

2011/12



**MEDICAL & SCIENCE MEDIA**

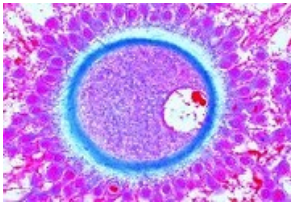
**Cytology & Genetics  
MICROSCOPE SLIDES**

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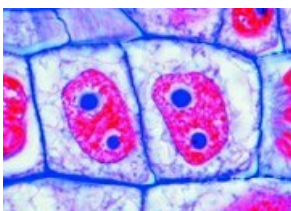
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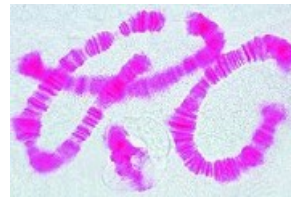
**Cat #: JL-1CEG****The Animal Cell Slide Set****12 slides**

- 1 - Squamous epithelium, isolated cells from human mouth. Nuclei and cytoplasm are shown
- 2 - Striated muscle l.s. showing nuclei, striations, myofibrils
- 3 - Compact bone and hyaline cartilage t.s., two sections on one slide for comparison
- 4 - Nerve fibres isolated, fixed and stained by osmic acid to show myeline sheaths and Ranvier's nodes
- 5 - Liver of Salamandra t.s., showing simple animal cells with cellular membranes, nuclei, and cytoplasm
- 6 - Kidney of mouse, t.s. vital stained with trypanblue to demonstrate the storage of epithelial cells
- 7 - Ovary of cat, t.s. showing primary, secondary, and Graafian follicles
- 8 - Testis of frog, t.s. showing spermatogenesis. Spermatogonia, spermatocytes, spermatids, and mature spermatozoa
- 9 - Salamandra larva, t.s. of skin and other organs selected to show cell division (mitosis) in various stages
- 10 - Uteri of Ascaris megaloccephala, t.s. iron hematoxyline stained to show details of meiosis with chromosomes and nuclear spindles
- 11 - Salivary gland of Chironomus larva. Giant chromosomes showing large chromomeres. Stained for DNA after Feulgen
- 12 - Ova from Psammechinus (sea urchin). Unfertilized ova, fertilized ova, early cleavage stages

**Cat #: JL-2CEG****The Plant Cell Slide Set****12 slides**

- 1 - Epidermis of Allium cepa (onion), w.m. showing simple plant cells with cell walls, nuclei and cytoplasm
- 2 - Root tips of Allium cepa l.s. showing cell division (mitosis) in all stages, clearly stained
- 3 - Pollen mother cells of Lilium. Prophase of first maturation division (meiosis) showing chromosomes as fine threads
- 4 - Pollen mother cells of Lilium. Metaphase and anaphase of first maturation division (meiosis) showing nuclear spindles and contracted chromosomes
- 5 - Wood of Tilia macerated and w.m. showing wood cells, vessels and fibres

- 6 - Fruit of Pyrus (pear) t.s. showing stone cells (sclerenchyma cells)
- 7 - Tuber of Solanum (potato) t.s. shows cork and starch grains
- 8 - Cucurbita pepo (pumpkin) l.s. of stem showing vascular bundles with sieve tubes, spiral and annular vessels, sclerenchyma fibres
- 9 - Ricinus endosperm t.s. showing aleurone grains
- 10 - Anthers of Lilium (lily), t.s. showing pollen sacs and pollen grains
- 11 - Ovary of Lilium (lily), t.s. showing arrangement of ovules and embryosac
- 12 - Spirogyra showing conjugation stages and formation of zygotes

**Cat #: JL-3CEG****Genetics Slide Set****25 slides**

- 1 - Allium, root tips, l.s. showing all stages of mitosis
- 2 - Eschscholtzia, stigma, w.m. showing penetrating pollen
- 3 - Lilium, microspore mother cells, first division, leptotene – zygotene stage
- 4 - Lilium, microspore mother cells, first division, diakinesis – telophase
- 5 - Lilium, microspore mother cells, second division, interkinesis – four cells stage
- 6 - Polytrichum, moss, archegonium, w.m.
- 7 - Polytrichum, moss, archegonium, l.s.
- 8 - Spirogyra scalariform conjugation showing zygotes following conjugation
- 9 - Sea urchin, developing of eggs, w.m. of most stages up to pluteus in the same slide
- 10 - Giant chromosomes from salivary gland of Chironomus, squash preparation special stained for chromomeres
- 11 - Giant chromosomes from salivary gland of Chironomus, section
- 12 - Ascaris, fertilisation of eggs, sec.
- 13 - Ascaris, male and female pronuclei, sec.
- 14 - Ascaris, meiosis and early cleavage, sec.
- 15 - Testis of crayfish, sec. showing meiosis and spermatogenesis
- 16 - Testis of mouse, t.s. showing spermatogenesis
- 17 - Ovary of rabbit, l.s. showing follicles in various stages of development
- 18 - Embryology of fish, l.s. of embryo showing animal mitosis
- 19 - Chromosomes, human, female, of culture of peripheral blood
- 20 - Chromosomes, human, male, of culture of peripheral blood
- 21 - Drosophila genetics, adult wild type, w.m.
- 22 - Drosophila genetics, "barr eye" mutant, w.m.
- 23 - Drosophila genetics, "brown eye" mutant, w.m.
- 24 - Drosophila genetics, "vestigial wing" mutant, w.m.
- 25 - Drosophila genetics, "white eye" mutant, w.m.

[Cat #: JL-9CEG](#)**Development of the Microspore Mother Cells of Lilium candidum Slide Set****12 slides**

- 1 - Leptotene, the chromosomes appear as fine threads
- 2 - Zygotene, the homologous chromosomes associate in pairs. The chromosomes appear as strings of beads
- 3 - Pachytene, complete pairing of the chromosomes
- 4 - Diplotene, shortening of the chromosomes by contraction. Interchange of chromatin between the maternal and paternal chromosomes (crossing over)
- 5 - Diakinesis, further contraction of the bivalents, the nuclear membrane disappears
- 6 - Metaphase and anaphase of the first (heterotypic) division, showing spindle threads. Two haploid sets of chromosomes are separated
- 7 - Telophase of the first and prophase of the second division
- 8 - Metaphase and anaphase of the second (homeotypic) division, two mitotic figures are present
- 9 - Pollen tetrads, four nuclei are formed after the second division, each bearing the haploid number of chromosomes. Formation of cell walls
- 10 - Uninucleate microspores after separation of daughter cells
- 11 - Mature two-nucleate pollen grains at the time of shedding. Each pollen grain possesses a tube cell and a generative cell
- 12 - Mature pollen grains, w.m. to show structure of the cell walls

[Cat #: JL-10CEG](#)**Animal, Human and Plant Cytology Slide Set****25 slides**

1. Simple animal cells in sec. of salamander liver showing nuclei, cell membranes and cytoplasm. For general study of the animal cell
2. Mitotic stages in smear of red bone marrow of mammal \*
3. Meiotic (maturation) stages in testis of mouse, sec. iron hematoxyline stained after Heidenhain
4. Meiotic (maturation) stages in sec. through testis of salamander, selected material showing large structures \*
5. Barr bodies (human sex chromatin) in smear from female squamous epithelium \*
6. Mitochondria in thin sec. of kidney or liver, specially prepared and stained
7. Golgi apparatus in sec. of spinal ganglion or other organ \*
8. Pigment cells in skin
9. Storage of glycogen in liver cells, sec. stained with carmine after Best or PAS reaction
10. Storage of fat in cells of costal cartilage, sec.

stained with Sudan

11. Secretion of fat in mammary gland, section stained with Osmic acid
12. Phagocytosis in Kupffer's star cells of the liver, sec. of mammalian liver injected with trypan blue
13. Giant chromosomes in smear of the salivary gland of Chironomus larva, carefully fixed and stained
14. Ascaris megalcephala embryology. Sec. of uteri showing entrance and modification of sperm in ova
15. Ascaris megalcephala embryology. Sec. of uteri showing maturation stages (meiosis). Polar bodies can be seen.
16. Ascaris megalcephala embryology. Sec. of uteri showing ova with male and female pronuclei
17. Ascaris megalcephala embryology. Sec. of uteri showing early cleavage stages (mitosis)
18. Ascaris megalcephala embryology. Sec. of uteri showing later cleavage stages (mitosis)
19. Mitosis, l.s. from Allium root tips showing all stages of plant mitosis carefully stained with iron-hematoxyline after Heidenhain
20. DNA and RNA, thin l.s. from Allium root tips, specially fixed and stained with methylgreen and pyronine to show DNA and RNA in different colours \*
21. Mitochondria, thin l.s. of Allium root tips specially fixed and stained to show the mitochondria clearly
22. Meiosis, t.s. of Lilium anthers showing different stages of meiotic divisions
23. Aleurone grains, sec. of Ricinus endosperm
24. Inulin crystals, t.s. of tuber of Dahlia
25. Chloroplasts, w.m. of leaf of Elodea or Spinacea showing detail of large chloroplasts

[Cat #: JL-11CEG](#)**Mitosis and Meiosis 1 Slide Set****6 slides**

1. Mitosis, l.s. from Allium root tips showing all stages of plant mitosis carefully stained with iron-hematoxyline after Heidenhain
2. Mitotic stages in sec. through red bone marrow of mammal
3. Meiotic and mitotic stages in sec. of Salamandra testis. Many meiotic and mitotic stages can be observed
4. Lilium, anther t.s., microspore mother cells showing telophase of first and prophase of second (homeotypic) division
5. Giant chromosomes, smear from salivary gland of Chironomus, carefully fixed and stained \*
6. Ascaris megalcephala embryology. Sec. of uteri showing maturation stages (meiosis). Polar bodies can be seen.

[Cat #: JL-12CEG](#)**Mitosis and Meiosis 2 Slide Set****5 slides**

1. Mitosis, l.s. from Vicia faba (bean) root tips showing all mitotic stages. Iron hematoxyline stained
2. Lilium, anther t.s., microspore mother cells showing telophase of first and prophase of second (homeotypic) division
3. Mitotic stages in sec. of whitefish blastula showing spindles \*

4. Spermatogenesis with meiotic and mitotic stages, sec. of testis of Carausius, grasshopper, carefully stained
5. Paramecium, in fission, nuclei stained \*



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