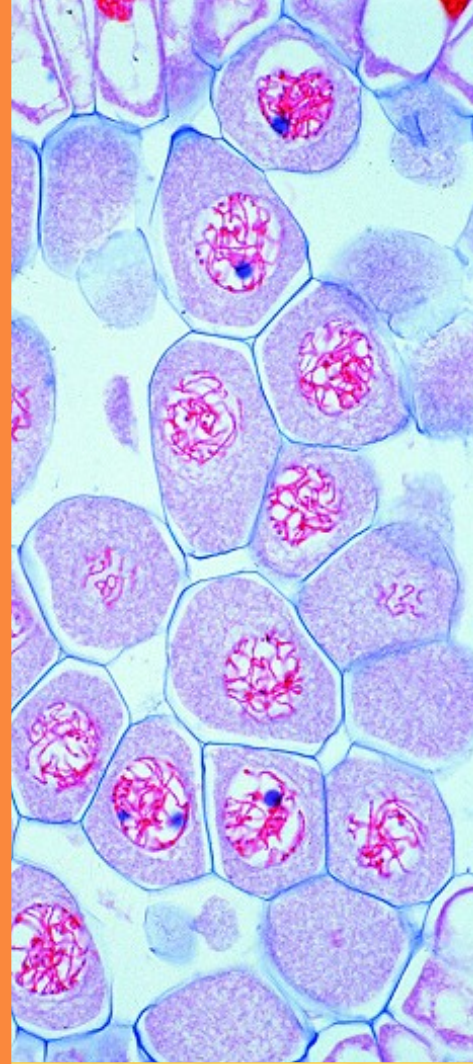


# 2011/12



## MEDICAL & SCIENCE MEDIA

### School Biology MICROSCOPE SLIDES

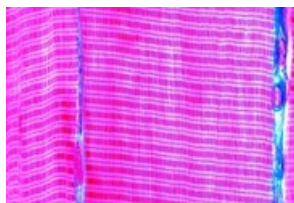
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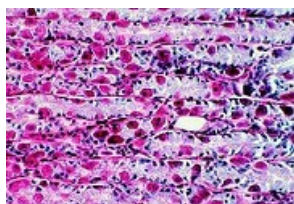
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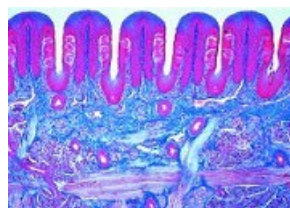
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[Cat #: JL-1ScM](#)**Cells, Tissues and Organs Slide Set****13 slides**

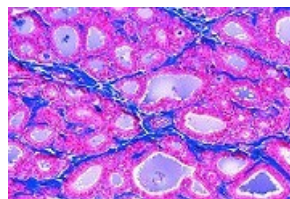
- 1 - Simple animal cells in sec. of salamander liver
- 2 - Mitosis, l.s. from Allium root tips showing all stages of mitosis
- 3 - Ranunculus, buttercup, t.s. of a typical dicot root
- 4 - Monocot and dicot stems, two t.s. for comparison
- 5 - Syringa, lilac, t.s. of a typical mesophytic dicot leaf
- 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-2ScM](#)**Metabolism Slide Set****15 slides**

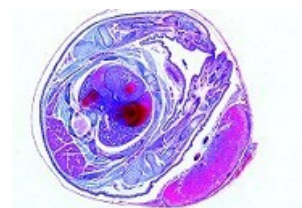
- 1 - Hydra, fresh water polyp, t.s. with ectoderm and endoderm
- 2 - Carabus, ground beetle, gizzard
- 3 - Salivary gland of cat, t.s.
- 4 - Oesophagus of cat, t.s.
- 5 - Fundic stomach of cat, t.s.
- 6 - Small intestine of cat, t.s. routine stained
- 7 - Small intestine of cat, t.s. blood vessels injected
- 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 trypan blue (storage)

[Cat #: JL-3ScM](#)**Organs of Sense Slide Set****16 slides**

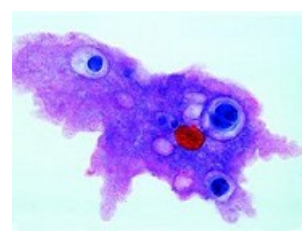
- 1 - Paramecium, silvered to show the neuroformative system
- 2 - Lumbricus, earthworm, t.s. with ventral nerve cord
- 3 - Insect brain, frontal l.s.
- 4 - Planaria, sec. through ocelli
- 5 - Haliotis, marine snail, pinhole camera eye l.s.
- 6 - Helix, snail, eye l.s. lens, cornea, pigmented and visual 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
- 16 - Cerebrum of cat, t.s. silvered to show the pyramid cells

[Cat #: JL-4ScM](#)**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-5ScM](#)**Genetics,****Reproduction and Embryology Slide Set****19 slides**

- 1 - DNA and RNA stained in different colours, l.s. onion root tips
- 2 - Liliium, young anthers, meiosis, early prophase stage, t.s.
- 3 - Liliium, young anthers, meiosis, diplotene stage, t.s.
- 4 - Liliium, 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-6ScM](#)**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**

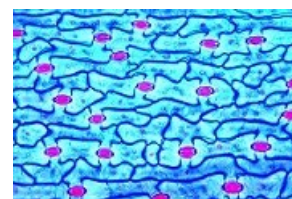
- 8 - Squamous epithelium, isolated cells from human mouth
- 9 - Striated muscle, l.s. showing nuclei and striations
- 10 - Compact bone, t.s. special stained for cells, lamellae, and canaliculi
- 11 - Human scalp, vertical section showing l.s. of hair follicles, sebaceous glands, epidermis
- 12 - Human 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 - Liliium, lily, anthers with pollen grains and pollen sacs t.s.
- 23 - Liliium, 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-7ScM](#)**General Biology, Supplementary Slide Set****50 slides**

- 1 - Paramecium, 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.

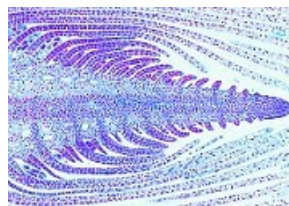
- 10 - *Apis mellifica*, honey bee, mouth parts of worker w.m.  
 11 - *Apis mellifica*, hind leg of worker with pollen basket w.m.  
 12 - *Periplaneta*, cockroach, chewing mouth parts w.m.  
 13 - Trachea from insect w.m.  
 14 - Spiracle from insect w.m.  
 15 - *Apis mellifica*, sting and poison 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*, bracken 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 l.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-8ScM

### 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.

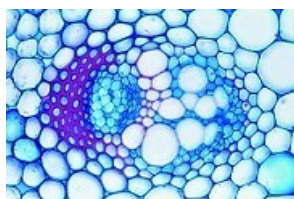
- 30 - Cladophora, green alga, branched filaments with multinucleate cells
- 31 - Claviceps purpurea, ergot, sclerotium t.s.
- 32 - Puccinia graminis, wheat rust, uredinia on wheat leaf t.s.
- 33 - Puccinia graminis, aecidia and pycnidia on barberry leaf t.s.
- 34 - Saccharomyces, yeast, budding cells 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-9ScM

### 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 - 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 (Anthraxosis 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. through 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**

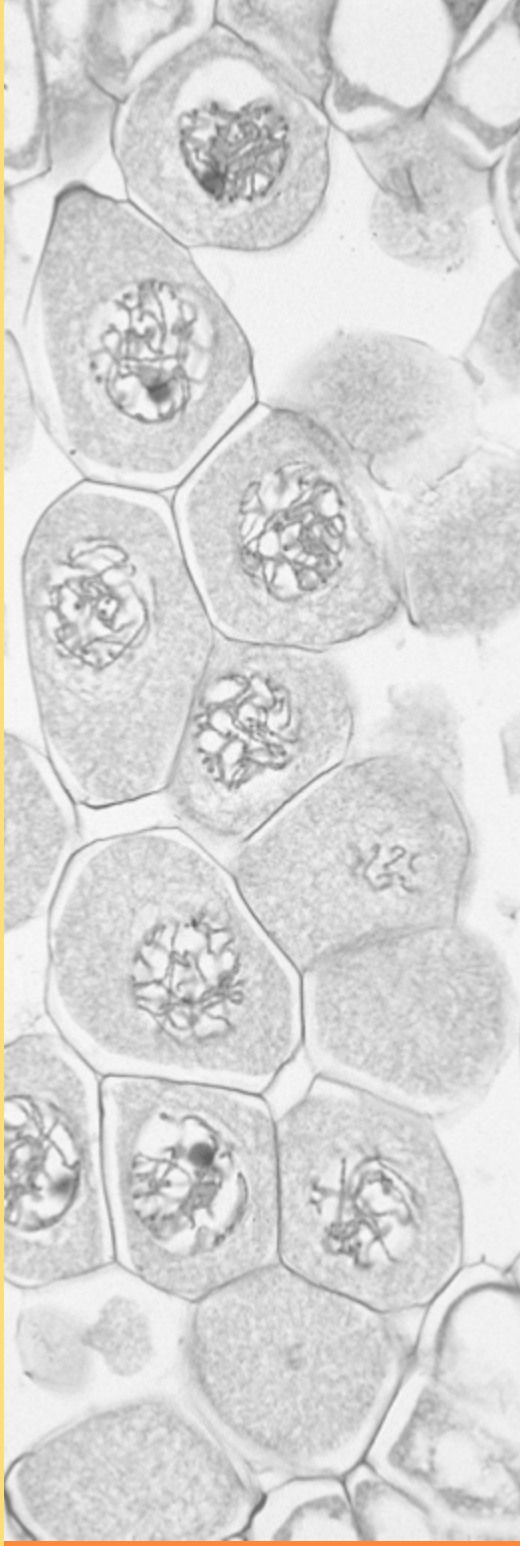
46 - Nostoc, blue green alga, filamentous colonies within gelatinous sheaths

47 - Desmids (*Desmidiaceae*), strewn slide of various species

48 - Sphagnum, peat moss, w.m. of leaf showing chlorophyll-bearing 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 collenchymas



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