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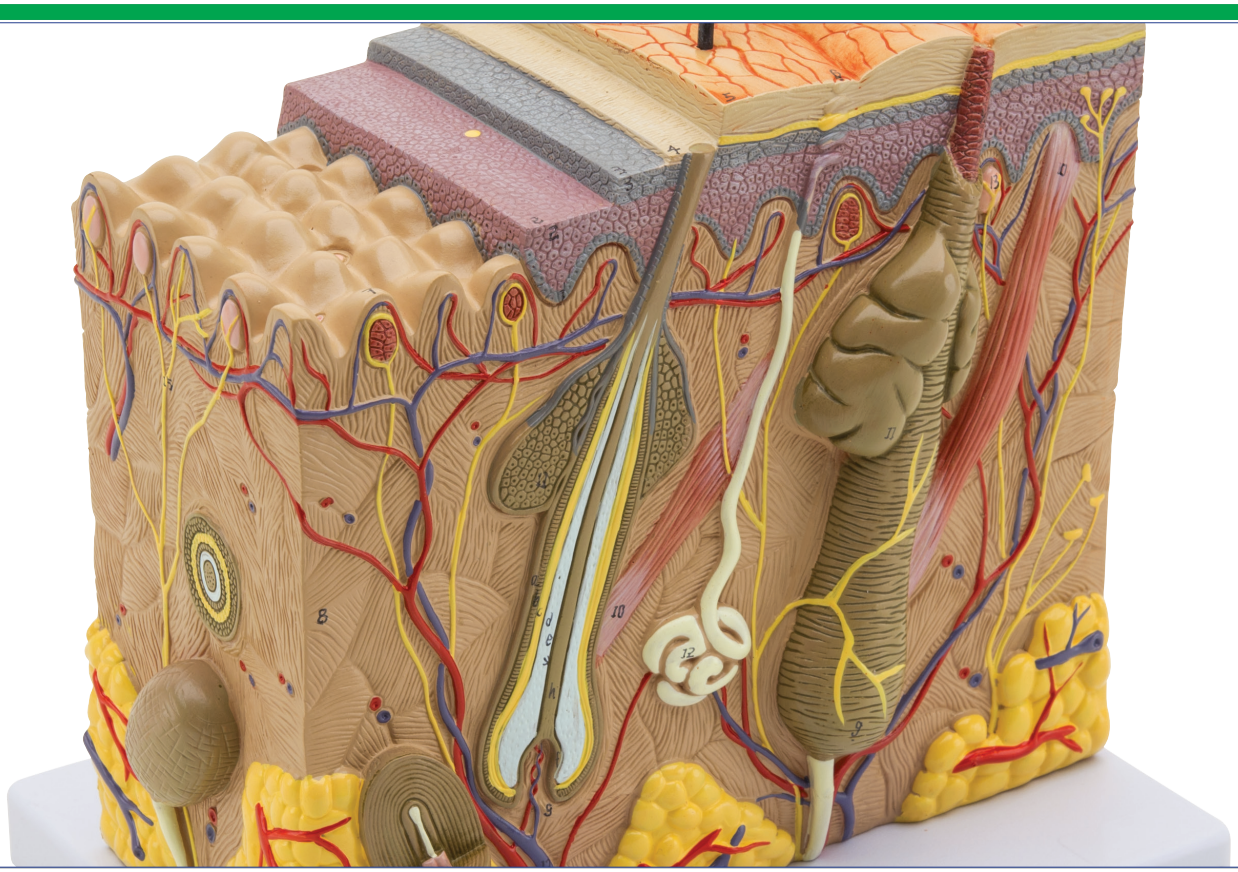
Teaching guide in digital format

Minimum invoiced order: € 130,00 + VAT



Set for the demonstration of plants' respiration 5661

To demonstrate that, during cellular respiration, the plants absorb oxygen.

5661

Set for the demonstration of germinating seeds breathing 5663

To demonstrate how seeds absorb oxygen during the germination period.

5663

Set for the demonstration of CO2 emission and heat production in germinating seeds 5664

For the study of two other phenomenon of the germination phase of seeds.

5664

Set for the demonstration of plants' traspiration 5665

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 5666

To demonstrate the existence of the radical pressure's phenomena.

5666

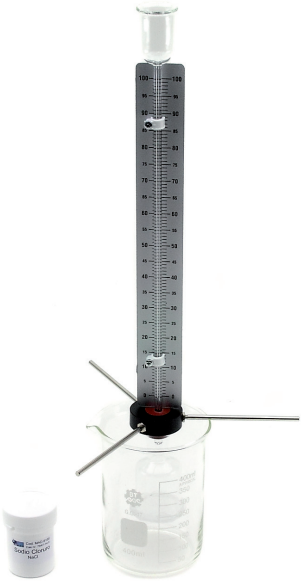
Set for the demonstration of aquatic plants' respiration 5667

To show how during the phenomena of photosynthesis, the plants emit molecular oxygen.

5667

Dutrochet's endosmometer for the demonstration of osmotic pressure 5668

To show how plants absorb water through the osmosis phenomenon.



5668

Set for the demonstration of mineral salts absorption in plants 5669

To demonstrate the difference in the development between plants fed with mineral salts and plants which are not fed.

5669

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

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 oxigen in plants .1
- Absorption of oxigen in plants .2
- Production of oxigen by water plants
- Dutrochet's endosmometer
- Root pressure
- The rise of water in plants by transpiration
- Absorption of minerals in plants

Equipment supplied

3 Rods 35 cm
1 Bosshead
1 Base
1 Ring holder
1 Bottle of sodium chloride
1 Rod 25 cm
2 Pliers with clamp
1 Test tube 5 x 7 x 30 mm
1 Three necked bottle
1 Pair of tubes with tap
1 Pair of glass tubes with capillary
1 3-sphere expansion tube with stopper
1 Capillary tube with plate and stopper
1 Glass tube 20x200x2 mm
1 Endosmometer
2 Insufflators with flask
1 Thermometer with stopper
1 Bottle of potassium hydroxide
2 Bottles of coloured liquid
1 Bottle of nutrient salts solution
1 Funnel 80 mm
1 Pipet aspirator with three valves
1 Bottle of baryta water
1 Beaker 600 ml
1 Round flask 500 ml
1 Test tube 16 x 150 mm
1 Box

5660

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

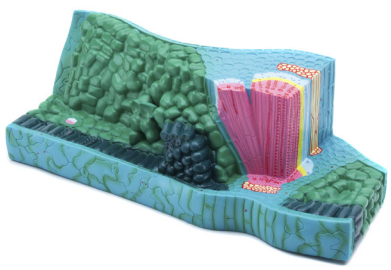
Pollination process MBT022

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

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.
Size: 42×30 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

Transparent plastic basin H20

18x11x14 cm
with cover.

H20

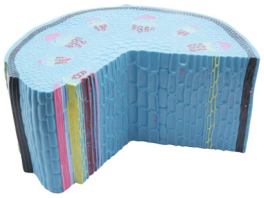
Germination fay TE05

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

TE05

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.
PH scale from 3 to 10.
No batteries required.

TE07

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

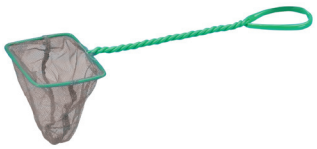
Insects collector 7006

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

Stetoscope model 3104

This model of stetoscope 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

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

7016

Berlese's selector 7217

Item for the extraction of microartropodes 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

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 fats
- Digestion of proteins
- Enzymes

Equipment supplied

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

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 T junction for breath	1 Tweezers
1 Glass flask, 300 ml with stopper	1 Junction with suction cap	1 Tinfoil
1 Glass beaker, 600 ml	1 Glasses suited for sensor	1 Red filter
1 Rubber bung O_2	1 Compressed air	1 Thermometer
1 Rubber bung CO_2	1 Mouthpiece for breath	1 Box

Equipment for online use - not supplied

1 O_2 sensor code 9044	1 Interface code 9001
1 CO_2 sensor code 9089	1 Bluetooth temperature sensor code 12903-00

Even the skin absorbs oxygen from the air.

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

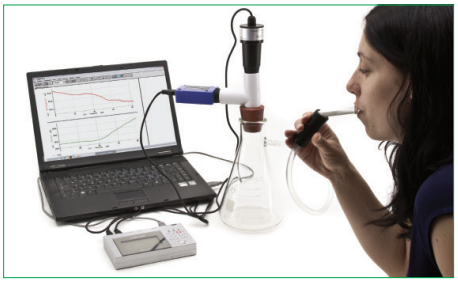
1 Pulmonary model	1 Bottle of water lime
1 Breathed for carbon dioxide	1 Tripod support
1 Vacuum pipette	1 Box

7017

Set of spare filters for the kit on smoking effects 7201

Set of 25 spare filters.

7201



Human breath: inhaling and exhaling.

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

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.

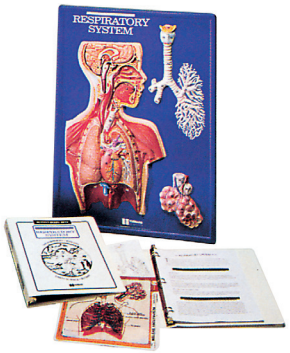
Circulatory apparatus HS2671

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, llustrating an enlarged nephron. Other highlighted elements are the bark, the pyramid, the calyx and the papilla. It is fitted with transparent sheets.

HS2675

Plant mitosis model HS2667

10 individual models mounted on a 400mm x 460mm base show the stages of cell division of a plant. Mounted on a strong and sturdy MDF board. All phases are represented and cut laterally to show the interior of the cell. Each cell phase (interphase, first prophase, late prophase, metaphase, first anaphase, middle anaphase, late anaphase, first telophase, late telophase and daughter cells) is labeled with a key located at the base of the rear panel.
Great to use during classroom demonstrations.

HS2667

Plant cell division meiosis model HS2668

This model is a 3D render of the cell division process of meiosis in a plant cell.
The model is made with sturdy fiberglass molded cell patterns on a sturdy MDF board and has clearly labeled stages.
The cells are shown in great detail in vivid colors and provide an internal view of the chromosomal changes that occur during the meiosis process in a plant cell.
The base measures 455mm x 610mm.
Great to use during classroom demonstrations.

HS2668

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.
h = 85 cm

GD0203

Muscular system GD0501

One-piece model of the human male muscular system. Model mounted on a rectangular base, height 50cm.

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.
h = 85 cm

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

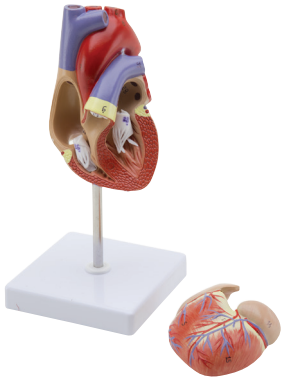
Jaw GD0313

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

GD0313

Heart GD0322

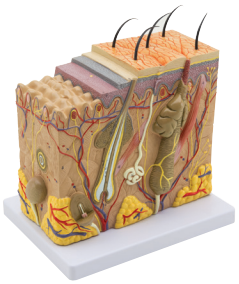
Model of human heart, natural-size, dismantlable into two parts.
Vision of the atriums, of the ventricles and of the cardiac valves.
Mounted on a rectangular plastic stage.



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

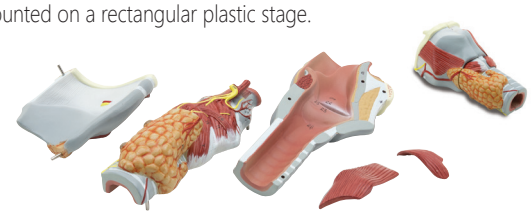
Ear GD0309

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 to 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

Human heart model enlarged approximately 3.5 times. 4 openings to allow the study of cardiac dynamics. Superior vena cava, detachable aorta and pulmonary artery. Through the openings it will be possible to inspect the right atrium and right ventricle, left atrium and left ventricle, pulmonary valve and aortic valve. Mounted on a plastic base.

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

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

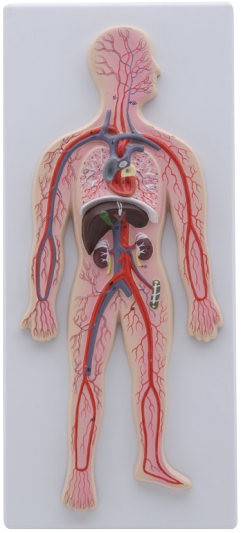
Pancreas, spleen and gallbladder GD0325

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

GD0325

Circulatory system GD0336

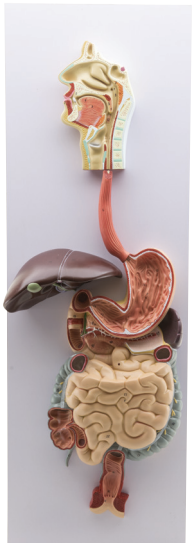
Protruding model, approximately half life-size. Schematic representation of the human body's vascular system.



GD0336

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

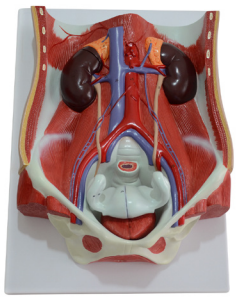
Kidney GD0327

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

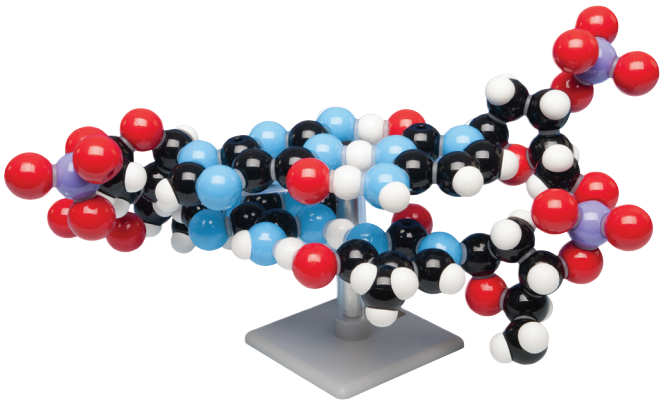
Simulator of vertebral discopathies GD1501

Vertebra model with two examples of disc diseases.

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 theDNA 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