



**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.



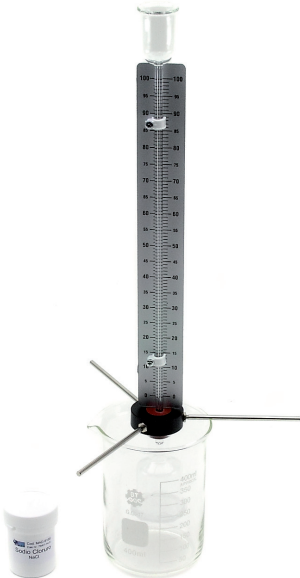
5666

**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

**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 CO <sub>2</sub> sensor	1 Platinum temperature sensor
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**Equipment required, not supplied**

1 ScienceCube Pro Interface code 9001 1 Dissolved oxygen sensor code 9030
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*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**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Introduction: atmospheric pressure</li> <li>• Respiration in germinating seeds .1</li> <li>• Heat production in germinating seeds</li> <li>• Respiration in germinating seeds .2</li> <li>• Absorption of oxygen in plants .1</li> <li>• Absorption of oxygen in plants .2</li> </ul> | <ul style="list-style-type: none"> <li>• Production of oxygen by water plants</li> <li>• Dütrochet's endosmometer</li> <li>• Root pressure</li> <li>• The rise of water in plants by transpiration</li> <li>• Absorption of minerals in plants</li> </ul> |
|--|---|

**Equipment supplied**

3 Rods 35 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 Three necked bottle	2 Bottles of coloured liquid	
1 Pair of tubes with tap	1 Bottle of nutrient salts solution	

**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.

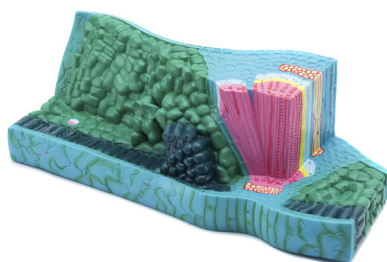


MBT022

**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. 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.

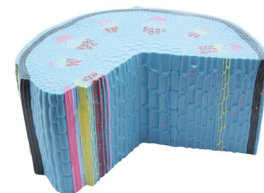


MBT006

**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

**Transparent plastic basin**

**H20**

18x11x14 cm with cover.



H20

**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

**Germination fay**

**TE05**

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



TE05

**Insects collector 7006**

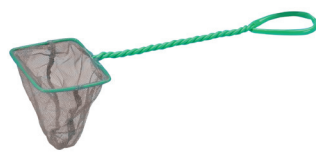
It consists of a transparent plastic container with cover, equipped with two transparent small flexible tubes.



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

**Stethoscope 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



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 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 <sub>2</sub>	1 Compressed air	1 Thermometer
1 Rubber bung CO <sub>2</sub>	1 Mouthpiece for breath	1 Box

#### Equipment for online use - not supplied

1 O <sub>2</sub> sensor code 9044	1 Interface code 9001
1 CO <sub>2</sub> sensor code 9089	



Even the skin absorbs oxygen from the air.



Suitable to be used with sensors

## Kit for experiments on breathing

7017

This kit allows you 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.

8613

**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 Digital thermometer                    |
| 6 Droppers                                    | 1 Model of eye                           |
| 1 Tuning fork with case and small hammer      | 1 Model of ear                           |
| 1 Vibrating plate                             | 1 Model of skin                          |
| 1 Stethoscope                                 | 1 Model of skin                          |
| 1 Ultrasonic whistle                          | 1 Model of nose                          |
| 1 Xylophone                                   | 6 Petri dishes                           |
| 1 Electrical Newton disc                      | 3 Beakers 250 cc                         |
| 6 Stereoscopic glasses                        | 6 Teaspoons                              |
| 2 Binoculars                                  | 6 Tables on eye's structure              |
| 6 Magnification lenses                        | 6 Tables on resolving power of the eye   |
| 1 Solar energy motor                          | 1 Snellen chart                          |
| 1 Batteries-holder                            | 6 Tables on eye blind spot               |
| 2 Connection cables                           | 6 Tables on images' persistence          |
| 6 Plastic tubes                               | 6 Tables on spatial synthesis of colours |
| 1 Kit for the study of eyes and their defects | 6 Tables on visual axis convergence      |
| 1 Ink pad                                     | 6 Tables on visual axis convergence      |
| 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 Box                                    |
| 1 Punctured aluminum plate                    |  |
| 1 Small sphere with wire                      |  |

**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**  
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.



The model consists of a blue rectangular base with a white anatomical diagram of the human circulatory system. A white box with a circular diagram is placed on top of the base. A white sheet of paper with a diagram is also visible.

HS2671


**Breathing apparatus**  
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.



The model consists of a blue rectangular base with a white anatomical diagram of the human respiratory system. A white box with a circular diagram is placed on top of the base. A white sheet of paper with a diagram is also visible.

HS2672


**Digestive system**  
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.



The model consists of a blue rectangular base with a white anatomical diagram of the human digestive system. A white box with a circular diagram is placed on top of the base. A white sheet of paper with a diagram is also visible.

HS2673


**Nervous apparatus**  
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.



The model consists of a blue rectangular base with a white anatomical diagram of the human nervous system. A white box with a circular diagram is placed on top of the base. A white sheet of paper with a diagram is also visible.

HS2674


**Urinary tract**  
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.



The model consists of a blue rectangular base with a white anatomical diagram of the human urinary system. A white box with a circular diagram is placed on top of the base. A white sheet of paper with a diagram is also visible.

HS2675


**Plant cell division meiosis model**  
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.



The model is a 3D render of the cell division process of meiosis in a plant cell. It consists of a brown rectangular base with a grid of 16 green rectangular cells. Each cell contains a white diagram of a plant cell in a different stage of meiosis. The stages are labeled: Interphase Cell, Leptonema, Prophase-1, Zygonema, Pachynema, Diplotonema, Diakinesis, Metaphase-1, Anaphase-1, Telophase-1, Cytokinesis, Prophase-2, Metaphase-2, Anaphase-2, and Telophase-2. A key is located at the bottom of the grid.

HS2668

**Plant mitosis model**  
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.



The model is a 3D render of the cell division process of mitosis in a plant cell. It consists of a brown rectangular base with a grid of 10 green rectangular cells. Each cell contains a white diagram of a plant cell in a different stage of mitosis. The stages are labeled: Interphase Cell, Early Prophase, Late Prophase, Metaphase, Early Anaphase, Mid Anaphase, Late Anaphase, Early Telophase, Late Telophase, and Daughter Cells. A key is located at the bottom of the grid.

HS2667



**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****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****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 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****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****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.

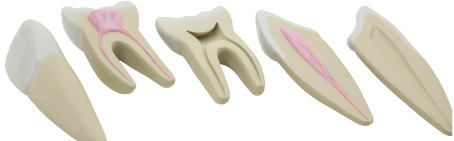


GD0307

**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.

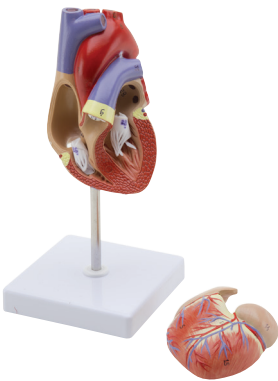


GD0313

**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...

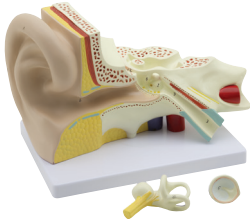


GD0331

**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

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**

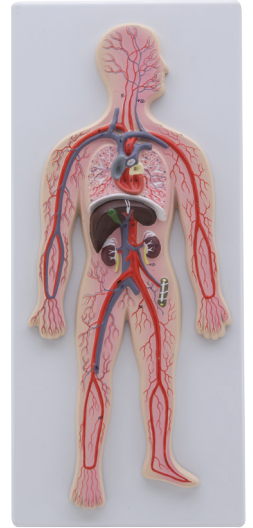
This model shows the segments of the right lung and left lung, the bronchial tube and the windpipe. The lungs are shown in blacklight. Mounted on a plastic stage. Natural-size.



GD0319

**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**

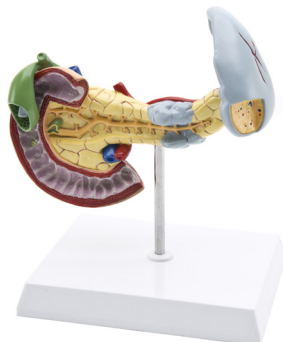
Life-size liver model, not removable. The four hepatic lobes, the gallbladder and the vessels are represented. Made of plastic, mounted on a circular base.



GD0324

**Pancreas, spleen and gallbladder****GD0325**

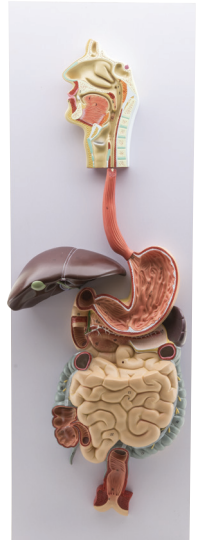
Life-size, non-removable model of pancreas, spleen and gallbladder with various common diseases including gallstones and pancreatic cancer.



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**

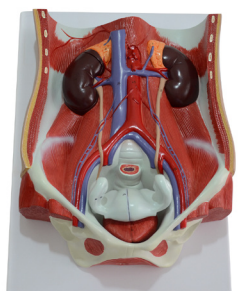
Model of kidney natural-size, decomposable into two parts. Mounted on a circular plastic stage.



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**

Vertebra model with two examples of disc diseases.

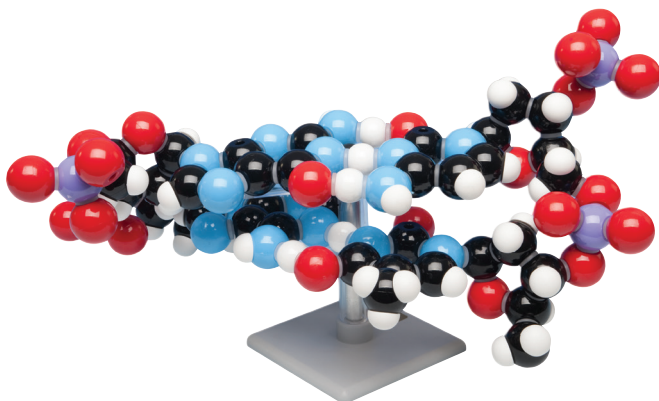


GD1501

**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 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