SCHOOL BIOLOGY



Cells, Tissues and Organs Slide Set 13 slides



1 - Simple animal cells in sec. of salamander liver

2 - Mitosis, l.s. from Allium root tips showing all stages of mitosis

3 - Ranunculus, buttercup, t.s. of a typical dicot root

4 - Monocot and dicot stems, two t.s. for comparison

5 - Syringa, lilac, t.s. of a typical mesophytic dicot leaf

6 - Columnar epithelium, t.s of blind gut from rabbit

7 - Bone and hyaline cartilage, t.s.

8 - Striated muscles of mammal, l.s.

9 - Smooth muscles of mammal, l.s. and t.s.

10 - Lung of cat, t.s.

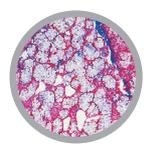
11 - Human blood smear

12 - Human body skin, l.s.

13 - Young mouse, sag. s. of entire specimen for all structures

Cat #: JL-1ScM - \$ 168.85 (Ex.GST)

Metabolism Slide Set 15 slides



- 1 Hydra, fresh water polyp, t.s. with ectoderm and entoderm
- 2 Carabus, ground beetle, gizzard
- 3 Salivary gland of cat, t.s.
- 4 Oesophagus of cat, t.s.
- 5 Fundic stomach of cat, t.s.
- 6 Small intestine of cat, t.s. routine stained
- 7 Small intestine of cat, t.s. blood vessels injected
- 8 Appendix of human, t.s.
- 9 Large intestine of cat, t.s.
- 10 Liver of pig, t.s.
- 11 Malpighian tubules of insect, t.s.
- 12 Primordial kidney (mesonephros) of frog, t.s.
- 13 Hind-kidney (metanephros) of rabbit, t.s.
- 14 Kidney of mouse with pelvis, l.s.
- 15 Kidney of mouse, t.s. injected with trypane blue (storage)

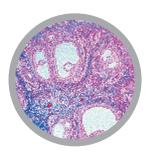
Cat #: JL-2ScM - \$ 187.61 (Ex.GST)

Organs of Sense Slide Set 16 slides



- 1 Paramecium, silvered to show the neuroformative system
- 2 Lumbricus, earthworm, t.s. with ventral nerve cord
- 3 Insect brain, frontal l.s.
- 4 Planaria, sec. through ocelli
- 5 Haliotis, marine snail, pinhole camera eye l.s.
- 6 Helix, snail, eye l.s. lens, cornea, pigmented and visual cells
- 7 Alloteuthis, cuttlefish, camera eye l.s.
- 8 Compound eye of insect, l.s.
- 9 Young rat, head with eyes t.s. for general study
- 10 Retina of cat, t.s. for finer detail of rods and cones
- 11 Internal ear (cochlea) from guinea pig, l.s.
- 12 Taste buds from tongue of rabbit, t.s.
- 13 Peripheral nerve fibres of osmic acid fixed material showing Ranvier's nodes and medullary sheaths
- 14 Spinal cord of cat t.s. showing large motor nerve cells
- 15 Cerebellum of cat, t.s. routine stained
- Cat #: JL-3ScM \$ 211.86 (Ex.GST) 16 Cerebrum of cat, t.s. silvered to show the pyramid cells

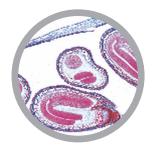
Hormones, Organ and Function Slide Set 7 slides

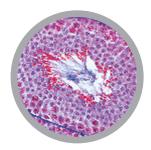


- 1 Ovary of cat, with follicles and corpus luteum t.s.
- 2 Testis of mouse, t.s. showing Leydig's cells
- 3 Adrenal (suprarenal) gland of cat, t.s. cortex and medulla
- 4 Pancreas of cat, t.s. showing islets of Langerhans
- 5 Thyroid gland showing normal function t.s.
- 6 Thyroid gland showing over-activity of the gland t.s.
- 7 Hypophysis (pituitary body) sagittal l.s. with adeno- and neurohypophysis

Cat #: JL-4ScM - \$ 118.85 (Ex.GST)

Genetics, Reproduction and Embryology Slide Set 19 slides





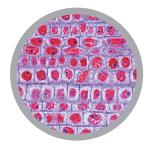
- 1 DNA and RNA stained in different colours, l.s. onion root tips
- 2 Lilium, young anthers, meiosis, early prophase stage, t.s.
- 3 Lilium, young anthers, meiosis, diplotene stage, t.s.
- 4 Lilium, ovary with embryosac t.s.
- 5 Capsella bursa pastoris, l.s. of embryos
- 6 Human chromosomes, spread in the metaphase stage, w.m.

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

Cat #: JL-5ScM - \$ 295.05 (Ex.GST)

General Biology, Elementary Slide Set 25 slides





Zoology

- 1 Amoeba proteus, w.m. showing nucleus and pseudopodia
- 2 Hydra, w.m. extended specimen to show foot, body, mouth, and tentacles
- 3 Lumbricus, earthworm, typical t.s. back of clitellum showing muscular wall,

intestine, typhlosole, nephridia

- 4 Daphnia and Cyclops, small crustaceans from fresh water
- 5 Musca domestica, house fly, head and mouth parts (proboscis) w.m.
- 6 Musca domestica, leg with clinging pads (pulvilli)
- 7 Apis mellifica, honey bee, anterior and posterior wing

Histology of Man and Mammals

- 8 Squamous epithelium, isolated cells from human mouth
- 9 Striated muscle, l.s. showing nuclei and striations

- 10 Compact bone, t.s. special stained for cells, lamellae, and canaliculi
- 11 Human scalp, vertical section showing l.s. of hair follicles, sebaceous glands, epidermis
- 12 Human blood smear, stained for red and white corpuscles

Botany, Bacteria and Cryptogams

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

Botany, Phanerogams

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

Cat #: JL-6ScM -\$ 283.26 (Ex.GST)

General Biology, Supplementary Slide Set 50 slides







- 1 Paramaecium, nuclei stained
- 2 Euglena, a common flagellate with eyespot
- 3 Sycon, a marine sponge, t.s. of body
- 4 Dicrocoelium lanceolatum, sheep liver fluke, w.m.
- 5 Taenia saginata, tapeworm, proglottids of various ages t.s.
- 6 Trichinella spiralis, l.s. of skeletal muscle showing encysted larvae
- 7 Ascaris, roundworm, t.s. of female in region of gonads
- 8 Araneus, spider, leg with comb w.m.
- 9 Araneus, spider, spinneret w.m.
- 10 Apis mellifica, honey bee, mouth parts of worker w.m.
- 11 Apis mellifica, hind leg of worker with pollen basket w.m.
- 12 Periplaneta, cockroach, chewing mouth parts w.m.
- 13 Trachea from insect w.m.
- 14 Spiracle from insect w.m.
- 15 Apis mellifica, sting and poison sac w.m.
- 16 Pieris, butterfly, portion of wing with scales w.m.
- 17 Asterias rubens, starfish, arm (ray) t.s. showing tube feet, digestive gland, ampullae
- 18 Fibrous connective tissue of mammal
- 19 Hyaline cartilage of mammal, t.s.
- 20 Adipose tissue, stained for fat
- 21 Smooth (involuntary) muscle l.s. and t.s.
- 22 Medullated nerve fibres, teased preparation of osmic acid fixed material showing Ranvier's nodes
- 23 Frog blood smear, showing nucleated red corpuscles
- 24 Artery and vein of mammal, t.s.
- 25 Liver of pig, t.s. showing well developed connective tissue
- 26 Small intestine of cat, t.s. showing mucous membrane
- 27 Lung of cat, t.s. showing alveoli, bronchial tubes
- 28 Oscillatoria, a common blue green filamentous alga
- 29 Spirogyra in scalariform conjugation, formation of zygotes
- 30 Psalliota, mushroom, t.s. of pileus with basidia and spores
- 31 Morchella, morel, t.s. of fruiting body with asci and spores
- 32 Marchantia, liverwort, antheridial branch with antheridia l.s.
- 33 Marchantia, archegonial branch with archegonia l.s.
- 34 Pteridium, braken fern, rhizome with vascular bundles t.s.
- 35 Aspidium, t.s. of leaf with sori showing sporangia and spores

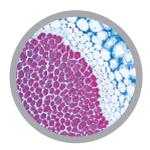
Botany, Phanerogams

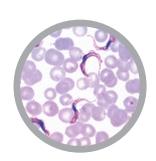
- 36 Elodea, waterweed, stem apex 1.s. showing meristematic tissue and leaf origin
- 37 Dahlia, t.s. of tuber with inuline crystals
- 38 Allium cepa, onion, w.m. of dry scale showing calcium oxalate crystals
- 39 Pyrus, pear, t.s. of fruit showing stone cells
- 40 Zea mays, corn, typical monocot root t.s.
- 41 Tilia, lime, woody dicot root t.s.
- 42 Solanum tuberosum, potato, t.s. of tuber with starch and cork cells
- 43 Aristolochia, birthwort, one year stem t.s.
- 44 Aristolochia, older stem t.s. shows secondary growth
- 45 Cucurbita, pumpkin, l.s. of stem with sieve tubes, annular and reticulate vessels, sclerenchyme fibres
- 46 Root tip and root hairs
- 47 Tulipa, tulip, epidermis of leaf with stomata and guard cells w.m., surface view
- 48 Iris, typical monocot isobilateral leaf, t.s.
- 49 Sambucus, elderberry, stem showing lenticells and cork cambium, t.s.
- 50 Triticum, wheat, grain (seed) sagittal l.s. with embryo and endosperm

Cat #: JL-7ScM - \$ 505.01 (Ex.GST)

General Biology Slide Set 50 slides







Zoology and Parasitology

- 1 Trypanosoma gambiense, causing sleeping disease, blood smear
- 2 Plasmodium berghei, malaria parasite, blood smear
- 3 Radiolaria, strewn slide of mixed species
- 4 Foraminifera, strewn slide of mixed species
- 5 Obelia hydroid, w.m. of colony with hydrants and gonothecae
- 6 Hydra, t.s. of body in different levels. Ectoderm, entoderm
- 7 Planaria, typical t.s. through the body
- 8 Apis mellifica, honey bee, head with compound eyes and brain t.s.
- 9 Apis mellifica, abdomen of worker t.s., with intestine and nephridia
- 10 Ctenocephalus canis, dog flea, adult w.m.
- 11 Dermanyssus gallinae, chicken mite, adult w.m.
- 12 Helix pomatia, snail, hermaphrodite gland (ovotestis), t.s. with developing ova and spermatozoa
- 13 Mya arenaria, clam, gills t.s. and l.s. showing ciliated epithelium
- 14 Branchiostoma lanceolatum (Amphioxus), typical t.s. of body with gills, liver, and gonads
- 15 Bird feathers, w.m. of two types: wing or vane and down feathers

Embryology

- 16 Salamandra larva, sections from selected material showing mitotic stages in skin and other organs
- 17 Chicken embryo, 48 hour, t.s. with neural tube and chorda

Histology of Man and Mammals

- 18 Ovary of cat, t.s. with primary, secondary, and Graafian follicles
- 19 Testis of mouse, t.s. showing spermatogenesis in all stages
- 20 Cerebellum of cat, t.s. shows Purkinje cells
- 21 Spinal cord of cat, t.s. showing white and grey matter, nerve cells
- 22 Kidney of cat, t.s. through cortex and medulla
- 23 Retina of cat, t.s. for detail of rods and cones
- 24 Tongue of rabbit, t.s. of papilla foliata with abundant taste buds

Botany, Bacteria and Cryptogams

- 25 Bacillus subtilis, hay bacillus, smear with bacilli and spores
- 26 Streptococcus lactis, milk souring organisms, smear showing chains
- 27 Volvox, with daughter colonies and sexual stages, w.m.
- 28 Fucus vesiculosus, brown alga, female conceptacle with oogonia t.s.
- 29 Fucus vesiculosus, male conceptacle with antheridia t.s.
- 30 Cladophora, green alga, branched filaments with multinucleate cells
- 31 Claviceps purpurea, ergot, sclerotium t.s.
- 32 Puccinia graminis, wheat rust, uredinia on wheat leaf t.s.
- 33 Puccinia graminis, aecidia and pycnidia on barberry leaf t.s.
- 34 Saccharomyces, yeast, budding cells w.m.
- 35 Physcia, foliose lichen, thallus with symbiotic algae t.s.
- 36 Fern prothallium, w.m. showing sex organs
- 37 Equisetum, horse tail, strobilus with spores l.s.

Botany, Phanerogams

- 38 Lupinus, lupin, root nodules with symbiotic bacteria t.s.
- 39 Euphorbia, spurge, stem with lactiferous ducts l.s.
- 40 Pinus, pine, three sections of wood: transverse, radial, tangential
- 41 Tilia, lime, three sections of wood: transverse, radial, tangential
- 42 Elodea, waterweed, aquatic stem with primitive bundle t.s. 43 - Cucurbita, pumpkin, stem t.s. showing bicollateral bundles and sieve plates
- 44 Fagus, beech, sun and shade leaves, two t.s. for comparison
- 45 Nerium, oleander, xerophytic leaf with sunken stomata, t.s.
- 46 Pinus, pine, male cone with pollen l.s.
- 47 Pinus, female cone with ovules l.s.
- 48 Pinus, mature pollen grains with wings w.m.
- 49 Lilium, lily, t.s. of very young anthers showing meiotic stages of the pollen mother cells
- 50 Taraxacum, dandelion, composite flower l.s.

Cat #: JL-8ScM - \$ 530.04 (Ex.GST)

General Biology Expanded Slide Set 50 slides





Histology of Man and Mammals

- 1 Ciliated epithelium, in t.s. of fallopian tube of pig
- 2 Tendon of cow, l.s. showing white fibrous tissue, stained for fibres and cells
- 3 Heart muscle, human, t.s. and l.s., branched fibres with central nuclei and intercalated discs
- 4 Lymph gland of pig, t.s. showing lymphoid tissue
- 5 Oesophagus of cat, t.s. with stratified squamous epithelium, muscular layers
- 6 Stomach of cat, t.s. through fundic region showing gastric glands
- 7 Large intestine (colon), t.s. special stained for the mucous cells
- 8 Pancreas of pig, sec. showing islets of Langerhans
- 9 Thyroid gland of pig, sec. showing glandular epithelium and colloid
- 10 Adrenal gland of cat, t.s. through cortex and medulla
- 11 Sperm of bull (spermatozoa), smear
- 12 Motor nerve cells, smear from spinal cord of cow showing w.m. of motor nerve cells and their processes
- 13 Cerebrum, human, t.s. of cortex showing pyramidal cells and fibrous region
- 14 Human skin from palm, v.s. showing cornified epidermis, germinative zone, sweat glands

Zoology

- 15 Distomum hepaticum (Fasciola), the beef liver fluke, w.m. and stained for general study of internal organs
- 16 Taenia spec., tapeworm, w.m. of mature proglottids
- 17 Culex pipiens, mosquito, head and piercing-sucking mouth parts of female, w.m.
- 18 Culex pipiens, mosquito, head and reduced mouth parts of male, w.m.
- 19 Cimex lectularius, bed bug, w.m. of adult specimen

Cytology and Genetics

- 20 Mitochondria, in thin sec. through liver or kidney, special staining technique
- 21 Golgi apparatus, t.s. through spinal ganglion, special staining technique
- 22 Chloroplasts, in leaf of Elodea or Mnium, special stained
- 23 Aleurone grains, in sec. of Ricinus endosperm
- 24 Storage, section of liver or kidney, vital stained with trypan-blue to demonstrate storage in epithelial cells
- 25 DNA in cell nuclei, demonstrated by Feulgen staining technique
- 26 DNA and RNA, fixed and stained with methyl green and pyronine to show DNA and RNA in different colours
- 27 Giant chromosomes from the salivary gland of Chironomus. Individual genes and puffs can be observed
- $28\mbox{ -}$ Human chromosomes, spread in the stage of metaphase, for counting chromosomes
- 29 Meiotic and mitotic stages in sec. of crayfish testis. Nuclear spindles are present

- 30 Maturation divisions in ova of Ascaris megalocephala, different stages iron-hematoxylin stained
- 31 Cleavage stages in ova of Ascaris megalocephala, iron- hematoxylin stained

Bacteria and Diseased Organs of Man

- 32 Escherichia coli, bacteria from colon, probably pathogenic, smear Gram stained
- 33 Eberthella typhi, causing typhoid fever, smear from culture, Gram stained
- 34 Tuberculous lung, t.s. of diseased human lung showing miliary tubercles in tissue
- 35 Coal dust lung (Anthracosis pulmonum), t.s. of human smoker's lung
- 36 Liver cirrhosis of man caused by alcohol abuse, t.s. showing degeneration of liver cells
- 37 Arteriosclerosis, t.s. of diseased human coronary artery showing sclerotic changes in the arterial wall
- 38 Metastatic carcinoma (cancer) of human liver, t.s.

Embryology

- 39 Sea-urchin development (Psammechinus miliaris), composite slide with two cell, four cell and eight cell stages
- 40 Sea-urchin development (Psammechinus miliaris), composite slide with morula, blastula and gastrula stages
- 41 Frog embryology (Rana spec.), sec. trough the blastula stage showing the blastocoel
- 42 Frog embryology (Rana spec.), sag. sec. through young larva in the tail bud stage, with primordia of organs

Ecology and Environment

- 43 Leaf (needle) of fir (Abies), two t.s. of leaves, healthy and damaged by environmental influences (acid rain)
- 44 Leaf of beech (Fagus), two t.s. of leaves, healthy and damaged by environmental influences (acid rain)
- 45 Bacteria from waste-water, smear with many typical forms

Botany

- 46 Nostoc, blue green alga, filamentous colonies within gelatinous sheaths
- 47 Desmids (Desmidiaceae), strewn slide of various species
- 48 Sphagnum, peat moss, w.m. of leaf showing chlorophyllbearing and hyaline cells
- 49 Triticum, wheat, t.s. of stem of a gramineous plant with central pith and circular arrangement of bundles
- 50 Salvia, sage, t.s. of a square stem with angular collenchyma

Cat #: JL-9ScM - \$ 605.15 (Ex.GST)