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 2*n*.

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 - 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