

anaphase

chromosome pairs  
separate and move  
toward opposite poles

apoptosis

a programmed cell death. it occurs when internal or external signals activate genes that help produce self destructive enzyme.

asexual  
reproduction

the creation of offspring from a single parent and does not involve the joining of gametes

autosomes

chromosomes 1-22  
contain genes for  
characteristics not related  
to sex of an organism

benign tumor

the cancer cells remain clustered together. It is relatively harmless and probably be cured by removing the growth.

binary fission

a form of asexual reproduction in single-celled organisms by which one cell divides into two cells of the same size

cancer

disease characterized by uncontrolled cell division occurs when regulation of the cell cycle breaks down.

carcinogens

substances known to produce or promote the development of cancer

cell cycle

series of events that cells go through as they grow and divide.

cell differentiation

processes by which unspecialized cells develop into their mature form and function.

centromere

a region in the center of a chromosome that holds together the two chromatids. "the waist"

chromatid

one of two identical strands into which a chromosome splits during mitosis  
one half of a duplicated chromosome

chromatin

the loose combination of DNA and proteins  
, long strands of DNA found in the eukaryotic cell nucleus; condense to form chromosomes

chromosome

long continuous thread of DNA that consists of numerous genes along with regular information

cytokinesis

The final stage of the cell cycle  
-divides cytoplasm between 2 daughter cells each with genetically identical nucleus. The cells then enter interphase and begin the cycle all over.

diploid

an organism or cell having two sets of chromosomes or twice the haploid number  
has two copies of each chromosome one from mom, one from dad

egg cell

female gamete, , a cell that can join with a sperm cell to form a new individual

fertilization

fusion of egg and sperm, process in sexual reproduction in which male and female reproductive cells join to form a new cell

gametes

sex cells; eggs in female

gametogenesis

the production of gametes

Gap 1

cell carries out  
normal functions

Gap 2

cells carries out normal  
functions, must be in  
good condition to go  
through mitosis

growth factors

broad group of proteins  
that stimulate proteins  
bind to receptors that  
trigger cell growth

haploid

have only one copy  
of each  
chromosome

histones

a group of proteins;  
DNA wraps around

homologous  
chromosomes

chromosomes that have the same sequence of genes, that have the same structure, and that pair during meiosis.

malignant tumor

the cancer cells can metastasize or break away and be carried by the blood stream.

meiosis

form of nuclear division that divides a diploid cell into a haploid cell. essential for sexual reproduction

metaphase

chromosomes line up across the cell's equator or center of the cell

metastasize

in a malignant tumor, break away and spread from the tumor

mitosis

asexual reproduction in eukaryotic cells, a process of cell division that forms two new nuclei, each of which has the same number of chromosomes

organ system

Organs that carry out similar functions are further grouped

organs

group of tissues that work together to make a function.

polar bodies

cells with little more than DNA THAT ARE EVENTUALLY BROKEN DOWN., the other three, unusable products of meiosis

prophase

chromosomes become visible and the centrioles separate and take up positions on the opposite sides of the nucleus

sex chromosomes

23 chromosome. directly control the development of sexual characteristics , one of the 23 pairs of chromosomes in the human, contains genes that will determine the sex of the individual; X and Y chromosomes

sexual reproduction

fusion of two gametes that result in an offspring that are a mixture of both parents

somatic cells

also called body cells; make up most of your organs and body tissues

sperm cell

male gamete, smaller than egg. contributes DNA

stem cells

cells that have the potential to become any type of body cell



synthesis

cell makes a copy of nuclear DNA; by the end the nucleus contains two complete sets of DNA

telomeres

the ends of DNA molecules, made of repeating nucleotides that do not form genes "fingers and toes"

telophase

last phase of mitosis, chromosome are in two new cells and nuclear membranes start to reform

tissue

group of similar cells that perform a particular function