

Terms to Know for Final Exam

Adenine - Purine base that pairs with Thymine in DNA
Cytosine - Pyrimidine base that pairs with Guanine
DNA Replication - Copying of DNA from existing DNA
Nitrogen Base - Portion of nucleotide containing nitrogen including A,T,G,C,U
Somatic Cells - Body cell not including gametes
Transcribe - Making RNA from DNA
Triplet - 3 bases in a row in DNA or RNA
Amino Acid - building block of protein
Deoxyribonucleic Acid (DNA) - Molecule contained in the nucleus that codes for protein
Messenger RNA (mRNA) - RNA that carries the genetic message from DNA to the ribosomes
Protein Synthesis - Making of protein through translation
Transfer RNA (tRNA) - RNA that carries amino acids to the ribosomes
Guanine - Purine that pairs with Cytosine
Phosphate - Phosphorous component of a nucleotide
Sequence - Order of bases in a DNA molecule
Thymine - Pyrimidine base that pairs with Adenine in DNA
Uracil - Pyrimidine base that pairs with Adenine in RNA
Protein - Macromolecule made of amino acids
RNA Polymerase - Binds to DNA and copy to RNA
Anticodon - Set of 3 nucleotides of tRNA, which is complimentary to mRNA codons
Double Helix - 3 dimensional shape of DNA
Nucleotide - Structural unit of DNA made of a phosphate, sugar and a base
Ribonucleic Acid (RNA) - Set of molecules used to make protein
Transcription - Making RNA from DNA
Translation - Making protein using RNA
Codon - Set of 3 nucleotides of mRNA specifying a specific amino acid
Genetic code - The correspondence between nucleotide triplets in DNA and the amino acid
Pedigree - Record that tracks the inheritance of a trait through several generations of a family
Homozygous - Having identical alleles for a trait
Genotype - Constitution of an organism in terms of its genes
Dominant - The allele that is expressed as a trait
Probability - The likelihood something will happen
Gene Pair - When two of the same genes match together
Monohybrid Cross - A cross focusing on one trait
Law of Independent Assortment - When 2 or more pairs of alleles segregate independently of one another during gamete formation
Carrier - Being heterozygous for a recessive genetic disorder
Test Cross - A cross between a heterozygote and a recessive homozygote.
Allele - 1 of 2 or more alternate forms of a gene
Punnett Square - A mathematical diagram used to predict the possible genotypic combinations of two parents
Phenotype - Physical characteristics of an individual
Gene - Segment of DNA that codes for a trait
Genetics - Study of biological inheritance
1st Filial - The set of offspring produced by the parent generation
Heterozygous - Having 2 different alleles for a trait
Trait - An inherited characteristic
Recessive - The allele that isn't expressed in a heterozygous individual
Gamete - A haploid reproductive cell
Mutation - An abrupt change in the genotype of an organism
Gene Sorting - When genes are randomly separated during meiosis
Sex-linked Inheritance - A pattern of heredity in which traits are transmitted by genes located on the X chromosome
Cross-Pollination - Pollination of a stigma of one plant by the anther of another plant (of the same species).

Incomplete Dominance - When 2 genes in a heterozygote blend together to make an intermediate form of the trait
Gregor Mendel - The father of genetics.
Codominance - When both genes in a heterozygote are fully expressed
Gene Combination - The combining of 2 genes to make a trait
Dihybrid Cross - A cross focusing on 2 traits
Law of Segregation - States that the member of each pair of alleles separates when gametes are formed. A gamete will receive one allele or the other.
Parent Generation - The organisms involved in the first genetic cross
Gene Pool - The entire collection of genes for all of the traits for a single population
2nd Filial - The offspring produced by crossing the 1st filial generation.
Sickle Cell Anemia - Is a recessive genetic disorder that makes the bodies blood hemoglobin to sickle
Divergent Evolution - Accumulation of differences within a species that can lead to developing a new species
Co-evolution - When species evolve as a result of each other.
Survival of the fittest - When the species that is best suited to its environment survives.
Selection Pressures - Environmental pressures that influence natural selection.
Embryological Evidence - Developmental similarities of embryos that support evolution.
Inheritable characteristics - Characteristics that are passed on to the offspring.
Species - A group of organisms that can interbreed with each other but not with members of any other group.
Convergent Evolution - When species that are not related to each other develop similar characteristics.
Non-inheritable Characteristics - Characteristics of an organism that cannot be passed on to their offspring.
Taxonomy - Science of classifying of living things
Carl Linnaeus - The father of modern classification
Binomial nomenclature - 2 name naming system
Mutation - Abrupt Change in genotype of an organism
Mutagen - Environmental agent that can alter the structure of DNA
DNA - encodes the sequences of all he cell's proteins, as well as info. That determines when each protein is to be produced (double helix)
Gene - Segment of DNA that codes for a trait
Fossil - Any traces of dead organisms
HMS Beagle - The ship that Charles Darwin sailed on.
Natural selection - Process by which organisms best suited to their environmental conditions are most likely to survive and reproduce
Selection Pressures - Conditions that influence the selection of an organism
Homologous Structures - structures that share a common ancestry
Vestigial Structures - Structures with no function
Biochemical Evidence - Similarities of biochemistry that support evolution
Charles Darwin - The father of evolution
Ecosystem - self-sustaining collection of organisms and their physical environment
Abiotic - not alive
Biotic - something that is alive
Biodiversity - number of different species of plants and animals in an ecosystem
Heterotroph - rely on others for food
Autotroph - ability to make own food
Endotherm - can regulate its own temperature (thermal homeostasis)
Ectotherm - uses the environment to regulate its internal temperature.
Omnivore - eat both plants and animals
Herbivore - eat only plants
Carnivore - eat only animals

Carrying capacity – the maximum population size an ecosystem can support

Commensalism – relationship between two organisms in which one benefits and the other neither benefits nor is harmed

Pioneer species – the first species of its kind in a given habitat

Mutualism – relationship between two organisms where both are benefited

Parasitism – relationship between two organisms

Habitat – physical location where an organism lives in an ecosystem

Community – all the organisms that live in an ecosystem

Producer – organism that is able to make its own food

Consumer – organism that obtains its energy by eating other organisms

Greenhouse effect – warming of earth's atmosphere resulting from heat trapped by carbon dioxide and other gases

Decomposer – organism that obtains its energy by consuming organic waste

Pollution – addition of harmful substances to the environment

Fertilizer- substance that adds nutrients to soil

Predator- An animal that hunts prey

Competition- situation in which 2 or more organisms attempt to use the same scarce resource

Symbiosis- close, long-term association between 2 or more species

Food Chain- The path that energy takes from one organism to the next

Prey- Animals hunted by predators

Food Web- Diagram that shows how organisms are connected in an ecosystem

Energy Pyramid- Pyramid that shows how energy is passed from one trophic level to the next

Succession- regular progression of species replacement in a developing ecosystem

Population- Number of a specific species in a given habitat

Nitrogen Cycle- How nitrogen is circulated through an ecosystem

Exponential Growth Phase- An increase in a population at an exponential rate

Cataclysmic Changes- A cataclysmic (Natural Disaster) event that changes the environment forever

Territory- The area that an organism lives in

Scavenger- An animal that eats dead or dying organisms

Biomass- The mass of living organisms in a specific area of an ecosystem

Energy Flow- The path energy follows through a food chain or web

Antibody – Protein produced by white blood cells (B cells) in a response to foreign substances.

Antigen – Marker proteins that trigger an immune response when recognized by white blood cells.

Antibiotic – A chemical that can destroy or inhibit bacterial growth.

Disease – An impairment of health or a condition of abnormal functioning.

Immune system – The system that protects the body from foreign substances and pathogenic organisms by producing the immune response.

Interferon - Protein produced by a cell that's been invaded by a virus in order to inhibit the virus's growth.

Organ transplant – Transferring of organs from one organism to another.

Plasmodium – A protist responsible for causing Malaria.

Sanitation – Making something sanitary (free of germs) by sterilizing it.

Marker Protein – used to distinguish different types of cells

Biochemistry – The chemistry of living things.

Homeostasis – Tendency to maintain stability in an organism amid environmental change.

Infection – Invasion of the body by pathogenic organisms.

Inflammatory response – The body's response to injury indicated by redness, swelling and fever.

Pathogen – A disease-causing agent.

Prevention – To control something by preventing its occurrence.

Treatment – Procedures intended to relieve injury or illness.

Diagnosis – To determine the nature of cause of a disease.

Immune response – The activation of lymphocytes to protect against a pathogen or antibody.

Inoculation – Taking a vaccine as a precaution against contracting a disease.

Medicine – Any substance administered in the treatment of a disease.

Phagocyte – A type of white blood cell that consumes pathogens.

Protozoan – Unicellular, eukaryotic organisms that can cause disease such as a plasmodium.

Virus – Microscopic particles that invade cells often destroying the cell

Circulatory System – Organs and tissues involved in circulating blood and lymph through the body.

Host – Organism on which or in which another organism lives.

Bacteria – Unicellular, prokaryotic organisms that can cause disease.

Parasite – An organism that harms its host while receiving nourishment and shelter.

Fungi – Eukaryotic organisms that absorb food through their cell walls, may cause disease.

Cell- smallest unit that can perform all life processes