

Hammerling

By doing research with a plant, discovered that the nucleus is in charge of the cell

Watson & Crick

Created the model of the DNA in 1953.

Genome

All the genetic material in cells of a living organism.

Transcription

Happens in the nucleus

Translation

Happens on a ribosome

Genetic code

Genes coming in triplets. Ex- AGG|CAU| corresponds as UCC|GUA|

Mutation & mutagen

Mutation is a change in the DNA (usually born with). Ex: cancer, downs syndrome

Mutagen is what you as a person caused to yourself, this can not be passed to offspring. Ex: skin cancer.

Transgenic organisms

Multiple species.

Mitosis

Asexual process (Single parent)

Meiosis

Sexual process (sperm and egg)

Produces germ cells for the formation of gametes

Chromosome

A single molecule of DNA with associated proteins

Interphase

Chromosomes are replicated

Cytokinesis

Separation of the cytoplasm toward the end of cell division process.

Somatic cells vs germ cells

Somatic Cells are Haploid 2N, body cells, 46 developed through mitosis.

Germ Cells are Haploid 1N, sperm and egg, 23 developed through meiosis.

Nondisjunction (problems caused by)

A cause of polyploidy

Failure of centromeres to split placing on an extra copy of a chromosome. Leading another with a missing chromosome

Having one too many is called TRISOMY

Telomeres

Are the ends of chromosomes that contain repeats of specific DNA sequences.

Gametes a mature haploid male or female germ cell that is able to unite with another of the opposite sex in sexual reproduction to form a zygote

Crossing over

Swaps reciprocal genes (alleles) between homologous chromosomes at chiasmata. Adds to genetic variability.