

Life Science Review—2017-2018

Ecosystems (Old Book 528-535)

Decomposers	Predation	Producers	Bioaccumulation
Pesticide	Consumer	Scavengers	Biotic
Abiotic	Ecosystem	Niche	Habitat
Carrying Capacity	Limiting Factors	Population	Competition

	Non-living things in an ecosystem such as air, water, and gravel.
	Living organisms in an ecosystem.
	Living organisms interacting with their non-living environment.
	Group of organisms of the same species (type).
	Organisms, usually plants, that can make their own food.
	The function (job) an organism does in an ecosystem.
	The place where an organism lives in an ecosystem.
	Organisms, for example vultures and maggots, that feed on dead organisms.
	Organisms, for example bacteria and fungi, that break down dead material back into soil.
	When a substance introduced into a food chain becomes more and more concentrated in the upper links of the chain.
	A chemical used by humans to kill unwanted animals or plants.
	An organism that cannot make its own food.
	One animal eating another. For example a hawk eating a mouse.
	Organisms competing for available resources such as water, light, food, mates etc.
	Factors that restrict the growth and size of populations.
	The size of a population an ecosystem can support given available resources.

Symbiotic Relationships (Old p. 539-541)

Parasite	Host	Mutualism	Symbiosis	Parasitism
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	A relationship where an organism lives on, in, or near another organism.
	A relationship where one organism benefits and the other is harmed.
	An organism that lives on or in another organism.
	An organism that provides a place to live for another organism.
	A relationship between two organisms where both benefit.

Cells (old 57-65 + 72)

Cell Wall
Chloroplast
Prokaryote

Nucleus
Chlorophyll
Eukaryote

Mitochondria
Unicellular
Cell Membrane

Organelles
Cytoplasm

Mitosis
Multicellular

	Organisms that consist of ONE cell.
	Organisms that consist of MANY cells.
	Living material outside the nucleus of the cell.
	Cells with no organized nucleus, usually very small in size.
	Cells with a well organized nucleus.
	Structures found inside a cell—"little organs"
	A green chemical that can capture light energy.
	The outside, rigid, non-living layer of a plant cell.
	The flexible layer that surrounds all cells and controls what enters and leave the cell.
	The place where food (glucose) is made inside a plant cell; contains chlorophyll.
	Cell structure that contains DNA and directs all the activities of the cell.
	Rod-shaped structure where glucose (sugar) is broken down to release energy for cell activities.
	Part of cell division, it is the duplication and division of the nucleus and chromosomes.

List the differences between plant and animal cells:

Processes (Old 180-181, 68, 169)

Transpiration

Fermentation

Excretion

Photosynthesis

Cell Respiration

	Glucose combining with oxygen to produce energy, carbon dioxide, and water.
	Carbon dioxide combining with water to produce glucose and releasing oxygen. (requires chlorophyll)
	A process of breaking down glucose into alcohol and carbon dioxide. (Yeast, and other cells when oxygen is not available)
	The process of water being pulled up through a plant from the roots and out through openings (stomata) in the leaves.
	The process by which animals and eliminate waste products.

Reproduction (OMM 113-115)

Sexual Reproduction
Fragmentation

Budding
Zygote

Cloning
Regeneration

Asexual Reproduction

	This process produced Dolly the sheep in Scotland.
	A new organism being produced from ONE parent. It is genetically identical to the parent.
	A new organism being produced by TWO parents.
	The process by which some organisms (earthworms, star fish) can produce new body parts.
	Formed when a sperm cell and an egg cell unite.
	The process of an organism being broken into pieces.
	Some organisms (yeast, jellyfish) produce a small growth that then breaks off to form a new organism.

Genetics (OMM 226-232)

Mendel

Watson and Crick

Human Genome Project

	An Austrian Monk who is often called the “Father of Genetics” (1860’s)
	Described the structure of DNA (1953).
	Identifying the genetic structure of human chromosomes (1990’s).

A. How might the environment affect how an organism’s development?

B. Complete the following Punnett Square:

In the peas that Mendel studied tall (T) was dominant to short (t) for plant height. In a cross between a hybrid tall plant and a short plant what percent of the offspring would you expect to be short?

- A. 0 %
- B. 25 %
- C. 50 %
- D. 100 %

Evolution (Old 506-510)

Darwin	Natural Selection	Evolution	Mutation
			Change in genes or chromosomes (DNA) that causes a new trait to be inherited.
			Survival and reproduction of those organisms that are best adapted to their environment.
			A change in a species over time.
			A British naturalist who observed finches on the Galapagos Islands and developed the theory of Natural Selection.

Levels of Organization

Least complex to most complex

Body Systems (Old)

Digestive

Muscular

Reproductive

Respiratory

Immune

Circulatory

Endocrine

Skeletal

Nervous

	Provides support for the body, protects delicate internal organs and to provides attachment sites for the organs.
	Provides movement for the body.
	Transports nutrients, gases (such as oxygen and CO ₂), hormones and wastes through the body
	Relays electrical signals through the body. Directs behavior and movement and controls physiological processes such as digestion, circulation, etc.
	Provides gas exchange between the blood and the environment.
	Breaks down and absorbs nutrients that are necessary for growth and maintenance.
	Filters out cellular wastes, toxins and excess water or nutrients from the circulatory system.
	Relays chemical messages through the body.
	Manufacture cells that allow production of a new individual.
	Destroys and removes invading microbes and viruses from the body.

Scenario: You start climbing up a mountain at a fairly good pace. Describe how different body systems will be affected.