New Terms - Reproduction of Cells (Introduction and Mitosis)

reproduction - distinguishing characteristic of living things; the mechanism by which

living things give rise to others of the same kind. Weve talked about two

types already, asexual reproduction and sexual reproduction.

binary fission - also known as prokaryotic fission, a form of asexual reproduction used

by bacterial cells.

mitosis - process of dividing the nuclear material. The phase of the cell

cycle

where the cell divides into two daughter cells. Occurs in somatic cells.

A type of asexual reproduction.

meiosis - process of dividing nuclear material in germ cells - for sexual

reproduction.

somatic cells - body cells that grow by mitosis and cytoplasmic division in multicellular

organisms.

germ cells - special cells set aside for sexual reproduction where meiosis occurs

chromosome - bound DNA forming the genetic material

chromatid - one of a pair of duplicated chromosomes

sister chromatids - a pair of attached chromatids

centromere - region where sister chromatids are attached; contains attachment

site

for microtubules that move the chromosome during division.

diploid cell - any cell having two of each type of chromosome - usually denoted

by

the number 2n.

chromosome number - tells how many of each type of chromosome is present in a cell. Is

usually denoted by the letter n (which stands for the chromosome

number).

parent cell - cell that produces daughter cells through mitosis

cell cycle - the life cycle of a cell including interphase and mitosis (prophase,

metaphase, anaphase, telophase, cytoplasmic division).

interphase - usually the longest part of the cell cycle, is the phase when the cell

spends most of its time performing the functions of the cell and

growing. It has three different phases.

G1 phase - period immediately following mitosis for cell growth before DNA

is

duplicated

S phase - period when DNA (chromosomes) is duplicated

G2 phase - period after DNA is duplicated, cell prepares for mitosis prophase - 1st stage in mitosis when chromosomes become visible as

threadlike

forms

metaphase - chromosomes line up at the equator

anaphase - attachement of sister chromatids breaks and begin migration to

opposite

poles

telophase - cytokinesis -chromosomes decondense, new membranes form nuclear envelope cytokinesis
cytoplasm divides and two separate cells are formed, often called cytoplasmic division.

daughter cells - the product of mitosis

spindle - network of fibers or microtubules that attach to the chromosomes

before they are pulled to the poles of the cell.

centrioles - organelles that migrate to the poles of the cell and produce the

aster

aster - a series of radiating microtubules that function from the

poles of the cell

cleavage furrow - the process by which the cell membrane begins to pinch the cytoplasm

and two daughter cells begin to form.

chromatin - mass of DNA material and its related protein in the unbound state

in the

nucleus, chromosomes in their unbound form.

histone - globular protein which DNA winds around to form chromatin

nucleosomes - he units formed by the DNA and the globular proteins **nucleolus -** site within the nucleus for production of ribsomes

nuclear envelope - membrane that surrounds the nucleus and functions in the

communication of the cell nucleus with the cytoplasm.

equatorial plate - center region of the cell dividing the cell, similar to the earths equator

poles - opposite ends of a cell