

Learning Objectives

- The objectives of this topic potes. Outline in Netions of containelles in plant and animal cells.
 - Know Fluid Mosaic Model of Plasma Membrane.
 - Understand the movement of substances into and out of cells.
 - Understand replication and division of nuclei and cells MITOSIS.



Fig. 1

1 Nucleus 1 Nucleus Notesale Image From 6 of 96 Image From 6 of 96 Image Nucleus

"The Control Center"

Function

 Holds the DNA that contains instructions needed to produce proteins that control all cell activities.









4 Golgi Complex Notesale.CO.

Breview the Golgo paratus: Receiving, Processing, and **Shipping of Proteins**

Plasma membrane

Golgi apparatus

"Receiving" side of Golgi apparatus

Transport vesicle from ER

> New vesicle forming Transport vesicle from the

Golgi

"Shipping" side of Golgi apparatus

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Eukaryotic Cell Organelles and Function 5 Lysosomes Votesale.co.

Lysosomes [Click on the button

arn disurcteps in lysomal formation.]

STEP 2 DIETEP

STEP 3

Hydrolases digest the contents.









7 Vacuoles (only in Riate Cell)

Vacuoles Storage Apartments of Cells

- Cells contain small vacuoles ("containers"), used for storing material such as glycogen and lipids.
- Plant cells have an enormous vacuole, filling most of the cell
 - Surrounded by membrane called the tonoplast.
 - Stores water soluble materials such as anthocyanin pigments, opium, garlic flavor, proteins, tannins, etc.
- Some protozoa (i.e., ameoba) have a contractile vacuole.
 - When the cell takes in too much water (osmosis) the vacuole lining contracts, squirting out excess water



Components of All Cell

Cytoskeleton: Cilia olagella, and centrioles

es Orcaleze the Mitotic Spindle for Cell Division

- Centrioles are a pair of small structures seen near the nucleus.
- Divide before cell division.
- Organize the mitotic spindle (made of tubulin) used in cell division.
- Contain a set of 9 triplet tubules.



Cell Division

Mitosis: Stages of Tot Egg Cycle for 69 of Stage 5: Gap (growth) mitotic dormancy.

- Growth to adult size and differentiation.
- Nerve cells, muscle cells, and some other cells stop dividing.





Cell Division

- Division Mitosis: Stages of Notesis Prophase 12 01 Promosome Party It become visible, thicken and shorten.
 - Two chromatids joined by a centromere.

Animal Cell Chromosome. consisiting of two Pair of Centrioles sister chromatids Packages DNA into chromosomes. **Plant Cell** Centromere Packages DNA into Aster chromosomes. PROPHASE







Cell Division

- Preview from Notesale.co.uk Preview from 83 of 96 Page Meior: Meiosis is the type of cell division by which germ cells (eggs and sperm) are produced.
 - One parent cell produces four daughter cells.
 - Daughter cells have half the number of chromosomes found in the original parent cell.
 - 2 sets of cell division involved.



Key Terms		Lo co.uk
	Term	Notesale. Definition
	Cytoskei@N fr	A network of protein fibers supporting cell shape and another of the second states of the sec
	Passive Transport	The movement of a substance across the membrane with no energy investment
	Diffusion	Spontaneous process by which molecules move from a region where they are highly concentrated to a region in which their concentration is lower.
	Active Transport	Energy is expended by the cell to move a molecule across its membrane against its concentration gradient. (moving it from low concentration to high).

Key Terms	Lo co.uk
Term	Notesale. Definition
Proeytosis Pa	Moves substances <i>out</i> of the cell Substances to be released are enclosed within a membrane sac which migrates to the plasma membrane, fuses, and then ruptures releasing the contents of the sac.
Endocytosis	The cellular uptake of macromolecules and particulate substances by localised regions of the plasma membrane that surround the substance and pinch off to form an intracellular vesicle.
Mitosis	the process of cell division which results in the production of two daughter cells from a single parent cell.
Meiosis	The type of cell division by which germ cells (eggs and sperm) are produced.

Appendix

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Figure	Notes Source		
preview fr	http://middetownhighschool.wikispaces.com/file/vie www.ceus1.jpg/173544515/nucleus1.jpg		
Fig.2	http://www.dynamicscience.com.au/tester/solutions/ biology/cell/nucleus.gif		
Fig.3	http://homepage.smc.edu/hgp/images/cell-to- DNA.jpeg		
Fig.4	http://library.thinkquest.org/06aug/01942/plcells/thin kquest/ribosomes.jpg		
Fig.5	http://endoplasmicreticulum.net/Endoplasmic- Reticulum.jpg		
Fig.6	http://library.thinkquest.org/06aug/01942/plcells/thin kquest/ER.jpg		