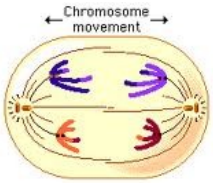
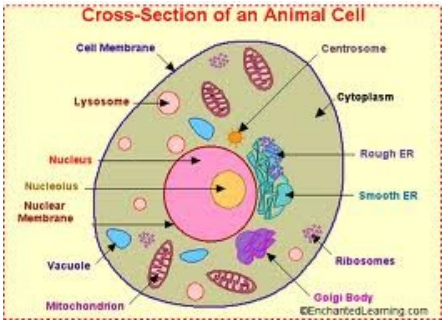
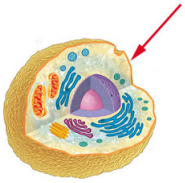
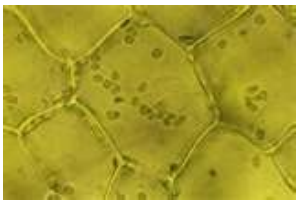
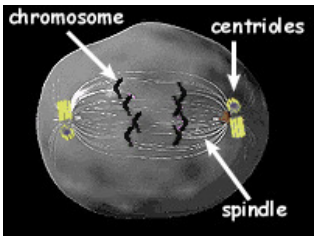
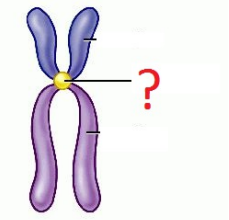
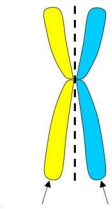
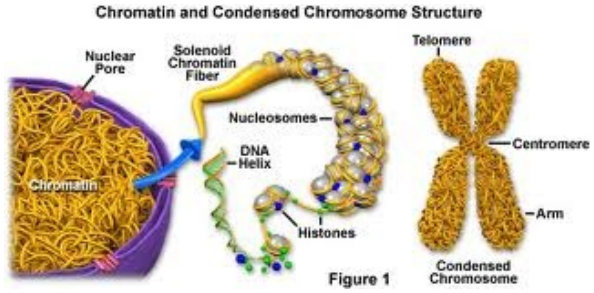
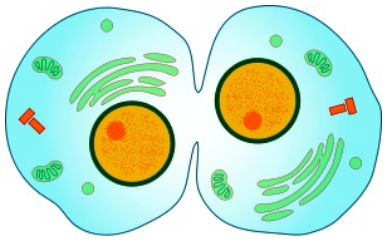
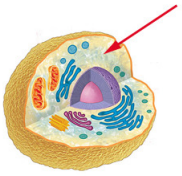
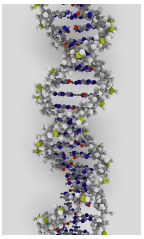
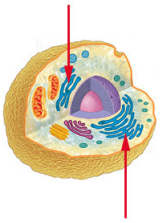
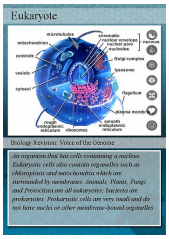
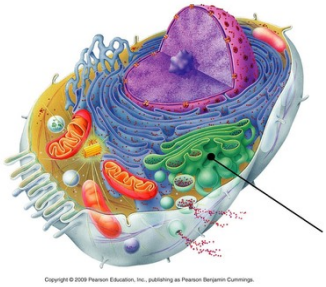
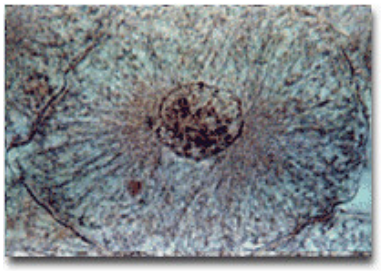
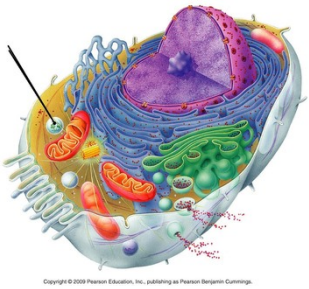
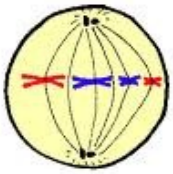
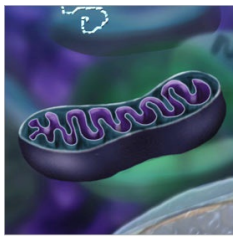
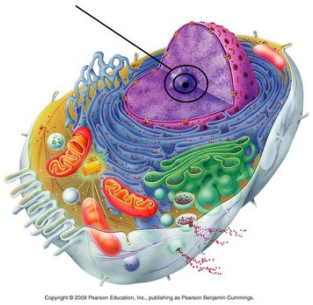
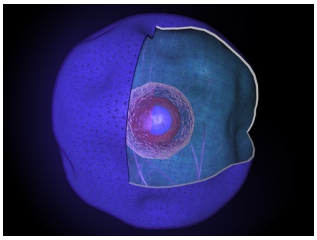
Anaphase	 Third phase of mitosis in which the chromosomes separate and move to opposite ends of the cell.
Animal Cell	
Antony Van Leevwenhoek	1643- Dutch microscope maker and merchant, observed and described LIVING microscopic (and unicellular) organisms from a pond
cell	Basic unit of life
Cell Cycle	An ordered sequence of events in the life of a cell. Phases cells go through: Interphase, Prophase, Metaphase, Anaphase, Telophase, Cytokinesis.

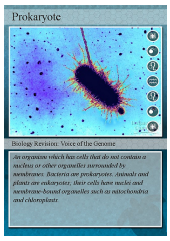
cell membrane	 A cell structure that controls which substances can enter or leave the cell. found in plants and animals
cell theory	1. cells are the smallest unit of life 2. all organisms are made up of one or more cells 3. all new cell come from preexisting cells
cell wall	 protection and support for plant
centriole	 Aid in cellular division. An organelle that helps cells divide, or make copies of themselves.
Centromere	 The area where sister chromatids are held together.

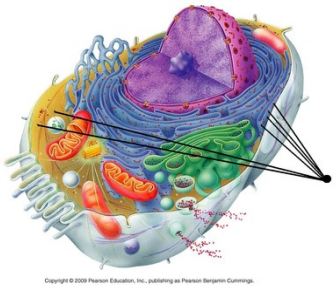
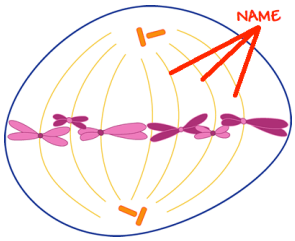
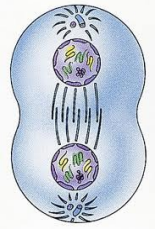
chloroplast	 captures energy from sunlight and uses it to makes food for plant cells, photosynthesis
Chromatid	 One of a pair of identical DNA molecules after DNA makes a copy of itself (replication). Chromatids are joined at the centromere.
chromosomes	 The threadlike structures that are made up of proteins and DNA found in the nucleus of animal and plant cells.
Cytokinesis	 Final stage of the cell cycle: the division of the cytoplasm to form two separate daughter cells immediately after mitosis.
cytoplasm	 jelly like, cushion organelles, contain dissolved material

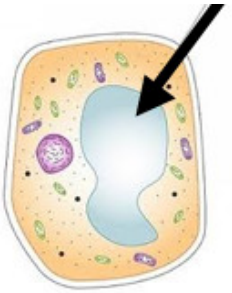
Daughter cells	The two new, replicated cells that are produced from the original parent cell after cytokinesis occurs.
DNA	 Deoxyribonucleic acid; the molecule that carries genetic information in the chromosomes of the nucleus that is copied and passed on to offspring.
endoplasmic reticulum	 A system of membranes that is found in a cell's cytoplasm and that assists in the production, processing, and transport of proteins and in the production of lipids
eukaryotic	 Cell with a nucleus (surrounded by its own membrane) and other internal organelles.
golgi body	 A structure in a cell that receives proteins and other newly formed materials from the endoplasmic reticulum, packages them, and

Hans and Zacharias Janssen	1595-produced the first compound microscope by combining two convex lenses within a tube
Interphase	 Stage of the cell cycle when a cell grows, replicates DNA, and prepares to go through cell division (Mitosis)
lysosome	 An organelle containing digestive enzymes
Matthais Schleiden	1838- German botanist, **one of the three fathers of cell theory**, said plants are composed of cells.
Metaphase	 Second phase of mitosis in which the chromosomes line up across the center of the cell.

mitochondria	 produces the energy a cell needs to carry out its functions
Mitosis	 A stage of the cell cycle where cell division results in two daughter cells each having the same number and kind of chromosomes as the parent nucleus, typical of ordinary tissue growth.
Multicellular Organisms	_____ _____ need to be flat in shape or have specialised exchange and transport systems to ensure all cells receive the materials they need.
nucleolus	 A specialized structure in the nucleus, formed from various chromosomes and active in the synthesis of ribosomes
nucleus	 controls cell activity

organelles	*specialize structures found inside cells *each carries out a specific life function
organism	any living thing (i.e.: plants, animals, fungus, bacteria, protist)
plasma membrane	A selectively-permeable phospholipid bilayer forming the boundary of the cells
prokaryotic	 An organism whose cells do not have an enclosed nucleus, such as bacteria.
Prophase	 First phase of mitosis in which duplicated chromosomes condense and spindle fibers begin to form.

ribosome	 protein synthesis (making proteins)
Robert Hooke	mid 1600's first person to observe cells by observing cork under a microscope
Rudolph Virchow	1855- German physician and professor, **one of the three fathers of cell theory**, stole the idea that animals are made up of cells.
Spindle fibers	 Fibers that attach to chromosomes at the centromere and move the separated chromatids by pulling them to the poles of the dividing cell.
Telophase	 The fourth phase of mitosis in which the chromosomes begin to stretch out and lose their rod-like appearance and a new nuclear membrane forms. In this stage, the nuclear membrane is restored around the nuclei at the poles and the cytoplasm begins to pinch inwardly. The two new cells begin to seal off.

Theodor Schwann	1839- German zoologist, **one of the three fathers of cell theory**, created the word metabolism, said animals are composed of cells.
vacuole	 stores food, water, and waste *(bigger in plants to store water)