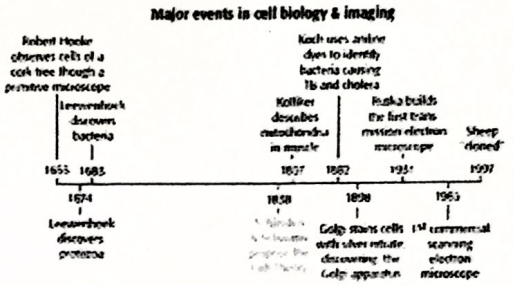
ANSWER KEY

Anton Van Leewenhoek

1673 Dutch naturalist who created a very powerful (for the time period) single lens microscope, He observed pond water. In pond scum he discovered small animals he called animalcules,or little animals (protists),and also discovered bacteria while examining scraping of crud from his teeth.

The Cell Theory



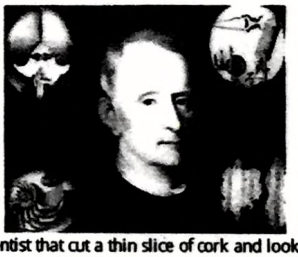
Three parts - 1. All organisms are made up of one or more cells. 2 Cells are the basic unit of life. 3. All cells arise from pre-existing cells

3, ALL CELLS ARISE FROM PRE-EXISTING CELLS

Matthias Schleiden

1838 German botanist who determined plants are composed of cells.

Robert Hooke



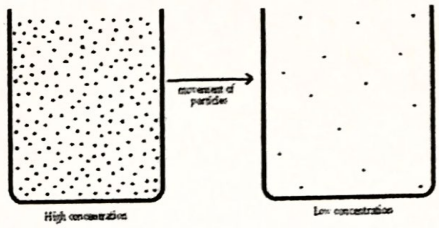
1665 -English scientist that cut a thin slice of cork and looked at it under his microscope. To him, the cork seemed to be made up of empty little boxes, which he named cells.

Rudolph Virchow

1858 - A doctor who stated that all living cells come from other living cells (part 3 of the cell theory)

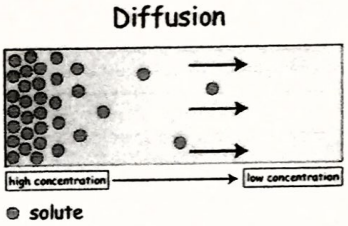
ANSWER KEY

concentration



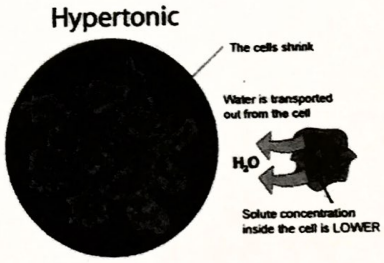
the amount of particles in an area

diffusion



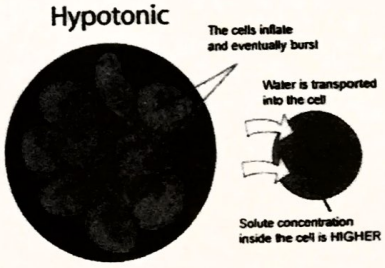
the movement of particles from an area of high concentration to an area of low concentration

hypertonic



a solution that contains a higher concentration of solutes (remember when someone is hyper, they seem to have MORE energy)

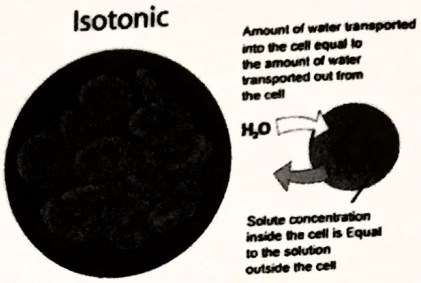
hypotonic



a solution that contains a lower concentration of solutes (remember hypo rhymes with low)

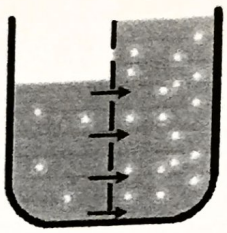
ANSWER KEY

isotonic



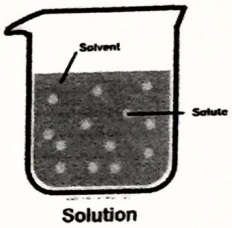
a solution that contains an equal concentration of solute and solvent

osmosis



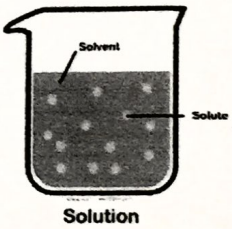
the diffusion of water from high concentration to low concentration

solute



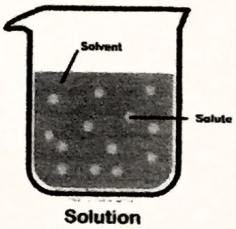
the substance that is being dissolved (salt/sugar)

solution



a mixture of solute and solvent

solvent



the liquid that is doing the dissolving (usually a liquid, but can sometimes be a solid or gas)

ANSWER KEY

COMPARING PHOTOSYNTHESIS AND CELLULAR RESPIRATION

ATTRIBUTE	PHOTOSYNTHESIS	CELLULAR RESPRIRATION
FUNCTION	TO PROVIDE FOOD	TO BREAK DOWN FOOD FOR ENERGY
~~PRODUCTS~~ REACTANTS	$6CO_2 + 6H_2O$	$6O_2 + C_6H_{12}O_6$
~~REACTANTS~~ PRODUCTS	$6O_2 + C_6H_{12}O_6$	$6CO_2 + 6H_2O$ + ENERGY
LOCATION	CHLOROPLAST	MITOCHONDRIA
EQUATION	$6CO_2 + 6H_2O \xrightarrow[\text{light}]{} C_6H_{12}O_6 + 6O_2$	$6O_2 + C_6H_{12}O_6 \rightarrow 6CO_2 + 6H_2O$ + ENERGY
USED BY	Autotrophs (Plants, some protist, & Bacteria)	Autotrophs & Heterotrophs

ANSWER KEY

EXO	OUTSIDE OF - EXAMPLE: EXOCYTOSIS
HETERO	DIFFERENT - EXAMPLE: HETEROZYGOUS
HOMO	SAME -EXAMPLE: HOMOZYGOUS
HYPER	EXCESS, LOTS OF - EXAMPLE: HYPERTONIC
HYPO	LOW -EXAMPLE: HYPOTONIC

ANSWER KEY
ANSWER KEY

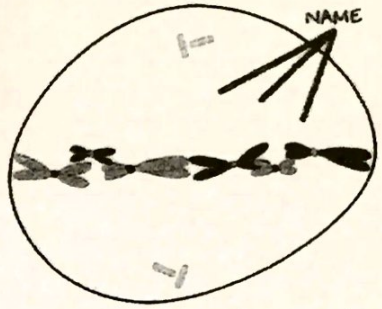
ASE	ENZYME -EXAMPLE: AMYLASE
BI	TWO -EXAMPLE: BIPEDAL
CO	TOGETHER - EXAMPLE: CODOMINANCE
DI	TWO -EXAMPLE: DISACCHARIDE
ENDO	INSIDE OF - EXAMPLE: ENDOCYTOSIS

ANSWER KEY

MACRO	LARGE -EXAMPLE: MACROMOLECULE
MONO	ONE -EXAMPLE: MONOMER
OSE	SUGAR -EXAMPLE: CELLULOSE
POLY	MANY -EXAMPLE: POLYSACCHRIDE
SYN	TO PUT TOGETHER, ASSEMBLE -EXAMPLE: SYNTHESIS

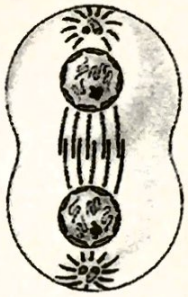
ANSWER KEY

Spindle Fibers



A football shaped structure formed of microtubules and associated protein

Telophase



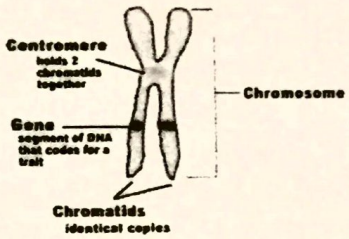
The fourth and final stage of mitosis, in which two identical nuclei are forming, the cell begins to pinch inward and the spindle fibers disappear.

What are the four stages of mitosis?

Prophase
Metaphase
Anaphase
Telophase

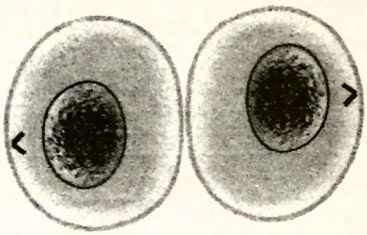
ANSWER KEY

Chromosomes



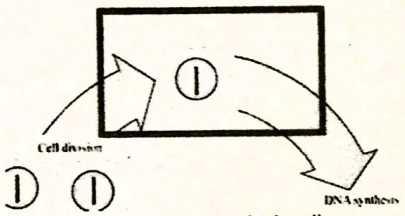
A cellular structure carrying genetic material, found in the nucleus of eukaryotic cells.

Cytokinesis



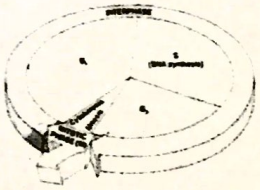
Division of cytoplasm and its contents

G1 Phase



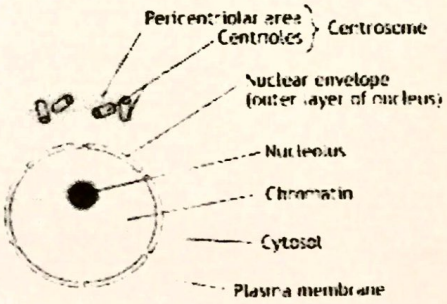
The first growth stage of interphase in which cell grows and performs its normal functions. It is also the time in which organelles get copied.

G2 Phase



The second growth phase of the cell cycle. The cell grows more and stores energy in preparation for cell division (mitosis)

Interphase



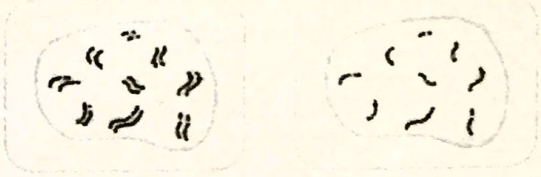
A period during which the cell grows, copies its organelles and DNA, and stores energy in preparation for division

ANSWER KEY

Anaphase

The third phase of mitosis , the chromatids of each chromosome separate/ split at the centromere and move APART in opposite

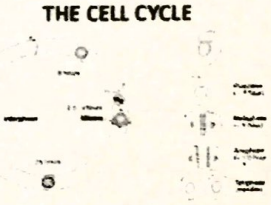
Body Cells



Somatic Cell Gamete Cell

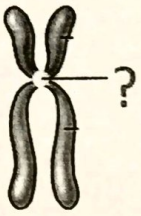
Any cells in the body other than reproductive cells

Cell Cycle



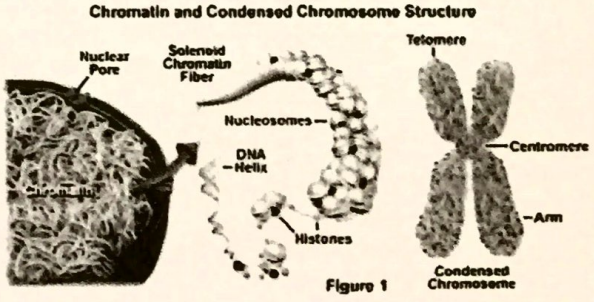
An ordered sequence of events in the life of a cell

Centromere



Area where the two copies of a chromosome (sister chromatids) are attached.

Chromatin



Combination of DNA and protein in nucleus.