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Vocabulary Sheet

Bioinformatics:

using hardware/software for processing nucleotide and protein data

Proteomics:

Identifying proteins present in cells under given conditions to study their functions and interactions

Genomics:

studies the structure, function, and evolution of genes/genomes

Transgenic organisms:

transfer of heritable traits across species using recombinant DNA technology

Biotechnology:

using recombinant DNA tech and other molecular techniques to make products. (Ag, medicine, or food)

Mutation:

Heritable changes in the DNA sequence that are the source of all genetic variation

Allele:

Alternate forms of a gene

Genotype:

set of alleles for a trait

Phenotype:

expression of genotype

Theory of preformation:

gametes have a fully formed adult
called a humunculus

Theory of epigenesis:

structures such as organs are not present in
the early embryo

Nucleotide:

Nitrogenous base + pentose sugar + phosphate group

DNA and RNA are nucleotides

Nucleoside:

Nitrogenous base + pentose sugar

Purine:

Nitrogenous base, 9 member ring

Adenine and guanine

Pyrimidine:

Nitrogenous base, 6 member ring

cytosine, Thymine, and uracil

RNA replicase:

Used to replicate RNA

Retrovirus:

virus with RNA core

Reverse transcriptase:

Used to make DNA from RNA

Supercoiling:

facilitates compaction of DNA to maintain base pairs and fit into nucleus

Nucleosome:

146 base pairs wrapped around a octomere

Centromere:

used to separate sister chromatids during mitosis and

meiosis → 

Kinetochores proteins:

Region that binds to spindle fiber microtubules during cell division.

Pseudogenes:

- 90% of DNA
- DNA sequence representing evolutionary vestiges
- is unused DNA