cables | 6 Tables on spatial synthesis of colours |
| 6 Plastic tubes | 6 Tables on visual axis convergence |
| 1 Kit for the study of eyes and their defects | 6 Tables on visual axis convergence |
| 1 Ink pad | 6 Tables on chromatic optical illusions |
| 1 Kit of different items | 6 Tables with Braille's alphabet |
| 6 Anti-acoustic pannels | 6 Transparencies |
| 1 Kit of different substances | 6 Stereoscopic figures |
| 1 Tastes' kit | 1 Case |
| 1 Punctured aluminum plate | 1 pdf teaching guide |
| 1 Small sphere with wire | |
| 1 Digital thermometer | |

NOTICE

To perform the experiments on eye and its defects, it is necessary to have a magnetic whiteboard because the pentalaser and the five lenses are magnetized. the purchase of the whiteboard code 1329 is suggested, it can be hung on a wall or placed on a table.

Circulatory apparatus

HS2671

Protruding model of circulatory system which gives a sectional view of the internal structure of heart, of kidney, of an artery and of the blood vessels that go through the human body. It is fitted with transparent sheets.



HS2671

Breathing apparatus

HS2672

Protruding model of breathing system which gives a sectional view of the skull and of the human torso, of the bronchial tube and of the pulmonary alveolus. It is fitted with three transparent sheets which clearly show the connection between breathing and anatomical adjacent structures.



HS2672

Digestive system

HS2673

Protruding model of the digestive system that gives a sectional view of the mouth, of the salivary glands, of the oesophagus, of the stomach, of the pancreas and of the intestine. It is fitted with transparent sheets.



HS2673

Nervous apparatus

HS2674

Protruding model of nervous system which gives a sectional view of the brain, of the spinal cord and of the spinal nerves with dendrites and synapses. It is fitted with transparent sheets.



HS2674

Urinary tract

HS2675

Protruding model of urinary tract in which the kidney is shown in details, illustrating an enlarged nephron. Other highlighted elements are the bark, the pyramid, the calyx and the papilla. It is fitted with transparent sheets.



HS2675

Meiosis

HS2668

Protruding model illustrating the meiotic cell division. Students can study the transmission of parents' specific features and observe the enlargement of chromosomes, cytoplasm and chromatic and polar bodies. It is fitted with transparent coloured sheets.



HS2668

Mitosis

HS2667

Protruding model that illustrates the somatic cell division, carefully describing the 5 phases of mitosis. Some important structures are highlighted, such as cytoplasm nucleus, nucleolus, chromatic wires, etc. It is fitted with transparent coloured sheets.



HS2667

The sets mentioned in this section include a plastic table in relief, some transparent sheets for overhead projectors and a teaching guide which consists of: a general introduction, an explanation on how to use the model, some questions to ask the students and their answers, and in the end a legend glossary.

Human skeleton 170 cm **GD0101**

Human skeleton made of unbreakable plastic, standard model. Natural modelling of an high quality male skeleton. All the apertures, the openings and the anatomic details are carefully reproduced. The skull can be dismantlable into three parts: cranial vault, cranial base and jaw. Skull, arms and legs are jointed. Model mounted on a movable tripod with small wheels.

**GD0101****Human mini-skeleton 85 cm** **GD0111**

Human mini-skeleton made of unbreakable plastic, standard model. Natural modelling of an high quality male skeleton. All the apertures, the openings and the anatomic details are carefully reproduced.

**GD0111****Human skull** **GD0102**

Life-size modelling of an high quality human skull. All the anatomic details, apertures and openings are carefully reproduced. Thanks to a specific manufacturing process, the denture is reproduced with great care as regards the position of teeth and the interdental system. The skull is dismantlable in three parts: calotte, cranial base and jaw.

**GD0102****Vertebral column** **GD0141**

Flexible, with pelvis, occipital bone, nerve endings, vertebral artery and herniated disc spine - lateral between the third and the fourth lumbar vertebra.

**GD0141****Mini-torso with removable head** **GD0206**

Approximately life size. The mini-torso is a small model that corresponds to the bigger anatomic models as regards the implementation and details. It is dismantlable into 12 parts and it is mounted on a plastic stage.

**GD0206****High Quality Model of sexless human body, with open back** **GD0203**

Natural-size human body, which can be dismantlable into 20 parts. This model is characterized by the very high quality of the details and the superior colour reproduction. In addition, the type of plastics used contribute further to make this model particularly realistic.

**GD0203****Muscular system** **GD0501**

Model of the human masculine muscular system. Removable pectoral muscles. It is possible to remove the internal organs. Model mounted on a rectangular stage.

**GD0501****Human torso masculine - feminine** **GD0202**

Human torso, life size, dismantlable into 23 parts. All the details, the colours and the openings are made of high quality plastic and are carefully reproduced. The model includes the masculine and feminine genital organs.

**GD0202****Brain** **GD0304**

Human brain model, dismantlable into 8 parts. The arteries are carefully reproduced and the model is mounted on a plastic stage. Natural size.

**GD0304**

Eye

GD0307

Enlarged 6 times, dismantlable into 6 parts: sclera with cornea and muscle listings, vascular tunic with retina and iris, vitreous humor and crystalline lens. Mounted on rectangular plastic stage.



GD0307

Teeth set

GD0311

These anatomic models of 3 different human teeth show the morphological differences between the bucktooth, the canine tooth and the premolar tooth. The dissection of the canine and premolar teeth shows their internal structure. Models enlarged approximately 12 times.



GD0311

Jaw

GD0313

Enlarged model of young man's half jaw, decomposable into 6 parts. The teeth, their roots, the nerve endings, the blood vessels and the gum are stressed. Two teeth are removable and dismantlable.



GD0313

Heart

GD0322

Model of human heart, natural-size, dismantlable into two parts. Vision of the atriums, of the ventricles and of the cardiac valves. Mounted on a rectangular plastic stage.



GD0322

Skin section

GD0331

Table model, enlarged approximately 70 times. On every half you can see the 3 layers of the scalp and of the skin without hair, with hair roots, sweat glands, etc...



GD0331

Ear

GD0309

Enlarged approximately 3 times, decomposable into 3 parts. The external auditory meatus, the middle and inner ear, the eardrum with the hammer and the removable incus are visible. Mounted on a rectangular plastic stage.



GD0309

Larynx

GD0314

Model enlarged approximately 2 times, decomposable into 5 parts dissected lengthwise. Epiglottis, vocal cords, movable arytenoid cartilage, not dismantlable. Mounted on a rectangular plastic stage.



GD0314

Decayed tooth

GD0335

Upper molar with three roots, enlarged approximately 15 times, decomposable into 6 parts: longitudinal section of the crown and two roots, the pulp and three interchangeable components showing the progressive stages of decays formation. Mounted on support.



GD0335

Model for dental hygiene

GD0312

Enlarged approximately 3 times, the model shows the denture and the palate of an adult and it is suitable to demonstrate the dental hygiene. It is fitted with a big size toothbrush.



GD0312

Heart

GD0321

Model of human heart enlarged approximately 2,5 times, dismantlable into 6 parts. Thanks to the openings of the front part, it is possible to see the ventricles and the under valvular apparatus. The right auricular appendix which includes the roots of the big vessels and the pulmonary valve, is removable so that the atrium right of the heart become visible. The left atrium of the heart become visible detaching another part. The aortic valve is removable. Mounted on a plastic rectangular stage.



GD0321

Lungs**GD0319**

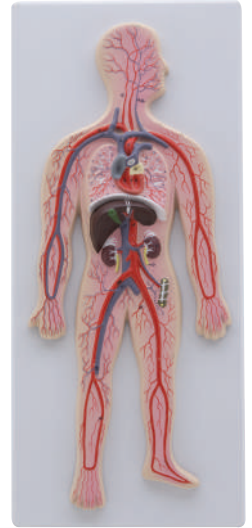
This model shows the segments of the right lung and left lung, the bronchial tube and the windpipe. The lungs are shown in blacklight. Mounted on a plastic stage. Natural-size.



GD0319

Circulatory system**GD0336**

Protruding model, approximately half life-size. Schematic representation of the human body's vascular system.



GD0336

Pulmonary alveolus**GD0320**

This model shows the distribution of the terminal bronchioles in the lung and its relation to the pulmonary alveolus. Mounted on a rectangular plastic stage.



GD0320

Stomach**GD0326**

Model enlarged stomach 1,5 times, decomposable into two parts. The internal and external walls of the stomach are represented, with a part of the oesophagus and duodenum. Mounted on a rectangular plastic stage. Size: 19 x 12 x 25 cm.



GD0326

Liver**GD0324**

Life-size liver model, not removable. The four hepatic lobes, the gallbladder and the vessels are represented. Made of plastic, mounted on a circular base.



GD0324

Pancreas, spleen and gallbladder**GD0325**

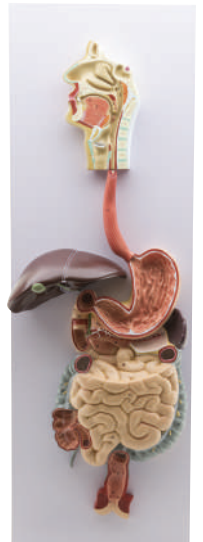
Life-size, non-removable model of pancreas, spleen and gallbladder with various common diseases including gallstones and pancreatic cancer.



GD0325

Digestive system**GD0334**

Natural-size. The model shows the digestive tract from the oral cavity to the rectum. The tract head-oesophagus-stomach-intestine (detachable transverse colon) and the bottom part of the liver with the gall bladder are represented.



GD0334

Kidney**GD0327**

Model of kidney natural-size, decomposable into two parts. Mounted on a circular plastic stage.



GD0327

Male and female urogenital system**GD0330**

Size model in PVC with kidney, urethra, bladder, uterus and lower abdomen. Dimensions 42 x 30 x 11.5 cm.



GD0330

Nose

GD0502

Model of nose, made of plastic, supplied with base.



GD0502

Tongue

GD0333

Model of tongue, made of plastic, supplied with base.



GD0333

Simulator of vertebral discopathies

GD1501

This innovative model illustrates the damaged mechanism of a spinal disc herniation. The simulator demonstrates how the intervertebral disc prolapses when flexing the vertebrae, reproducing what actually happens when bending or twisting the trunk. Given the diffusion of vertebral damages, therapists may find this model very useful to teach patients the proper behaviours and motions of the spinal column. This model is of great help in medicine, physiotherapy, surgeries, prevention of risks in working places, ergonomics, physical education and other fields. The model is composed of two vertebrae with an elastic intervertebral disc, spinal cord and spinal nerves.

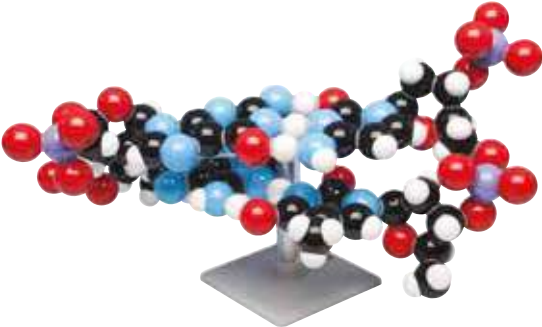


GD1501

Kit for DNA model

MKS-122/2

This kit for educational activities includes carbon, nitrogen, oxygen and hydrogen atoms of different colours, with different holes, and the respective connections to create the molecular structures of the nucleotides which compose the DNA helix. It is fitted with a pedestal which support the different models. It is supplied with an instruction guide for assembly. Height: 12 cm.




MKS-122/2

DNA Double Helix Model (cheap model)

7300

Simple but complete DNA model, dismountable. Ideal for students. Height: 60 cm.



7300

DNA Double Helix Model W19205

W19205

It consists of three DNA double helix made of nucleic acids to demonstrate the possible pairing between nitrogen bases. On the top there is a RNA filament to show the principles of DNA transcription. It is fitted with stage. Height: 31 cm.



W19205