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Petra von Corvin
Product Manager

Dear Customer,

We have dedicated this catalogue to taking an in-depth look at working with a microscope. First of all, because we would particularly like to demonstrate to you our know-how in this important part of your biology class. Secondly, because we have some important news for you:

We have slashed the minimum order quantity by 60 % for individual slides. You can order individual slides from ten items per order so that you can complete your collection more quickly and easily.

Enjoy the variety!

Kind regards

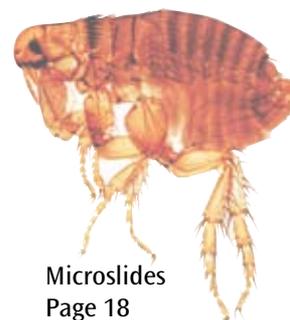
Petra v. Corvin

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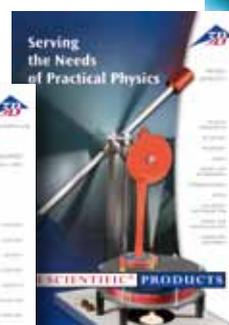
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Biology



Phsics



Experiments

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That's something you can rely on.



Information About Microscopes



Course Microscope

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

Barrel

The barrel is the tube in which the oculars can be placed.

Monocular barrel: for observation with a single eye.

Binocular barrel: for stereo observation. This makes the work easier and less tiring than with a monocular microscope.

Trinocular barrel: for stereo observation but also allowing for addition of a camera.

Ocular

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

Objective Revolver

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

Objective

An objective produces a real image of the object. The size of the image is given by the scaling factor (e.g. 10x) and the resolution is determined by the numerical aperture (e.g. 0.65). The larger the numerical aperture the more detailed the image produced.

Achromatic objectives provide only a limited amount of correction for lens aberrations but this is nevertheless sufficient for most uses that arise in schools. Planar achromatic objectives eliminate image field curvature and throw an image that is uniformly focused from the centre of the field of vision to the edge.

Resolution of Objectives

The resolution of an objective is given by the following formula

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

where d = distance between two points, λ = wavelength of the light, A = numerical aperture

Example: numerical aperture = 0.65, λ = 0.55 μm , resolution d = 0.423 μm .

Object Stage

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

Condenser

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

Coarse and Fine Focusing

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

Illumination

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

NEW



W30690

The W30690 microscope is intended for exacting analysis using bright-field transmitted light. Its ergonomic design allows for lengthy periods of use without tiring. The high quality infinite optical system guarantees excellent image quality. Such microscopes are used in general practice.

Product name	W30690 Laboratory Microscope BS-300
Stand	Robust and stable all metal stand, pinion knobs attached on both sides of the stand for coarse and fine focusing with friction coupling
Tube	Binocular at 45° angle, rotatable through 360°
Eyepieces	Pair of eyepieces PL10x 20 mm with infinite optics
Objectives	Inverted objective revolver with plan achromatic infinite objectives 4x, 10x, 40xS und 100xS Oil
Enlargement	40x – 1000x
Objekttisch	x-y mechanical stage, 150 mm x 140 mm, adjustment range 50 mm x 76 mm
Illumination	Adjustable 6 V/20 W halogen lamp, built-in transformer for 90 to 240V mains voltage
Condenser	Condenser NA1.25, iris diaphragm, filter holder and blue filter
Accessories	Complete with dust cover

U30722

U30723



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

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

W30600-115

W30600-230

W30610-115

W30610-230

W30605-115

W30605-230



Good value for money
BESTseller
 Robust



with
 camera

cordless

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

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

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

U30700-115

U30700-230



U30701-115

U30701-230



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

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

U30705-115

U30705-230

U30706-115

U30706-230



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

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

U30710

U30711



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

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

U30713



U30712



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

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

U30720

U30721



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

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

W30660-115

W30660-230



W30661-115

W30661-230



W30665-115

W30665-230



Stereo microscopes

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

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

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

W30662-115

W30662-230



W30663-115

W30663-230



W30664-115

W30664-230



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

Stereo microscope W30664 differs from W30662 and W30663 in that its stereo head can be rotated by 360°.

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



W30640 – W30643



W30613 – W30617



U30748 – U30753



W30618 – W306201



U30730 – U30731

Options and Replacements for:

W30600, W30605 W30610

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

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

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



U30735 – U30738


 W30670 – W30673
and W30679


U30739 – U30743



U30746 – U30747



W30674 – W30678



U30745

Options and Replacements for:
U30700, U30701, U30705, U30706, U30710, U30711, U30712, U30713, U30720, U30721, U30722, U30723

Art. No.	Designation	Specification
U30738	Semiplan achromatic objectives	100x (Oil)
U30739	Plan achromatic objectives	4x
U30740	Plan achromatic objectives	10x
U30741	Plan achromatic objectives	20x
U30742	Plan achromatic objectives	40x
U30743	Plan achromatic objectives	60x
U30744	Plan achromatic objectives	100x (Oil)
U30745	Micrometer slide	76 mm x 26 mm 1 mm / 100 div. / 0,01 mm

U30700, U30701, U30705, U30706

U30755-115	Spare fluorescent lamp	5 W for 115 V mains supply
U30755-230	Spare fluorescent lamp	5 W for 230 V mains supply

U30710, U30711, U30712, U30713, U30720, U30721

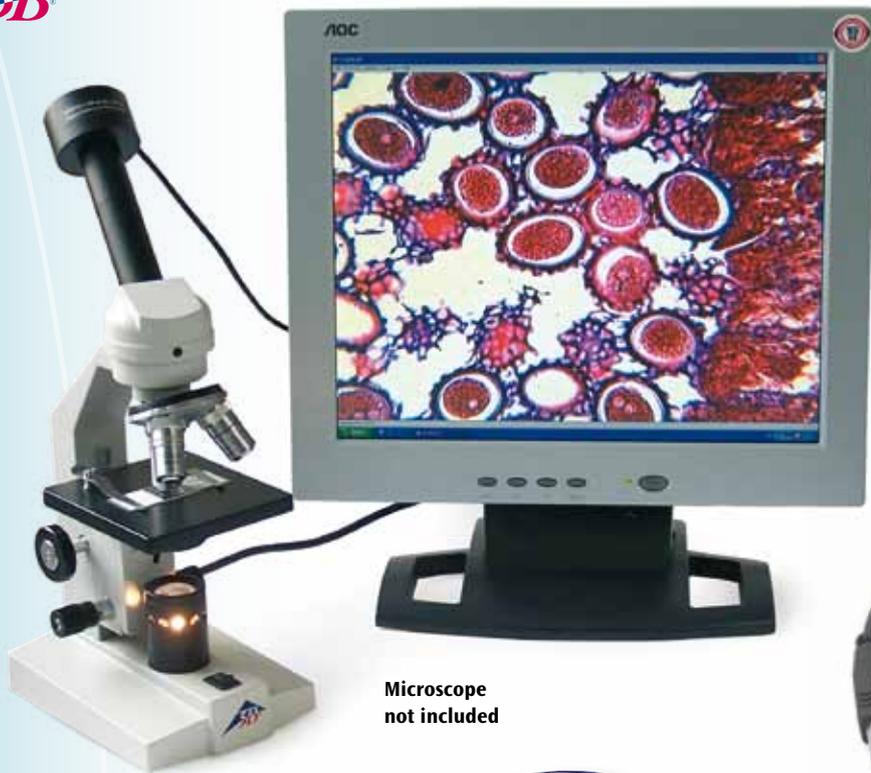
U30746	Dark field condenser	
U30747	Dark field condenser (Oil)	
W30651	Spare lamps	Halogen, 6 V, 20 W

W30660, W30661, W30662, W30663, W30664, W30665

W30670	Wide field eyepiece, Pair	WF 5x 18 mm
W30671	Wide field eyepiece, Pair	WF 10x 20 mm
W30672	Wide field eyepiece, Pair	WF 15x 13 mm
W30673	Wide field eyepiece, Pair	WF 20x 10 mm
W30679	Eyepiece cups	Pair
W30682	Spare lamps	12 V, 10 W

W30660, W30661, W30665, W30665

W30674	Achromatic Objectives	1x
W30675	Achromatic Objectives	2x
W30676	Achromatic Objectives	3x
W30677	Achromatic Objectives	4x
W30678	Achromatic Objectives	6x



Microscope not included

NEW



U30110



U30100

U30100

Digital Camera for Microscope, 1.3 Mpixel

High resolution colour digital camera for connecting directly to a PC or charged laptop via the USB interface. The camera can be mounted directly onto the eyepiece of any conventional microscope. The camera is via the USB connection, thereby making external power supply unnecessary. Separate software for image pickup and recording, display and processing. The software is characterised by being particularly user friendly and makes 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

U30110

Student Digital Camera for Microscope, 1.3 Mpixel

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

U30111

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

The set consists of 10 x U30110 digital cameras.

U30100C8

Digital Camera Classroom Set for Microscope, 1.3 Mpixel

The set consists of 8 x U30100 digital cameras.

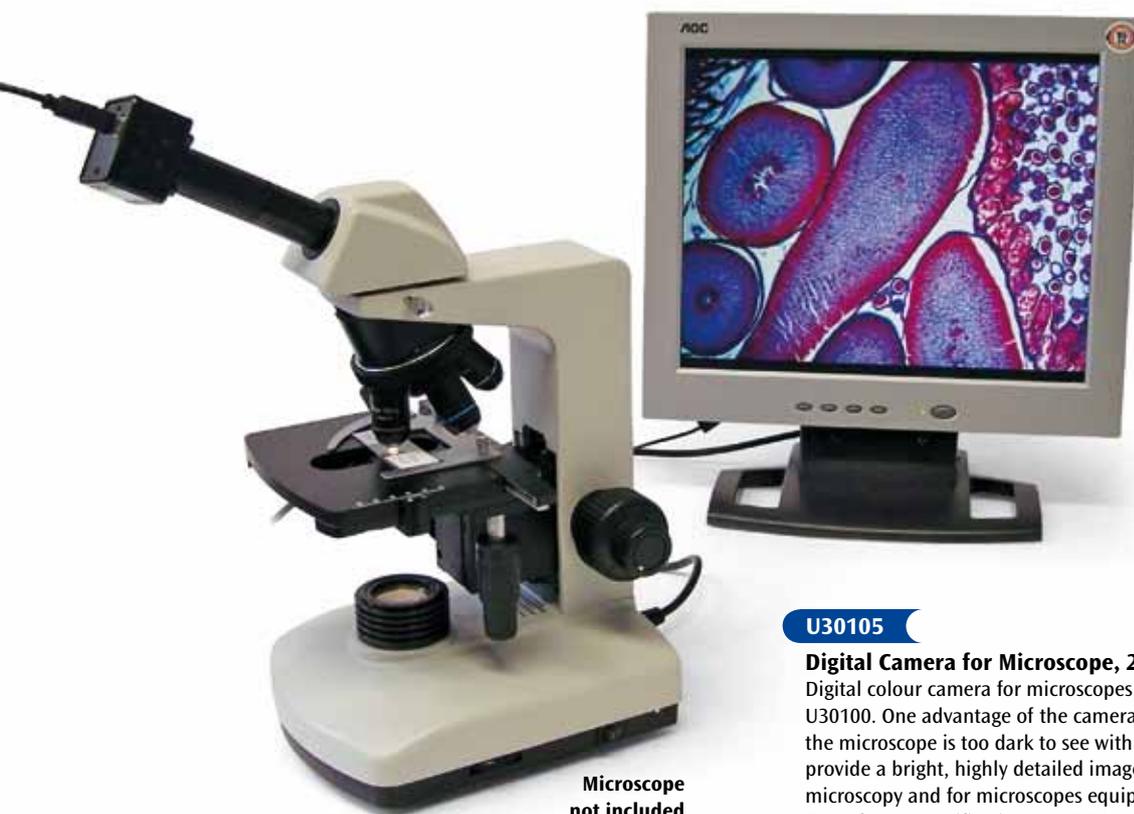
U30101-230

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

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



U30101

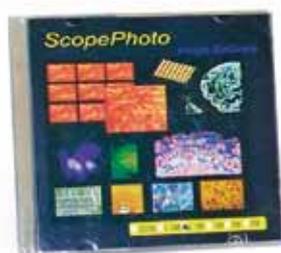


Microscope
not included

U30105

Digital Camera for Microscope, 2 Mpixel

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



U30105



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



Microscope not included

U42100-230

U42100-230

Video Flex®

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

For a multitude of applications

U421051

Digital Video Flex®

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

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





U42103

U42103
Vision Viewer®

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

U421101
PhysicsCAM

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



U421101

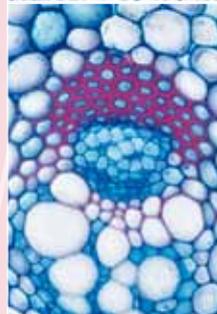
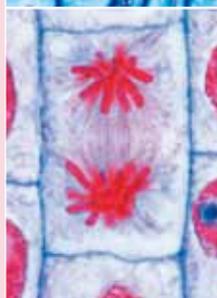
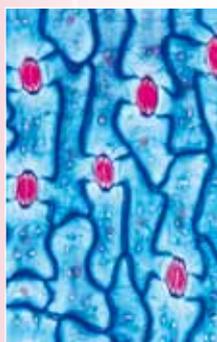
	U42100-230	U421051	U42103	U421101
Photosensitivity	1.5 lux	20 lux	20 lux	3 lux
Image digitization	¼" CCD	digital CMOS	digital CMOS	digital CMOS
Output signal	video	Digital / USB 2.0	Digital / USB 2.0	Digital / USB 2.0
Exposure	automatic	adjustable via software	adjustable via software	adjustable via software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

MICROSCOPE SLIDES

Our microscope slides are made under rigorous scientific control. They are the product of experience combined with the most up to date techniques. The prerequisite for excellent preparations is good material, well preserved and fixed so that the finer structures are as life-like as possible. Microtome sections are cut from this material by highly skilled and experienced staff. They are of a thickness which will result in slides from which the maximum resolution of the structural components can be obtained. Particular attention is paid to the staining technique and in each case the selected method for a particular specimen will ensure the best possible differentiation combined with clear definition and permanency of staining. These prepared microscope slides are supplied on the best glass with fine ground edges of the size 26x76 mm (1 x 30) and are mailed in rigid boxes. Most sets are supplied with comprehensive explanatory brochures. All slides can be purchased either in complete sets and series or individually at a minimum quantity of 10 mixed slides. We reserve the right to make minor alterations to the sets and compilations. The delivery time is between 6 – 8 weeks.

SCHOOL SERIES

For all those who would like to give a good overall view of the important areas with their selection of specimens, the **School Biology Series** is a particularly useful purchase. It comprises four individual series - A, B, C and D - that can be built onto each other. Of course, the individual series and their components can be used individually in their own right, and added to one after the other.



W13336	W13436	W13336F	W13336S	W13336P	
German	English	French	Spanish	Portugese	

School Set A (General Biology)

25 Slides

Zoology: 1(e) Amoeba proteus, w.m. showing nucleus and pseudopodia 2(e) Hydra, w.m. extended specimen to show foot, body, mouth, and tentacles 3(c) Lumbricus, earthworm, typical t.s. back of clitellum showing muscular wall, intestine, typhlosole, nephridia etc. 4(c) Daphnia and Cyclops, small crustaceans from fresh water 5(d) Musca domestica, house fly, head and mouth parts (proboscis) w.m 6(b) Musca domestica, leg with clinging pads (pulvilli) 7(c) Apis mellifica, honey bee, anterior and posterior wing
Histology of Man and Mammals: 8(c) Squamous epithelium, isolated cells from human mouth 9(d) Striated muscle, l.s. showing nuclei and striations 10(d) Compact bone, t.s. special stained for cells, lamellae, and canaliculi 11(d) Human scalp, vertical section showing l.s. of hair follicles, sebaceous glands, epidermis 12(c) Human blood smear, stained for red and white corpuscles

Bacteria and Cryptogams: 13(d) Bacteria from mouth, smear Gram stained showing bacilli cocci, spirilli, spirochaetes 14(c) Diatoms, strewn slide of mixed species, 15(c) Spirogyra, vegetative filaments with spiral chloroplasts 16(c) Mucor or Rhizopus, mold, w.m. of mycelium and sporangia 17(c) Moss stem with leaves w.m. **Phanerogams:** 18(c) Ranunculus, buttercup, typical dicot root t.s., central stele 19(c) Zeamays, corn, monocot stem with scattered bundles t.s. 20(c) Helianthus, sunflower, typical herbaceous dicot stem t.s. 21(c) Syringa, lilac, leaf t.s. showing epidermis, palisade parenchyma, spongy parenchyma, vascular bundles 22(d) Liliun, lily, anthers with pollen grains and pollen sacs t.s. 23(d) Liliun, ovary t.s. showing arrangement of ovules 24(c) Allium cepa, onion, w.m. of epidermis shows simple plant cells with cell walls, nuclei, and cytoplasm 25(d) Allium cepa, l.s. of root tips showing cell divisions (mitosis) in all stages, carefully stained

W13337	W13437	W13337F	W13337S	W13337P	
German	English	French	Spanish	Portugese	

School Set B (Supplement for A)

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

W13338	W13438	W13338F	W13338S	W13338P	
German	English	French	Spanish	Portugese	

School Set C (Supplement for A and B)

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

W13339	W13439	W13339F	W13339S	W13339P	
German	English	French	Spanish	Portugese	

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

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

W13133	W13233	W13133F	W13133S	W13133P	
German	English	French	Spanish	Portugese	

Manual for School Set with 175 Drawings

SERIES FOR SECONDARY SCHOOLS

With the series for secondary school, you will receive microscope slide collections on the most popular areas. You can place important topics “under the microscope”.



W13300	W13400	W13300F	W13300S	W13300P	
German	English	French	Spanish	Portugese	

Series I. Cells, Tissues and Organs

13 Microscope Slides

1(d). Simple animal cells in sec. of salamander liver 2(d). Mitosis, l.s. from Allium root tips 3(c). Ranunculus, buttercup, t.s. of a typical dicot root 4(e). Monocot and dicot stems, two t.s. for comparison 5(c). Syringa, lilac, t.s. of a typical mesophytic dicot leaf

6(c). Columnar epithelium, t.s of blind gut from rabbit 7(e). Bone and hyaline cartilage, t.s. 8(d). Striated muscles of mammal, l.s. 9(d). Smooth muscles of mammal, l.s. and t.s. 10(c). Lung of cat, t.s. 11(c). Human blood smear 12(d). Human body skin, l.s. 13(f). Young mouse, sag. s. of entire specimen for all structures.

W13301	W13401	W13301F	W13301S	W13301P	
German	English	French	Spanish	Portugese	

Series II. Metabolism

15 Microscope Slides

1(e). Hydra, fresh water polyp, t.s. with ectoderm and entoderm 2(d). Carabus, ground beetle, gizzard 3(c). Salivary gland of cat, t.s. 4(c). Oesophagus of cat, t.s. 5(d). Fundic stomach of cat, t.s. 6(c). Small intestine of cat, t.s. routine stained 7(f). Small intestine,

t.s. blood vessels injected 8(d). Appendix of human, t.s. 9(c). Large intestine of cat, t.s. 10(c). Liver of pig, t.s. 11(f). Malpighian tubules of insect, t.s. 12(c). Primordial kidney (mesonephros) of frog, t.s. 13(d). Hind-kidney (metanephros) of rabbit, t.s. 14(d). Kidney of mouse with pelvis, l.s. 15(f). Kidney of mouse, t.s. injected to show storage

W13302	W13402	W13302F	W13302S	W13302P	
German	English	French	Spanish	Portugese	

Series III. Organs of Sense

16 Microscope Slides

1(e). Paramecium, silvered to show the neuroformative system 2(d). Lumbricus, earthworm, t.s. with ventral nerve cord 3(e). Insect brain, frontal l.s. 4(e). Planaria, sec. through ocelli 5(f). Haliotis, marine snail, pinhole camera eye l.s. 6(e). Helix, snail, eye l.s. 7(e). Alloteuthis, cuttlefish, camera eye l.s. 8(e). Com-

pond eye of an insect, l.s. 9(e). Young rat, head with eyes t.s. 10(d). Retina of cat, t.s. showing rods and cones 11(e). Internal ear (cochlea) from guinea pig, l.s. 12(e). Taste buds from tongue of rabbit, t.s. 13(e). Peripheral nerve fibres, osmic acid material showing Ranvier's nodes 14(c). Spinal cord of cat t.s. with large motor nerve cells 15(c). Cerebellum of cat, t.s. routine stained 16(f). Cerebrum of cat, t.s. silvered to show the pyramid cells

W13303	W13403	W13303F	W13303S	W13303P	
German	English	French	Spanish	Portugese	

Series IV. Hormone Organs and Hormonal Function

7 Microscope Slides

1(d). Ovary of cat, with follicles and corpus luteum t.s. 2(d). Testis of mouse, t.s. showing Leydig's cells 3(d). Adrenal (supraren-

al) gland of cat, t.s. 4(d). Pancreas of cat, t.s. with islets of Langerhans, 5(f). Thyroid gland, normal function t.s. 6(f). Thyroid gland, over-activity of the gland t.s. 7(f). Hypophysis (pituitary body) sagittal l.s.

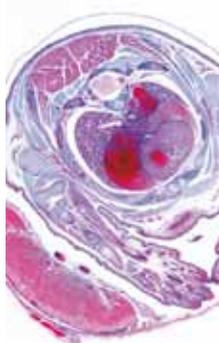
W13304	W13404	W13304F	W13304S	W13304P	
German	English	French	Spanish	Portugese	

Series V. Genetics, Reproduction and Embryology

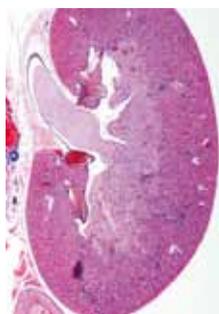
19 Microscope Slides

1(g). DNA and RNA stained in different colours, l.s. onion root tips 2(e). Lilium, young anthers, meiosis, early prophase stage, t.s. 3(e). Lilium, young anthers, diplotene stage, t.s. 4(d). Lilium, ovary with embryosac t.s. 5(d). Capsella bursa pastoris, l.s. of embryos 6(h). Human chromosomes, spread in the metaphase stage, w.m. 7(g). Lamp brush chromosomes 8(e). Hydra with testis

t.s. 9(e). Hydra with ovaries t.s. 10(f). Tapeworm (Taenia), mature proglottid, w.m. 11(f). Ascaris, sec. of uteri showing maturation of ova 12(e). Cockchafer (Melolontha), ovaries t.s. 13(d). Frog (Rana), testis t.s. showing spermatogenesis 14(f). Frog embryology: four cell stage t.s. 15(f). Frog: morula stage l.s. 16(f). Frog: neurula stage t.s. 17(f). Chicken (Gallus) embryology: 24 hour t.s. 18(f). Chicken embryology: 72 hour t.s. 19(d). Mouse, uterus containing embryo t.s.



HISTOLOGY – DETAIL SETS



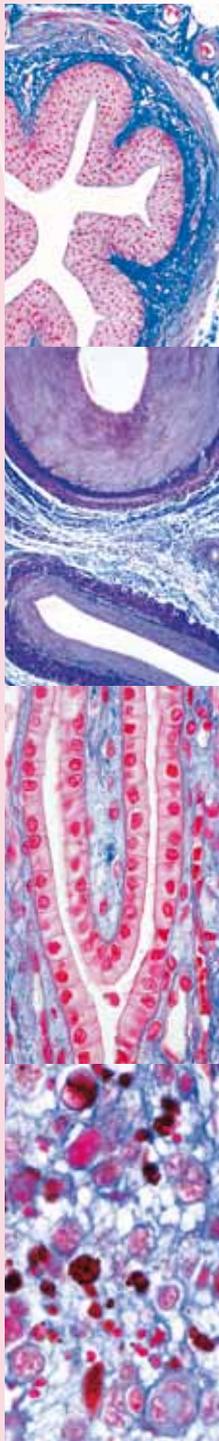
W13306	W13406	W13306F	W13306S	W13306P	
German	English	French	Spanish	Portugese	

Histology of Mammalia, Elementary Set

25 Microscope Slides

1(c). Squamous epithelium, isolated cells 2(e). Fibrous connective tissue, w.m. from pig mesentery 3(e). Adipose tissue of mammal, fat stained 4(c). Hyaline cartilage of calf, t.s. 5(e). Compact bone of cow, t.s. 6(d). Striated muscles of cat, l.s. 7(d). Smooth muscles of cat, t.s. and l.s. 8(c). Blood smear, human 9(d). Artery of cat or rabbit, t.s. 10(d). Vein of cat or rabbit, t.s. 11(c). Lung of cat, t.s. 12(c). Pancreas of pig with islets of Langerhans t.s. 13(c). Tongue

of cat, t.s. with cornified papillae 14(d). Stomach of cat, fundic region t.s. 15(c). Small intestine of cat or rabbit, t.s. 16(d). Liver of pig, t.s. 17(d). Kidney of cat, t.s. 18(d). Ovary of rabbit, t.s., developing follicles 19(d). Testis of mouse, t.s., spermatogenesis 20(d). Cerebrum of cat, t.s. 21(d). Cerebellum of cat, t.s. 22(c). Spinal cord of cat, t.s. 23(e). Nerve fibres isolated, Ranvier's nodes 24(e). Motor nerve cells, smear from spinal cord 25(d). Scalp, human, l.s. of hair follicles



W13308	W13408	W13308F	W13308S	W13308P	
German	English	French	Spanish	Portuguese	

Normal Human Histology, Basic Set

40 Microscope Slides

When compiling the series only top quality, histologically fixed material was used for the preparation of the slides. The cutting thickness of the microtome sections is normally 6 – 8 mm. The use of special staining methods guarantees a clear, multicoloured representation of all tissue structures. This slide series occupies a special position due both to the quality of the original material and the care taken during its preparation.

1(c). Squamous epithelium, human, isolated cells 2(f). Areolar connective tissue, human w.m. 3(f). Hyaline cartilage, human t.s. 4(f). Compact bone, human t.s. 5(f). Striated muscle, human l.s. 6(f). Heart muscle, human l.s. and t.s. 7(f). Artery, human t.s. 8(f). Vein, human t.s. 9(f). Lung, human t.s. 10(c). Blood smear, human 11(f). Spleen, human t.s. 12(f). Thyroid gland, human t.s.

13(f). Thymus gland from human child t.s. 14(f). Tongue, human t.s. 15(f). Tooth, human l.s. 16(f). Parotid, human gland t.s. 17(f). Oesophagus, human t.s. 18(f). Stomach, human, fundic region t.s. 19(f). Duodenum, human t.s. (small intestine) 20(f). Colon, human t.s. (large intestine) 21(f). Pancreas, human t.s. 22(f). Liver, human t.s. 23(e). Vermiform appendix, human t.s. 24(f). Kidney, human t.s. 25(f). Adrenal (suprarenal) gland, human t.s. 26(f). Ovary, human t.s. 27(f). Uterus, human t.s. 28(f). Placenta, human t.s. 29(f). Testis, human t.s. 30(f). Epididymis, human t.s. 31(f). Cerebrum, human t.s. 32(f). Cerebellum, human t.s. 33(f). Spinal cord, human t.s. 34(f). Sympathetic ganglion, human t.s. 35(e). Skin of palm, human t.s. 36(e). Scalp, human, l.s. of hair follicles 37(e). Scalp, human, t.s. of hair follicles 38(f). Retina, human t.s. 39(e). Finger tip from foetus with nail development l.s.

W13309	W13409	W13309F	W13309S	W13309P	
German	English	French	Spanish	Portuguese	

Normal Human Histology, Large Set, Part I.

50 Microscope Slides

1(c). Isolated squamous epithelium, human 2(e). Connective tissue, human, sec. 3(e). Columnar epithelium, human gall bladder, t.s. 4(e). Ciliated epithelium, human trachea, t.s. 5(e). Smooth muscles, human, l.s. and t.s. 6(e). Striated muscles, human, l.s. 7(e). Heart muscles, human, l.s. and t.s. 8(e). Hyaline cartilage, human, sec. 9(e). Elastic cartilage of epiglottis, human, t.s. 10(e). Bone, compact substance, human, t.s. 11(e). White fibrous tissue (tendon), human, l.s. 12(e). Red bone marrow, human, t.s. 13(d). Scalp, human, l.s. of hair follicles 14(e). Artery, human, t.s. 15(e). Vein, human, t.s. 16(c). Blood smear, human, Giemsa stain 17(e). Lung, human, t.s. 18(f). Larynx of human foetus, t.s. 19(e). Lymph gland, human, t.s. 20(e). Thyroid gland, human, t.s. 21(f). Pituitary gland, human,

t.s. 22(e). Spleen, human, t.s. 23(e). Tongue, human, t.s. 24(e). Oesophagus, human, t.s. 25(e). Sublingual gland, human, t.s. 26(e). Stomach, pyloric region, human, t.s. 27(e). Pancreas, human, t.s. 28(e). Small intestine, human, t.s. 29(e). Large intestine, human, t.s. 30(e). Liver, human, t.s. 31(e). Kidney, human, t.s. 32(f). Adrenal gland, human, t.s. 33(e). Ureter, human, t.s. 34(e). Urinary bladder, human, t.s. 35(f). Ovary, human, t.s. 36(e). Uterus, human, t.s. 37(e). Uterine tube, human, t.s. 38(e). Placenta, human, t.s. 39(e). Umbilical cord, human, t.s. 40(e). Mammary gland, human, sec. 41(f). Testis, human, t.s. 42(e). Epididymis, human, t.s. 43(f). Olfactory epithelium, human, t.s. 44(f). Retina, human, t.s. 45(g). Internal ear, human foetal, t.s. 46(f). Touch corpuscles in human skin, t.s. 47(e). Nerve, human, l.s. 48(e). Spinal cord, human, t.s. 49(e). Cerebellum, human, t.s. 50(e). Cerebrum, cortex, human, t.s.

W13310	W13410	W13310F	W13310S	W13310P	
German	English	French	Spanish	Portuguese	

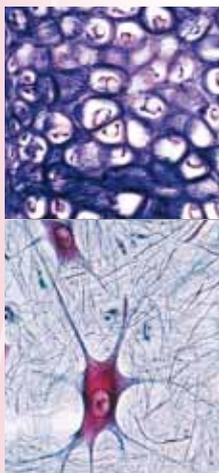
Normal Human Histology, Large Set, Part II.

50 Microscope Slides

1(e). Soft palate, human t.s. 2(e). Adipose tissue, human, sec. stained for fat 3(f). White fibrous cartilage, human intervertebral disc, sec. 4(e). Striated (skeletal) muscle, human t.s. 5(e). Spongy (cancellous) bone, human t.s. 6(e). Bone development, vertical l.s. of foetal skull-cap 7(e). Bone development, l.s. of foetal finger 8(e). Joint of human foetus, l.s. 9(e). Tooth, human, t.s. of crown 10(f). Tooth, human, complete l.s. 11(f). Tooth development from human foetus, l.s. 12(e). Aorta, human, t.s. routine stained 13(e). Trachea from human foetus t.s. 14(f). Thymus from human child, t.s. 15(f). Parathyroid gland (Gl. parathyreidea), human t.s. 16(e). Tonsil (Tonsilla palatina), human t.s. 17(e). Parotid gland (Gl. parotis), human t.s. 18(e). Submaxillary gland (Gl. submandibularis), human t.s. 19(e). Stomach, fundic region, human t.s. 20(e). Stomach, cardiac region, human t.s. 21(e). Jejunum, human t.s. 22(f). Small intestine (Duodenum) t.s. colouring of goblet cells, PAS-HE 23(e). Vermiform appendix, human t.s. 24(e). Rectum, human t.s. 25(e). Gall bladder, human t.s. 26(e). Liver of human foetus sec.,

developing blood cells 27(e). Urethra, human, t.s. 28(e). Seminal vesicle (Gl. vesiculosa), human t.s. 29(e). Spermatic cord (Ductus deferens), human t.s. 30(e). Prostate, human, t.s. 31(e). Sperm smear, human 32(f). Corpus luteum in t.s. of human ovary 33(e). Vagina, human t.s. 34(g). Cerebral cortex, human, t.s. silvered (Golgi or Palmgren) 35(g). Cerebral cortex, human, t.s. stained for neuroglial cells after Held 36(g). Cerebellum, human, t.s. silvered (Golgi or Palmgren) 37(f). Thalamus, human, stained after Klÿver – Barrera 38(f). Medulla oblongata, human, t.s. routine stained 39(g). Spinal cord, human, t.s. silvered (Golgi or Palmgren) 40(f). Sympathetic ganglion, human t.s. routine stained 41(e). Peripheral nerve, human t.s. 42(e). Optic nerve, human t.s. 43(e). Cornea from eye, human t.s. 44(e). Eyelid, human, t.s. 45(e). Skin from finger tip, human, vertical l.s. 46(d). Scalp, human, horizontal l.s. shows t.s. of hair follicles, 47(e). Nail development, sagittal l.s. finger tip of human foetus 48(h). Human chromosomes in smear from culture of blood, male 49(i). Human chromosomes in smear from culture of blood, female 50(f). Barr bodies (human sex chromatin) in smear from female squamous epithelium

HISTOLOGY – COMPREHENSIVE SET



W13312	W13412	W13312F	W13312S	W13312P	
German	English	French	Spanish	Portuguese	

Tissues

15 Microscope Slides

1(c). Squamous epithelium, scrapings from human mouth, w.m. 2(e). Columnar epithelium, human gall bladder, t.s. 3(e). Ciliated epithelium, human trachea, t.s. 4(d). Skin, human, from general body surface showing sweat glands 5(d). Human scalp, l.s. of hair 6(d). Developing of nail, human embryo, l.s. 7(e). Hyaline

cartilage, human, t.s. 8(d). Elastic cartilage, ear of pig, t.s. 9(e). Developing cartilaginous bone, joint of human foetus, l.s. 10(e). Compact bone, c.s. and l.s. 11(f). Striated muscle, human, l.s., staining of striations 12(e). Striated muscle, human, t.s. 13(e). Smooth muscle, human, t.s. and l.s. 14(e). White fibrous tissue, human tendon, l.s. 15(e). Adipose tissue, human, t.s.

W13319	W13419	W133319F	W13319S	W13319P	
German	English	French	Spanish	Portuguese	

Nervous System

11 Microscope Slides

1(e). Cerebrum, human, cortex, t.s. 2(e). Cerebellum, human, t.s. 3(f). Cerebellum, human, t.s., Weigert stained 4(e). Spinal cord, human, t.s. for general structure 5(e). Nerve, human, l.s.

6(e). Nerve, human, t.s. 7(f). Spinal cord, cat, t.s., Klÿver-Barrera stained 8(e). Spinal cord, cow, t.s., Nissl stained 9(f). Cerebrum, cat, t.s., Golgi stained 10(e). Brain, rat, median l.s. 11(d). Vertebra with spinal cord, rat, t.s.

ZOOLOGY – COMPREHENSIVE SETS



W13001	W13030	W13001F	W13001S	W13001P	
German	English	French	Spanish	Portuguese	

Protozoa

10 Microscope Slides

1(e). Amoeba proteus, Rhizopoda, w.m. 2(d). Radiolaria, mixed species, fossil 3(d). Foraminifera from Mediterranean sea, mixed species, recent 4(c). Euglena viridis, a green flagellate, w.m. 5(c). Ceratium hirundinella, fresh-water dinoflagellate w.m.

6(f). Trypanosoma gambiense, causes African sleeping sickness, blood smear 7(f). Plasmodium, causes human malaria, blood smear 8(d). Eimeria stiedae, causing coccidiosis, t.s. of infected liver 9(d). Paramecium, a common ciliate, nuclei stained 10(e). Vorticella, a coloniata ciliate.

W13003	W13032	W13003F	W13003S	W133003P	
German	English	French	Spanish	Portuguese	

Vermes (Helminthes)

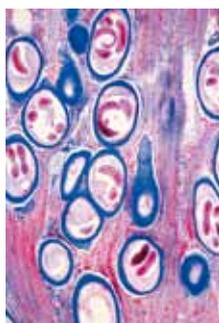
20 Microscope Slides

1(f). Planaria, (Turbellaria) w.m. 2(c). Planaria, t.s. for general structure 3(f). Fasciola hepatica, large liver fluke, w.m. 4(c). Fasciola, t.s. of middle region of body 5(f). Taenia sp., tapeworm, proglottids, w.m. 6(c). Taenia sp., mature proglottids, t.s. 7(g). Taenia or Moniezia, tapeworm, scolex and proglottides, w.m. 8(f). Echinococcus multilocularis, infected liver, sec. 9(f). Enterobius

vermicularis, pinworm, w.m. 10(d). Trichinella spiralis, encysted larvae in muscles, l.s. 11(e). Ascaris, roundworm, adult male and female, t.s. 12(d). Nemertine, marine species, t.s. of body 13(d). Nereis, sea-worm, t.s. 14(d). Tubifex, oligochaete, w.m. 15(d). Hirudo medicinalis, leech, t.s. 16(e). Lumbricus, earthworm, anterior end, l.s. 17(c). Lumbricus, region of seminal vesicles, t.s. 18(d). Lumbricus, t.s. with stomach 19(c). Lumbricus, t.s. with intestine and nephridia 20(d). Lumbricus, t.s. with setae.



PARASITOLOGY AND PATHOGENIC BACTERIA



W13323	W13423	W13323F	W13323S	W1323P	
German	English	French	Spanish	Portuguese	

General Parasitology

50 Microscope Slides

Domestic and tropical parasites of humans and animals

1(f). Entamoeba histolytica, amoebic dysentery, smear or section 2(f). Leishmania donovani, causes Kala-Azar, smear or section 3(f). Trypanosoma gambiense, sleeping disease, blood smear 4(f). Trypanosoma cruzi, Chagas disease, blood smear 5(f). Plasmodium falciparum, human malaria, blood smear with ring stages 6(f). Plasmodium berghei, blood smear with vegetative forms and schizogony stages 7(g). Plasmodium sp., malaria melanemia in human spleen 8(f). Toxoplasma gondii, causing toxoplasmosis, smear or section of cyst 9(f). Babesia canis, blood smear 10(f). Sarcocystis sp., section of muscle showing the parasites in Miescher's tubes 11(e). Nosema apis, honey bee dysentery, t.s. of bee intestine 12(d). Monocystis agilis, from earthworm seminal vesicle 13(d). Eimeria stiedae, causes coccidiosis in rabbit liver, t.s. 14(f). Fasciola hepatica, beef liver fluke, w.m. of adult flat mount 15(c). Fasciola, typical t.s. of body in different regions 16(d). Fasciola, ova w.m. 17(h). Fasciola, miracidia w.m. * 18(h). Schistosoma mansoni, bilharziosis, adult male or female w.m. 19(g). Schistosoma, t.s. of snail liver with redia and cercaria * 20(e). Schistosoma mansoni, ova in faeces 21(t). Taenia or Moniezia, tapeworm, scolex w.m. 22(f). Taenia pisiformis, dwarf tapeworm, mature proglottids w.m. 23(d). Taenia saginata, tapeworm, proglottids in different stages t.s. 24(d). Taenia saginata,

ova in faeces w.m. 25(f). Hymenolepis nana, proglottids w.m. 26(f). Echinococcus granulosus, dog tapeworm, scolices from cyst w.m. 27(f). Echinococcus, cyst wall and scolices t.s.. 28(d). Ascaris lumbricoides, roundworm of human, adult female t.s. in region of gonads 29(d). Ascaris lumbricoides, adult male t.s. in region of gonads 30(d). Ascaris lumbricoides, ova from faeces w.m. 31(f). Enterobius vermicularis (Oxyuris), pin worm, adult specimen w.m. 32(d). Trichinella spiralis, muscle with encysted larvae l.s. 33(h). Ancylostoma, hookworm, adult w.m. 34(d). Trichuris trichiura, whip worm, ova w.m. 35(e). Strongyloides, larvae w.m. 36(f). Heterakis spumosa, intestinal parasite of rat, adult 37(g). Ixodes sp., tick, adult w.m. Carrier of relapsing fever and borreliosis 38(d). Dermanyssus gallinae, chicken mite w.m. 39(e). Acarapis woodi, varroa, parasitic mite of honey bee, w.m. 40(e). Sarcoptes scabiei, section of diseased skin with parasites 41(e). Stomoxys calcitrans, stable fly, piercing sucking mouth parts w.m. 42(f). Anopheles, malaria mosquito, mouth parts of female w.m. 43(e). Culex pipiens, common mosquito, mouth parts of female w.m. 44(f). Anopheles, larva w.m. 45(d). Culex pipiens, larva w.m. 46(d). Culex pipiens, pupa w.m. 47(f). Cimex lectularius, bed bug, w.m. 48(f). Pediculus humanus, human louse, w.m. 49(e). Pediculus humanus, louse eggs attached to the hair, w.m. 50(e). Ctenocephalus canis, dog flea, adult w.m.



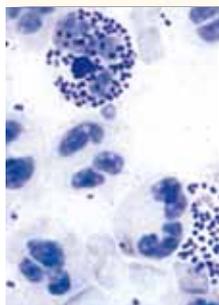
W13324	W13423	W13324F	W13324S	W1324P	
German	English	French	Spanish	Portuguese	

Pathogenic Bacteria

25 Microscope Slides

1(e). Diplococcus pneumoniae, croupous pneumonia, smear 2(f). Neisseria gonorrhoeae, gonorrhoea, smear 3(e). Neisseria meningitidis (intracellularis), epidemic meningitidis, smear 4(d). Staphylococcus aureus, pus organism, smear 5(d). Streptococcus pyogenes, smear showing short chains 6(d). Corynebacterium diphtheriae, smear 7(e). Mycobacterium tuberculosis, smear from positive sputum stained after Ziehl-Neelsen 8(e). Bacterium erysipelas, smear 9(d). Brucella abortus, abortion in cattle (Bang disease), smear 10(d). Proteus vulgaris, inflammation of urinary system, smear 11(d). Escherichia coli, colon bacteria, possibly

pathogen, smear 12(d). Eberthella typhi, typhoid fever, smear 13(d). Salmonella paratyphi, paratyphoid fever, smear 14(d). Hemophilus influenzae (Pfeiffer), smear 15(e). Klebsiella pneumoniae (Friedlander), pneumonia, smear 16(f). Pasteurella (Yersinia) pestis, bubonic plague, smear 17(d). Salmonella enteritidis, meat poisoning, smear 18(d). Shigella dysenteriae, bacillary dysentery, smear 19(d). Bacillus anthracis, wool sorter's disease, smear 20(e). Clostridium botulinum, food poisoning, smear 21(d). Clostridium septicum, smear 22(e). Clostridium tetani, lockjaw, smear 23(d). Clostridium perfringens, gas gangrene, smear 24(f). Vibrio comma, Asiatic cholera, smear 25(g). Borrelia duttoni (Spirochaeta recurrentis), Central African relapsing fever, blood smear





W13011	W13040	W13011F	W13011S	W13011P	
German	English	French	Spanish	Portuguese	

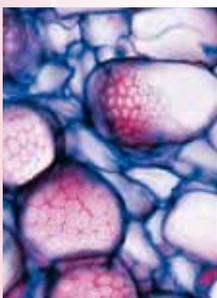
Bacteria Basis Set

25 Microscope Slides

The most important pathogenic and non-pathogenic bacteria 1(d). *Staphylococcus aureus*, pus organism 2(d). *Sarcina lutea*, chromogenic rods 3(e). *Streptococcus pyogenes*, pus organism 4(d). *Streptococcus lactis*, milk souring organism 5(d). *Bacillus subtilis*, hay bacillus, smear with bacilli and spores 6(d). *Bacillus mycoides*, soil organism 7(e). *Bacillus anthracis*, wool sorters disease 8(e). *Mycobacterium tuberculosis*, tuberculosis 9(d). *Corynebacterium diphtheriae*, diphtheria 10(e). *Bacterium erysipelas*, red murrain 11(d). *Rhizobium radicicola*, nitrogen fixing

bacteria 12(d). *Proteus vulgaris*, putrefaction 13(d). *Escherichia coli*, colon bacteria 14(d). *Eberthella typhi*, typhoid fever 15(d). *Salmonella paratyphi*, paratyphoid fever 16(f). *Vibrio comma*, Asiatic cholera 17(d). *Shigella dysenteriae*, bacillary dysentery 18(d). *Hemophilus influenzae*, Pfeiffer bacillus 19(e). *Spirillum volutans*, from putrid water 20(d). *Rhodospirillum rubrum*, chromogenic spirilli 21(e). *Clostridium botulinum* (botulism), food poisoning 22(g). *Spirochaeta duttoni* (*Borrelia recurrentis*), in blood smear 23(d). Bacteria from mouth, with Gram positive and negative rods 24(d). Bacteria from bread 25(d). Bacteria from cheese.

BOTANY



W13328	W13428	W13328F	W13011S	W13328P	
German	English	French	Spanish	Portuguese	

Phanerogamae, Elementary Set

25 Microscope Slides

1(c). Simple plant cells, epidermis of *Allium* w.m. 2(d). Cell division (mitosis) all stages, in *Allium* root tips 1.s. 3(c). Starch grains, t.s. of potato tuber 4(c). Cork cells, t.s. of bark of *Quercus* 5(d). Stone cells, t.s. of fruit of pear 6(d). Root hairs on root tip 7(c). *Zea mays*, corn, typical monocot root t.s. 8(c). *Ranunculus*, buttercup, typical dicot root t.s. 9(c). *Zea mays*, corn, monocot stem t.s. 10(c). *Triticum*, wheat, gramineous stem t.s. 11(c). *Aristolochia*, birthwort, one year stem t.s. 12(c). *Aristolochia*, older stem t.s. 13(d). *Cucurbita*, pumpkin, stem with bundles and sieve tubes

1.s. 14(c). *Sambucus*, elderberry, stem with lenticels t.s. 15(c). *Tulipa*, tulip, leaf epidermis with stomata w.m. 16(c). *Zea mays*, corn, leaf t.s., monocot gramineous leaf 17(c). *Springa*, lilac, leaf t.s., dicot leaf 18(c). *Fagus*, beech, leaf bud t.s. shows leaf origin 19(d). *Lilium*, lily, flower bud t.s. shows flower diagram 20(d). *Lilium*, anthers t.s. shows pollen chambers and pollen grains 21(d). *Lilium*, ovary t.s. with embryo sac 22(e). *Lilium*, stigma with pollen and pollen tubes 1.s. 23(c). *Pinus*, pine, leaf (needle) t.s. 24(d). *Triticum*, wheat, grain (semen) t.s. with embryo and endosperm 25(d). *Capsella*, shepherd's purse, 1.s. of embryos in situ.

W13013	W13042	W13013F	W13013S	W13013P	
German	English	French	Spanish	Portuguese	

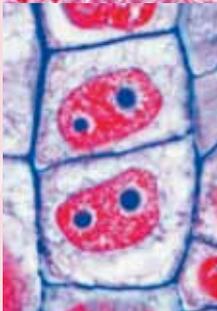
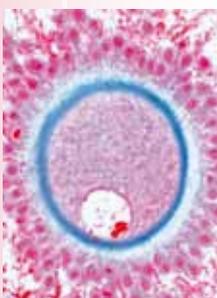
Fungi and Lichen

20 Microscope Slides

Phycomycetes 1(c). *Mucor mucedo*, w.m. of hyphae showing sporangia 2(d). *Rhizopus nigricans*, w.m. of hyphae with developing zygotes (d). *Synchytrium endobioticum*, potato black wart, t.s. of infected tissue 4(c). *Plasmodiophora*, t.s. of cabbage rot *Ascomycetes* 5(c). *Claviceps purpurea*, t.s. of sclerotium 6(c). *Tuber rufum*, truffle, t.s. of fruiting body showing asci 7(c). *Peziza* sp., cup-fungus, t.s. of fruiting body with asci 8(d). *Erysiphe* sp., mildew, t.s. of leaf with perithecia 9(d). *Penicillium* sp., blue mould on orange-rind, t.s. of hyphae with conidiophores

10(c). *Aspergillus glaucum*, brown-mould, w.m. of hyphae with sporangia 11(b). *Saccharomyces* sp., yeast, budding, w.m. 12(d). *Taphrina pruni* (*Eoascus pruni*), plum pockets, t.s. with haustoria and asci *Basidiomycetes* 13(d). *Puccinia graminis*, t.s. of uredinia on wheat 14(d). *Puccinia graminis*, wheat rust, t.s. of aecidia on infected barberry leaf 15(d). *Ustilago zeae*, corn smut, infected tissue, t.s. 16(c). *Psalliota* sp., mushroom, 1.s. through pileus and lamellae 17(c). *Boletus edulis*, pore fungus, 1.s. through pores 18(c). *Lycoperdon gemmatum*, puff-ball, t.s. of fruiting body *Lichens* 19(d). *Xanthoria*, lichen, t.s. of thallus showing hyphae with symbiotic algae 20(d). *Xanthoria*, t.s. of apothecium.

CYTOLOGY AND EMBRYOLOGY



W13023	W13052	W13023F	W13023S	W13023P	
German	English	French	Spanish	Portuguese	

The Animal Cell

12 Microscope Slides

1(c). Squamous epithelium, isolated cells from human mouth 2(d). Striated muscle 1.s. showing nuclei, striations 3(d). Compact bone and hyaline cartilage t.s., two sections for comparison 4(e). Nerve fibres isolated, fixed and stained by osmic acid to show myelin sheaths and Ranvier's nodes 5(d). Liver of *Salamandra* t.s., simple animal cells 6(f). Kidney of mouse, t.s. vital stained to demonstrate storage 7(d). Ovary of cat, t.s. showing primary,

secondary, and Graafian follicles 8(d). Testis of frog, t.s. showing spermatogenesis 9(e). *Salamandra* larva, t.s. of skin and other organs selected to show cell division (mitosis) 10(f). Uteri of *Ascaris megalocephala*, t.s. stained to show meiosis with chromosomes and nuclear spindles 11(f). Salivary gland of *Chironomus* larva. Giant chromosomes showing large chromomeres. Stained for DNA after Feulgen 12(e). Ova from *Psammomechinus* (sea urchin). Unfertilized ova, fertilized ova, early cleavage stages.

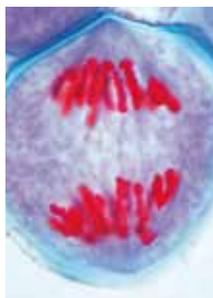
W13024	W13053	W13024F	W13024S	W13024P	
German	English	French	Spanish	Portuguese	

Plant Cell

12 Microscope Slides

1(c). Epidermis of *Allium* (onion), w.m. showing simple plant cells with cell walls, nuclei and cytoplasm 2(d). Root tips of *Allium cepa* 1.s. showing cell division (mitosis) in all stages 3(e). Pollen mother cells of *Lilium*. Prophase of first maturation division (meiosis) 4(f). Pollen mother cells of *Lilium*. Metaphase and anaphase of first maturation division 5(c). Wood of *Tilia* macerated

and w.m. 6(d). Fruit of *Pyrus* (pear) t.s. showing stone cells 7(c). Tuber of *Solanum* (potato) t.s. shows cork and starch grains 8(d). *Cucurbita pepo* (pumpkin) 1.s. of stem showing vascular bundles with sieve tubes, spiral and annular vessels 9(c). *Ricinus* endosperm t.s. showing aleurone grains 10(d). Anthers of *Lilium* (lily), t.s. pollen sacs and pollen grains 11(d). Ovary of *Lilium* (lily), t.s. arrangement of ovules and embryo sac 12(e). *Spirogyra* showing conjugation stages and zygotes.



W13025	W13054	W13025F	W13025S	W13025P	
German	English	French	Spanish	Portuguese	

Set of Genetic Slides

25 Microscope Slides

1(d). Allium, root tips, l.s. showing all stages of mitosis 2(e). Eschscholtzia, stigma, w.m. showing penetrating pollen 3(e). Liliium, microspore mother cells, first division, leptotene to zygotene 4(e). Liliium, first division, diakinesis to telophase 5(f). Liliium, second division, interkinesis to tetrad stage 6(f). Polytrichum, moss, archegonium, w.m. 7(f). Polytrichum, moss, archegonium, l.s. 8(e). Spirogyra scalariform conjugation showing zygotes following conjugation 9(d). Sea urchin, developing of eggs, w.m. of most stages up to pluteus 10(f). Giant chromosomes from salivary gland of Chironomus, squash preparation stained for chromomeres 11(f). Giant chromosomes, section 12(e). Ascaris,

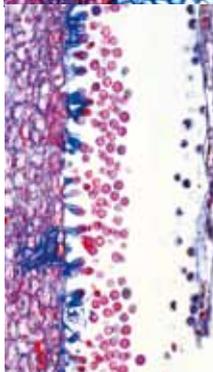
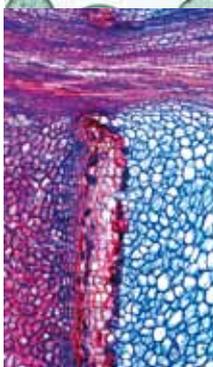
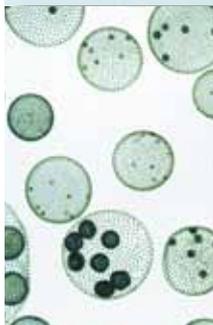
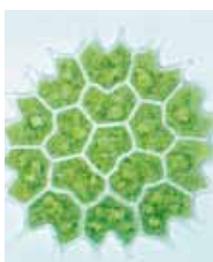
fertilisation of eggs, t.s. 13(f). Ascaris, male and female pronuclei, t.s. 14(f). Ascaris, meiosis and early cleavage, t.s. 15(e). Testis of crayfish, t.s. showing meiosis 16(d). Testis of mouse, t.s. showing spermatogenesis 17(d). Ovary of rabbit, l.s. showing follicles in various stages 18(f). Embryology of fish, l.s. of embryo showing animal mitosis 19(h). Chromosomes, human, female, of culture of peripheral blood 20(i). Chromosomes, human, male, of culture of peripheral blood 21(f). Drosophila genetics, adult wild type, w.m. 22(f). Drosophila genetics, "barr eye" mutant, w.m. 23(f). Drosophila genetics, "brown eye" mutant, w.m. 24(f). Drosophila genetics, "vestigial wing" mutant, w.m. 25(f). Drosophila genetics, "white eye" mutant, w.m.

W13027	W13056	W13027F	W13027S	W13027P	
German	English	French	Spanish	Portuguese	

Frog Embryology (Rana)

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

ECOLOGY AND ENVIRONMENT



W13335	W13435	W13335F	W13335S	W13335P	
German	English	French	Spanish	Portuguese	

The Microscopic Life in the Water

25 Microscope Slides

1(e). Amoeba proteus, amoeba 2(c). Ceratium hirundinella, dinoflagellates 3(c). Euglena, green flagellate with eyespot 4(d). Radiolaria, marine rhizopods 5(c). Paramecium, nuclei stained 6(d). Stylyonchia, a common ciliate 7(b). Spongilla, fresh water sponge, isolated spicules 8(d). Hydra, w.m. or section 9(d). Rotatoria, rotifers, mixed species 10(c). Daphnia, water flea, a phyllopod 11(c). Cyclops, a copepod 12(d). Chironomus, gnat, larva w.m. 13(d). Putrefaction causing bacteria from hay infusions 14(c). Oscilla-

toria, a filamentous blue green alga 15(c). Diatomeae, diatoms, mixed species 16(d). Desmidiaceae, desmids, mixed species 17(c). Spirogyra, green alga with spiral chloroplasts 18(d). Eudorina, small colonies within gelatinous sheaths 19(c). Cladophora, green alga, branched filaments 20(c). Draparnaldia, main filaments and branchings 21(c). Microcystis, irregular colonies 22(c). Ulothrix, green alga with girdle-shaped chloroplasts 23(d). Oedogonium, vegetative filaments 24(e). Volvox, with daughter colonies and sexual stages 25(d). Mesothaenium, rod-shaped desmids

W13331	W13431	W13331F	W13331S	W13331P	
German	English	French	Spanish	Portuguese	

The Forest, Consequences of Pollution

20 Microscope Slides

1(c). Pine (Pinus), healthy leaves, t.s. 2(c). Pine (Pinus) leaves damaged by acid rain, t.s. 3(c). Fir (Abies), healthy leaves, t.s. 4(c). Fir (Abies), stem tip damaged t.s. 5(c). Beech (Fagus), healthy leaves t.s. 6(c). Beech (Fagus), t.s. of leaves with destroyed epidermis and chloroplasts 7(d). Rhytisma acerinum, tar spot of maples, consequence of single-crop farming 8(d). Early leaf fall, caused by thawing salt 9(d). Healthy lichen, indicator of clean

air 10(d). Damaged lichen, caused by air pollution 11(c). Healthy wood of beech, t.s. 12(d). Wood destroyed by fungus 13(d). Polyporus, wood rot fungus, fruiting body t.s. 14(d). Root nodules of Alnus, with symbiotic bacteria 15(d). Spruce beetle (Cryphalus picea), larva t.s. 16(c). Wood with normal annual rings, t.s. 17(c). Wood with anomalous narrow annual rings caused by drought, t.s. 18(d). Bark with larval galleries of spruce beetle, t.s. 19(d). Pineapple-like gall on spruce caused by lice, t.s. 20(d). Gall nut on oak caused by insects, t.s.

W13332	W13432	W13332F	W13332S	W13332P	
German	English	French	Spanish	Portuguese	

Water Pollution, Problems and Results

20 Microscope Slides

1(d). Intestinal bacteria (Escherichia coli) from putrid water 2(e). Putrefactive bacteria (Spirillum) from sludge poor in oxygen 3(d). Putrefactive bacteria (Sphaerotilus) bacteria, forming long chains 4(d). Sludge bacteria (Methanobacterium) causing sewer gas 5(d). Sulphur bacteria (Thiocystis) 6(c). Wasserbluthe (Microcystis), blue-green alga "blooming" in stagnant water 7(c). Anabaena, blue-green algae, in eutrophic water 8(c). Spirogyra, filamentous green alga in nutrient-rich water 9(d). Spirulina, corkscrew-shaped algae occurring in bitter seas 10(c). Chlamydomonas,

one-celled green alga in eutrophic water 11(c). Cladophora, green alga from moderately polluted water 12(c). Diatoms, mixed algae from scarcely polluted water 13(c). Euglena, green flagellates occurring in stagnant eutrophic water 14(d). Ciliates, different species from nutrient-rich water 15(d). Rotifers (Rotatoria), small animals from putrid water 16(d). Tubifex, fresh water oligochaete, living in the sludge 17(d). Carchesium, stalked ciliate from moderately polluted water 18(d). Water mold (Saprolegnia), harmful to plants and animals 19(d). Skin of fish injured by chemicals, t.s. 20(d). Skin ulcer of an amphibian, t.s.

MICROSCOPE SLIDES

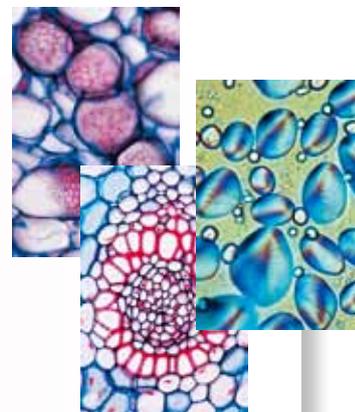
The individual slides are characterized by excellent workmanship, clear portrayal and long life. We have selected the most interesting and most popular ones for you. Order your favorite ones and delve into the fascinating world of the microcosm with your students!

Please note that microscope slides can only be supplied in our special storage boxes (see p. 28). Please add box to your purchase order.

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Minimum order quantity 10



Page 28

Art.-No.	Topic	Art.-No.	Topic
ZOOLOGY			
W13900	Amoeba proteus, w.m. showing nucleus and pseudopodia	W13917	Human blood smear, stained for red and white corpuscles
W13901	Euglena, a common flagellate with eyespot	W13918	Artery and vein of mammal, t.s.
W13902	Paramecium, nuclei stained	W13919	Lung of cat, t.s. showing alveoli, bronchial tubes
W13903	Hydra, w.m. extended specimen to show foot, body, mouth, and tentacles	W13920	Oesophagus of cat, t.s. with stratified squamous epithelium, muscular layers
W13904	Hydra, t.s. of body in different levels. Ectoderm, entoderm	W13921	Stomach of cat, t.s. through fundic region showing gastric glands
W13905	Lumbricus, earthworm, typical t.s. back of clitellum showing muscular wall, intestine, typhlosole, nephridia etc.	W13922	Small intestine of cat, t.s. showing mucous membrane
W13906	Daphnia and Cyclops, small crustaceans from fresh water	W13923	Large intestine (colon), t.s. special stained for the mucous cells
W13907	Musca domestica, house fly, head and mouth parts (proboscis) w.m.	W13924	Liver of pig, t.s. showing well developed connective tissue
W13908	Musca domestica, leg with clinging pads (pulvilli)	W13925	Pancreas of pig, sec. showing islets of Langerhans
W13909	Apis mellifica, honey bee, anterior and posterior wing	W13926	Kidney of cat, t.s. through cortex and medulla
W13910	Apis mellifica, honey bee, mouth parts of worker w.m.	W13927	Ovary of cat, t.s. with primary, secondary, and Graafian follicles
W13911	Apis mellifica, hind leg of worker with pollen basket w.m.	W13928	Testis of mouse, t.s. showing spermatogenesis in all stages
W13912	Apis mellifica, sting and poison sac w.m.	W13929	Sperm of bull (spermatozoa), smear
W13913	Apis mellifica, honey bee, head with compound eyes and brain t.s.	W13930	Spinal cord of cat, t.s. showing white and grey matter, nerve cells
W13914	Branchiostoma lanceolatum (Amphioxus), typical t.s. of body with gills, liver, and gonads	W13931	Cerebrum, human, t.s. of cortex showing pyramidal cells and fibrous region
HISTOLOGY AND ANTHROPOLOGY			
W13915	Compact bone, t.s. special stained for cells, lamellae, and canaliculi	W13932	Retina of cat, t.s. for detail of rods and cones
W13916	Striated muscle, l.s. showing nuclei and striations	W13933	Tongue of rabbit, t.s. of papilla foliata with abundant taste buds
BACTERIA AND LOWER PLANTS			
W13934	Human skin from palm, v.s. showing cornified epidermis, germinative zone, sweat glands	W13935	Bacteria from mouth, smear Gram stained showing bacilli, cocci, spirilli, spirochaetes

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

FLOWERING PLANTS

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

Art.-No.	Topic
CYTOLOGY AND GENETICS, EMBRYOLOGY	
W13965	Mitochondria, in thin sec. through liver or kidney, special staining technique
W13966	DNA in cell nuclei, demonstrated by Feulgen staining technique
W13967	Giant chromosomes from the salivary gland of Chironomus. Individual genes and puffs can be observed
W13968	Human chromosomes, spread in the stage of metaphase, for counting chromosomes
W13969	Spinal cord of cat, t.s. silvered for nerve cells and fibres
W13970	Allium cepa, l.s. of root tips showing cell divisions (mitosis) in all stages, carefully stained
W13971	Chloroplasts, in leaf of Elodea or Mnium, special stained
W13972	Sea-urchin development (Psammechinus miliaris), composite slide with two cell, four cell and eight cell stages
W13973	Sea-urchin development (Psammechinus miliaris), composite slide with morula, blastula and gastrula stages
W13974	Frog embryology (Rana spec.), sec. through the blastula stage showing the blastocoel
W13975	Frog embryology (Rana spec.), sag. sec. through young larva in the tail bud stage, with primordia of organs
W13976	Chicken embryo, 48 hour, t.s. with neural tube and chorda
W13977	Embryo of mouse, sagittal l.s. of entire specimen showing all organs in situ

PARASITES AND PATHOGENS

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

ECOLOGY AND ENVIRONMENT, PESTS IN AGRICULTURE

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

MULTIMEDIA-PACKAGES FOR TEACHERS AND STUDENTS

LIEDER offers a new range of MULTIMEDIA PACKAGES OF LIFE SCIENCE for interactive learning and teaching in school and education. The new packs aim to give a strictly outlined synopsis of all areas of biology important for teaching at schools, colleges and universities and suitable for working with the microscope. Well selected media packages of 6 and 12 units with microscope slides, overhead transparencies, sketch and work sheets, descriptions and pictures of the drawings to support the teacher during lessons. We offer TEACHER PACKAGES (W137..) and STUDENT SETS (W138..).

The teacher packages comprise all necessary media for classroom work:

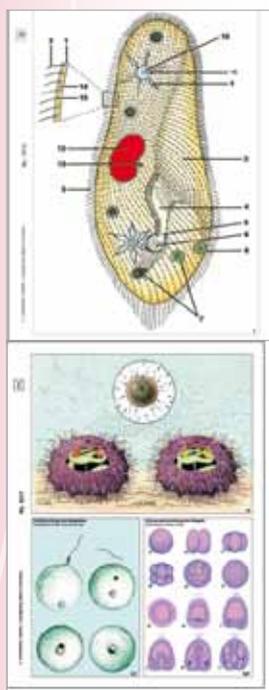
1. Set of selected prepared microscope slides in plastic box. Prepared Microscope Slides are made under rigorous scientific control; the product of long experience combined with the most up to date techniques.
2. Set of overhead transparencies, large size, full color. Overhead Transparencies immediately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

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

The student sets comprise:

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

• D/E



W13722/W13822

Protozoa

W13728/W13828

The Animal Cell (Cytology)

W13732/W13832

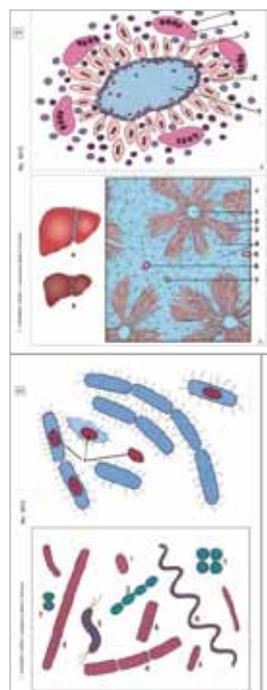
Human Diseases (Pathology)

W13735/W13835

Parasites of Man and Animals

W13736/W13836

Reproduction of Animals



W13737/W13837

Embryology and Development of Animals

W13739/W13839

Genetic Slides

W13741/W13841

Mitosis and Meiosis (Cell division)

W13742/W13842

Bacteria

W13763/W13863

Identifying Polluted Water under the Microscope



W57901

W57901

Student Dissecting Kit

Excellent value for your classroom! Ideal for both junior and secondary school students. Complete set of instruments includes tools for routine dissection labs.

Kit includes:

- Ruler 15 cm
 - Screw-lock blade scalpel
 - Scalpel blade
 - Dropping pipette
 - Student scissors
 - Straight teasing needle
 - Curved teasing needle
 - Medium point forceps
 - Leatherette case
- 7.6x17 cm; 0,1 kg



W57903

W57903

Biology Dissecting Kit

Includes the stainless steel and chrome instruments presented in a deluxe, single-fold, lined vinyl case. Kit includes:

- Ruler 15 cm
 - Dissecting knife handle
 - Scalpel blades
 - Dropping pipette
 - Straight operating scissors 14 cm
 - Seeker probe
 - Straight teasing needle
 - Medium point forceps
 - Leatherette case
- 7.6x17 cm; 0,15 kg



W22003

W22003

Preparation Set

This set is supplied in a stackable transparent plastic box and consists of:

- Needle in holder, straight (2 pieces)
- Forceps, fine, 130 mm
- Microscopical scissors, straight
- Scalpel handle No. 4
- Set of 5 scalpel blades, slightly curved

W11610

Dissecting Set

Deluxe dissecting set fit for a skilled instructor.

Encased in an attractive vinyl case lined with velvet, the kit includes the following high-quality stainless steel tools:

- 1 fine scissors, sharp tip, 11.5 cm
 - 1 large scissors, 1 sharp tip, 1 blunt tip, 13.5 cm
 - 1 fine forceps, serrated, sharp tip, 12 cm
 - 1 large forceps, serrated, blunt tip, 13 cm
 - 1 one-piece scalpel, 4 cm blade
 - 1 straight needle, 13 cm
 - 1 lancet needle, 15 cm
 - 1 Dumont forceps, 11 cm
 - 1 scalpel handle, 14 cm
 - 5 scalpel blades, 6 cm
- 21x13x3 cm



W11610



W11609



W57904

Large Dissecting Kit

Kit includes:

- Ruler 15 cm
 - Dissecting knife handle
 - Curved scalpel blades
 - Full convex blades
 - Section lifter
 - Curved dissection scissors 12 cm
 - Straight operating scissors 14 cm
 - Hemostatic forceps 12.5 cm
 - Hemostatic forceps 16.5 cm
 - Seeker probe
 - Straight teasing needle
 - Curved teasing needle
 - Dressing forceps 12 cm
 - Dressing forceps 13 cm
 - Retraction hook
 - Leatherette case
- 33x19 cm (opened); 0,25 kg

W57904





W16158/W16159



W16160



W16157



W16156/W16157

W16158

Microscope Slides, cut edges
cellophane wrapped
Approx. 76 x 26 x 1 mm
PU: 50 pcs/box

W16159

Microscope slides, ground edges
90°, cellophane wrapped
Approx. 76 x 26 x 1 mm
PU: 50 pcs/box

W16156

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

W16157

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

W16160

Microscope slides with one cavity
Ground edges, 76 x 26 x 1.2 mm,
PU = 50 pcs/box



W16162



W58433



W58423



W16162

Slide storage map
For 20 slides, cardboard, with cover

W58433

Slide Box for 25 Slides, Green
Durable plastic storage box
141x88x35mm; 0.16 kg

W58423

Slide Box for 50 Slides, Blue
209x86x35mm; 0.2 kg

W16174

Pasteur pipettes, dropping pipettes
3 ml, Polyethylene, nonsterile.
PU = 500 pcs/box

W16175

Pasteur pipettes, dropping pipettes
1 ml, Polyethylene, nonsterile.
PU = 500 pcs/box



W16175

W16174

W16161

Schiefferdecker staining dish
For 20 slides 76 x 26 mm (back to back), with cover,
approx. 45 x 85 x 70 mm



W16161



W16152



W16169



W16170



W16171

W16152

Soft Tweezers

At last soft stainless steel tweezers, ideal for students to examine objects without damaging them. Length approx 10 cm

W16169

Anatomical forceps

Stainless steel, pointed, 14.5 cm

W16170

Anatomical forceps

Stainless steel, blunt, 14.5 cm

W16171

Forceps for cover-glasses

Stainless steel, curved, 11.5 cm



W16163



W16164



W16165

W16163

Microscope-scissors

Stainless steel, 11.5 cm

W16164

Scissors

Stainless steel, straight, extremely pointed, 12 cm

W16165

Scissors

Stainless steel, straight, pointed/pointed, 14.5 cm

W16173

Scalpell-blades, Size 10

Single packed, sterile, carbon steel. PU = 100 pcs/box



W16173



W16172



W16166



W16167

W16168

W16172

Scalpell handle no. 3

Stainless steel

W16166

Sonde

ca. 160 x 2 mm

W16167

Dissection needle

Plastic-handle, pointed

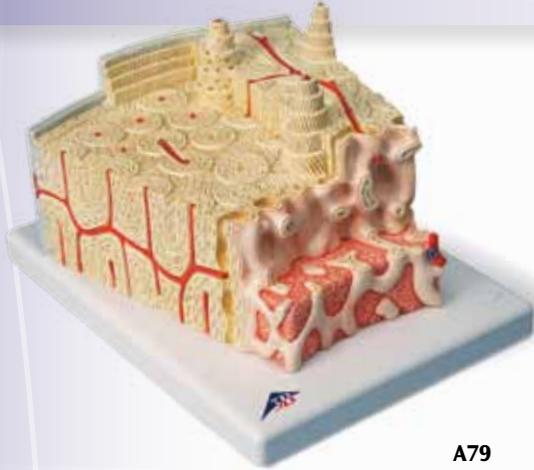
W16168

Dissection needle

Plastic-handle, with blade

FURTHER ITEMS FOR YOUR BIOLOGY LESSON...

As world leader in anatomical model production, we would also like to show you our most popular models.



A79

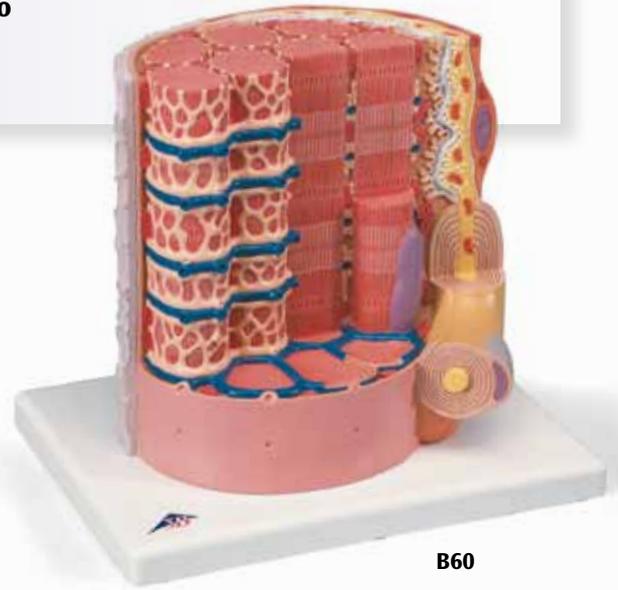
A79

3B MICROanatomy™ Bone Structure

This extremely detailed model depicts a three dimensional section of a lamellar bone, showing the typical structure of a tubular bone enlarged 80 times. Various planes are shown in cross and longitudinal section through all levels of the bone, as well as a 2-plane section through the inner structure of the bone marrow. The typical elements of a lamellar bone are easily identified and help to understand its structure and function with the characteristic osteons, also referred to as Haversian systems. This model allows a graphic illustration of the interplay of the individual components, such as spongy and compact substance, endosteum, cortical substance, osteocytes, Volkmann and Haversian canals. Supplied on base.

26x19x14.5 cm; 0.8 kg

E/D/S/F/P/J [www.](http://www.3bscientific.com)



B60

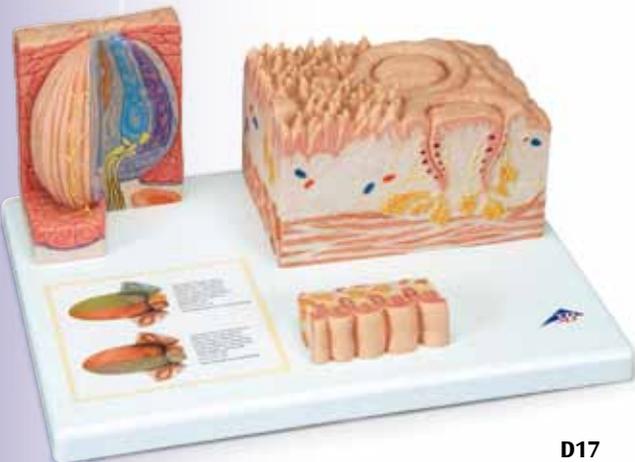
B60

3B MICROanatomy™ Muscle Fibre

The model illustrates a section of a skeletal muscle fibre and its neuromuscular end plate magnified approx. 10,000 times. The muscle fibre is the basic element of the diagonally striped skeletal muscle.

23.5x26x18.5 cm; 1.1 kg

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



D17

D17

3B MICROanatomy™ Tongue

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

14,5x32,5x20 cm; 0.8 kg

L/D/E/F/I/S/P/J/R/C



G42

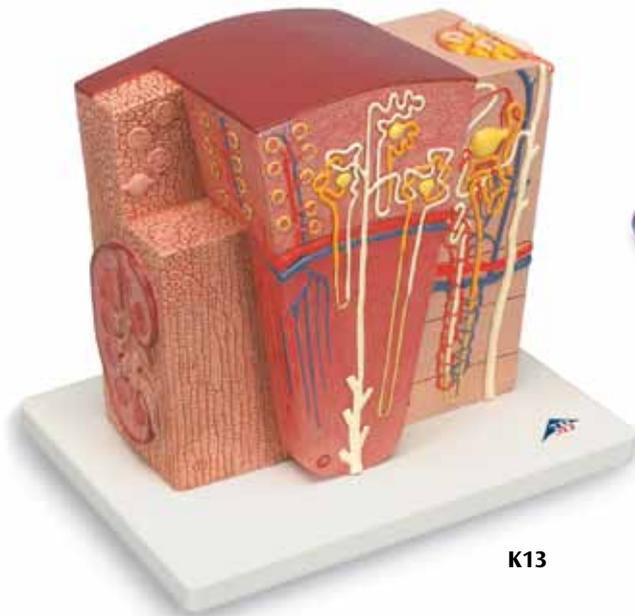
G42

3B MICROanatomy™ Artery and Vein

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

26x19x18.5 cm; 0.9 kg

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



K13

K13

3B MICROanatomy™ Kidney

This extremely detailed model shows the morphologic/functional units of the kidney greatly magnified. Six model zones illustrate the following fine-tissue structures that serve the production of urine:

- Longitudinal section of a kidney
- Section of renal cortex and renal medulla
- Wedge-shaped section of a kidney lobe with a diagrammatic depiction of three nephrons with Henle's loops of different lengths and diagrammatic depiction of the vascular supply
- Diagrammatic illustration of a nephron with a short Henle's loop and didactic/diagrammatic illustration of the vascular supply
- Diagrammatic illustration of an opened renal corpuscle with nephron and light-microscopic transverse sections of the proximal, attenuated and distal segments of a renal tubule
- Diagrammatic/didactic illustration of an opened renal corpuscle

Mounted on a base.

23.5x25.5x19 cm; 1.3 kg

L/E/D/S/F/P/I/J [www.](http://www.3b.com)

unique!

F16



F16

3B MICROanatomy™ Eye

This model illustrates the microscopic structure of the retina with choroid and sclera. The left block-like, layered side of the model side shows the complete structure of the retina including the vascular layer and parts of the sclera from a light microscopic view. The right part of the model is a sectional enlargement. It shows the microscopic structure of the photoreceptors and the cells of the pigmented layer.

25x23x18.5 cm; 1.2 kg

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K24

K24

3B MICROanatomy™ Liver

This 2-part model shows a highly magnified diagrammatic view of a section of the liver. The left part of the model shows a section of the liver that comprises several lobules. The right part of the model is a highly magnified view of the sectioned lobule on the left.

15x26x18.5 cm; 0.7 kg

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K23



K23

3B MICROanatomy™ Digestive System

The model illustrates the structure of the fine tissues of four characteristic sections of the digestive system: oesophagus, stomach, small intestine, large intestine.

The front of the model, from top to bottom, shows a magnified view in histological section of the individual sections of the digestive system and their fine tissue structures. On the back of the model, highly magnified views of didactically interesting areas of each of the digestive system sections shown on the front are emphasized.

29.5x26x18.5 cm; 1.5 kg

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3B MICROanatomy™

BESTseller



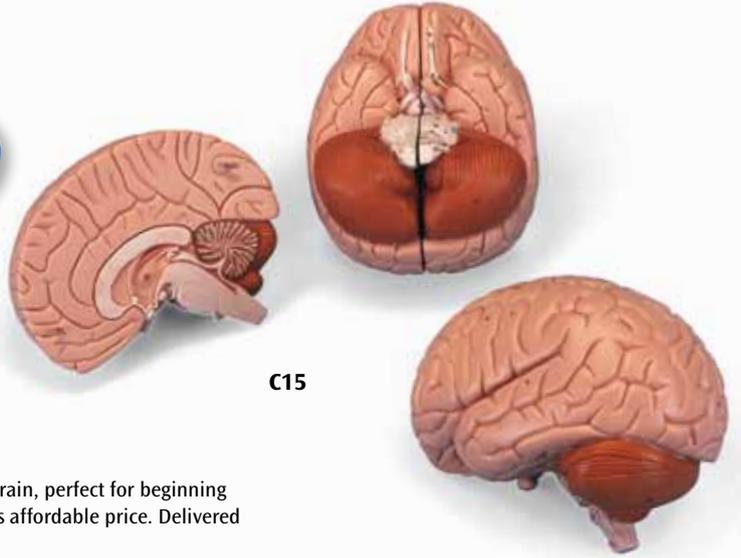
A10

C15

Brain, 2-part

A medially divided brain, perfect for beginning studies because of its affordable price. Delivered on removable base.
15x14x17.5 cm; 0.7 kg

L/D/E/F/S/P/I/J www.3b.com



C15

A10

Classic Skeleton Stan, on 5-foot roller stand

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



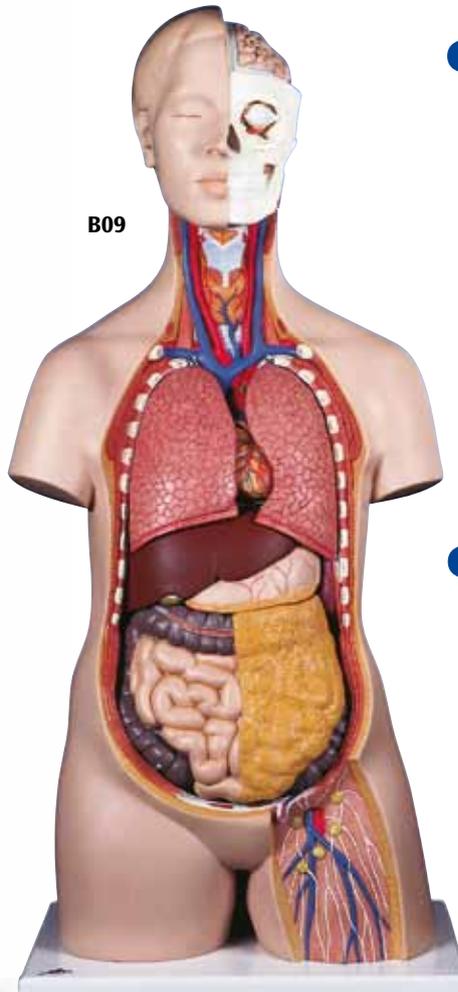
A20

A20

Classic Skull, 3-part

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

B09



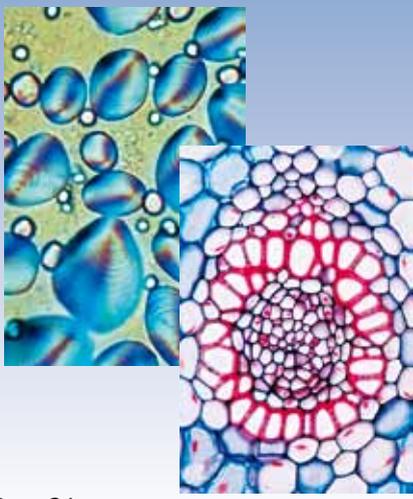
B09

Classic Unisex Torso, 12-part

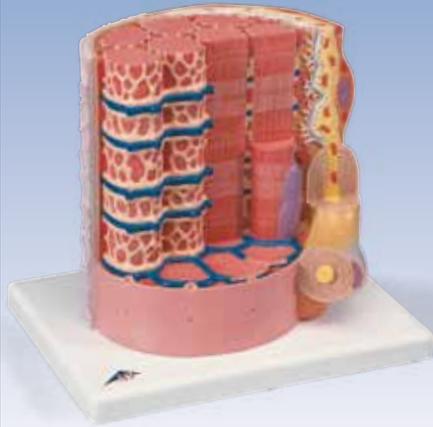
The following components of this torso are removable:

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

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



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