

## LIVING ENVIRONMENT REGENTS CRITICAL VOCABULARY LIST

	WORD	TOPIC	DEFINITION
1	Abiotic	Ecology	Nonliving; any nonliving component of the ecosystem
2	Acidity	Biochemistry Ecology	The amount of acid in a solution, measured from 0-6.9 on the pH scale
3	Active Transport	Cell Biology	Transport of materials in and out of the cell using cellular energy (ATP)
4	AIDS	Immunity	Acquired Immune Deficiency Syndrome; a disease caused by HIV (Human Immunodeficiency Virus) that affects T-cells and disrupts the immune system
5	Algae	Ecology	Single cell or multicellular, heterotrophic organisms that are producers in an aquatic environment
6	Allergic Reactions	Immunity	An inappropriate immune response to an antigen that is non-pathogenic (not harmful)
7	Amino Acid	Biochemistry	The building blocks of proteins. There are 20 amino acids
8	Antibiotic	Immunity, evolution	A chemical that can kill bacteria, generally use to treat bacterial infections. Prolonged exposure to antibiotics can through natural selection, cause antibiotic resistant bacteria.
9	Antibodies	Immunity	A blood protein produced in response to an antigen, with which it binds. Antibodies are specific to one antigen.
10	Antigen	Immunity	Any material, usually a protein or carbohydrate, that causes an immune response.
11	Asexually	Reproduction	A method of reproducing involving one parent. The offspring is an exact copy (clone) of the parent.
12	Atmosphere	Ecology	The layer of air that surrounds the earth.
13	Atoms	Biochemistry	The fundamental units of matter. There are approximately 100 kinds of atoms, called elements. Important elements to biology are H, O, N, C, Na, Cl, K, Fe,
14	ATP	Biochemistry Cell Biology	Adenosine TriPhosphate; the molecule that cells use to store energy for immediate use; manufactured mostly during respiration.
15	Autotrophic	Ecology	A type of organism that can manufacture its own food from inorganic molecules and energy.
16	Bacteria	Immunology, Ecology, Human Physiology	A single cell organism with no internal, membrane-bound organelles (prokaryotic); some are helpful in the nitrogen cycle; some produce vitamins in the human large intestine; some can be pathogens.
17	Biodiversity	Ecology	The significant differences among organisms that perform the same basic life functions; the amount of different species in an ecosystem; increased biodiversity leads to stability in an ecosystem.
18	Biotechnological	Genetics	Using technology to further research in biology.
19	Biotic	Ecology	Living; all living components of the ecosystem
20	Cancer	Genetics	Uncontrolled cell growth resulting from a combination of genetic and environmental factors.
21	Carbon	Biochemistry	An element that is cycled among living and nonliving components of the biosphere through photosynthesis, respiration and decay.
22	Carbon Dioxide	Biochemistry Ecology	A molecule that plants use to make food in photosynthesis; most organisms release CO <sub>2</sub> as a waste product of respiration.
23	Carnivore	Ecology	An organism that consumes animals exclusively.
24	Carrying Capacity	Ecology	The maximum number of organisms that an ecosystem can support based on available resources such as food, water. Habitat or reproductive mates.
25	Catalyst	Biochemistry	A molecule that changes the rate of a chemical reaction but is not changed by the reaction. Organic catalysts are called enzymes.
26	Cell Membrane	Cell Biology	A layer of lipids with embedded proteins that separates a cell from its environment, controls what enters and exits cells, and receives signals from other cells.

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27	<b>Cell</b>	Cell Biology	The smallest unit of life. All living organisms are made of cells
28	<b>Cellular Respiration</b>	Cell Biology	The process by which cells make energy (ATP) from food (usually glucose):
29	<b>Chloroplasts</b>	Cell Biology	The organelle found in plant cells that contain chlorophyll; the site for converting inorganic molecules and energy into ATP.
30	<b>Chromosome</b>	Cell Biology, Genetics	The long, threadlike structures found in the nucleus of eukaryotic cells; each chromosome contains many genes; made from DNA and protein; are the hereditary material in cells; contain instructions for making proteins.
31	<b>Circulation</b>	Human Physiology	The process by which materials are moved around an organism; in humans, the system contains blood, a heart and blood vessels.
32	<b>Cloning</b>	Genetics	The process by which a genetically identical copy of an organism is created; a form of asexual reproduction.
33	<b>Consumers</b>	Ecology	An organism that eats food from the environment; a heterotroph.
34	<b>Coordination</b>	Physiology	<i>Two substances (systems) working together - part of regulation</i>
35	<b>Cytoplasm</b>	Cell Biology	The entire contents of a cell except the organelles, bound by the cell membrane; contains mostly water.
36	<b>Decomposers</b>	Ecology	Organisms that obtain their energy and nutrients from dead organisms in the environment; organisms of decay.
37	<b>Deforestation</b>	Ecology	The process of clearing forest land for urbanization or agriculture.
38	<b>Deplete</b>	Ecology	To decrease the amount of natural resources that cannot be replaced.
39	<b>Development</b>	Reproduction	Cell division, growth, and differentiation of cells from embryonic layers into all tissues and organs of the body
40	<b>Deviation</b>	Human physiology Ecology	Changes from normal, either referring to homeostasis or the environment.
41	<b>Differentiation</b>	Reproduction	Specialize, as when developing cells become ordered into tissues or organs.
42	<b>Diffusion</b>	Cell Biology	The process by which materials move across a membrane from an area of high concentration to an area of low concentration without the use of energy (ATP) from the cells.
43	<b>Digestion</b>	Human Physiology	The process by which complex molecules are broken down into smaller molecules using enzymes and adding water.
44	<b>Diversity</b>	Ecology, Genetics, Physiology	The wide variety of structures and processes in organisms that all accomplish the same life functions.
45	<b>DNA</b>	Genetics, Cell Biology, Biochemistry	DeoxyRibonucleic Acid; the hereditary material of organisms; made up of nucleotides; contains 4 bases (A, T, G, C); found in the nucleus, mitochondria and chloroplasts of eukaryotic organisms.
46	<b>Dynamic Equilibrium</b>	Cell Biology, Physiology, Transport	Continual changes in an organism to maintain homeostasis Equal movement of molecules across a membrane in both directions
47	<b>Ecology</b>	Ecology	The study of interactions among living and nonliving factors in the environment.
48	<b>Ecosystem</b>	Ecology	A group of organisms in its abiotic environment.
49	<b>Egg</b>	Reproduction	The female gamete; contains 1/2 the species number of chromosomes; generally the largest cell in an organism.
50	<b>Embryo</b>	Reproduction	An organism in its earliest stage of development.

**Estrogen**      Reproduction

In females, the main sex hormone that influences secondary sex characteristics and reproduction. Causes thickening of uterine lining along with progesterone.

51	genetic engineering	genetics	recombinant DNA technology, i.e., the insertion of genes from one organism into the genetic material of another; see also biotechnology
52	genetic variation	genetics	the differences among offspring in their genetic makeup
53	geologic time	evolution	Earth's history divided into vast units of time by which scientists mark important changes in Earth's climate, surface, and life-forms
54	global warming	ecology	an increase in the average atmospheric temperature of Earth due to more heat-trapping CO <sub>2</sub> in the air, which causes the "greenhouse effect"
55	glucose	cell biology, respiration, photosynthesis	a simple sugar that has six carbon atoms bonded together; a subunit of complex carbohydrates
56	habitat	ecology	the place in which an organism lives; a specific environment that has an interacting community of organisms
57	herbivores	ecology	animals that obtain their energy by eating plants; see also consumers and heterotrophic
58	hereditary	genetics	describes the genetic information that is passed from parents to offspring
59	heterotrophic	ecology	describes an organism that obtains its energy by feeding on other living things, e.g., animals (consumers)
60	homeostasis	physiology	in the body, the maintenance of a constant internal environment
61	hormones	human physiology, regulation	chemical messengers that bind with receptor proteins to affect gene activity, resulting in long-lasting changes in the body
62	host	ecology	the organism that a parasite uses for food and shelter by living in or on it
63	hydrogen	biochemistry	one of the six most important chemical elements for living things
64	immune system	immunity	recognizes and attacks specific invaders, such as bacteria, to protect the body against infection and disease
65	immunity	immunity	the ability to resist or prevent infection by a particular microbe
66	inheritance	genetics	the process by which traits are passed from one generation to the next
67	inorganic	biochemistry, ecology	in cells, substances that allow chemical reactions to take place; in ecosystems, substances that are cycled between living things and the environment
68	insulin	human physiology, regulation	substance secreted by the pancreas that maintains normal blood sugar levels
69	internal development	reproduction	occurs when the embryo develops within the female's body
70	internal fertilization	reproduction	occurs when the sperm fertilizes the egg cell within the female's body
71	kingdoms	classification	the major groupings into which scientists categorize all living things
72	level of organization	physiology, ecology	a scale for looking at the structure of a system, e.g., from atoms to cells to tissues to organs to organisms to populations to ecosystems
73	lipids	biochemistry	the group of organic compounds that includes fats and oils
74	malfunction	physiology	occurs when an organ or body system stops functioning properly, which may lead to disease or death
75	meiosis	reproduction	the division of one parent cell into four daughter cells; reduces the number of chromosomes to one-half the normal number
76	membrane	cell biology	describes the chemical reactions (building up and breaking down) that take place in an organism.

77	<b>metabolism</b>	physiology	all of the chemical reactions in an organism
78	<b>microbes</b>	immunity	microscopic organisms that may cause disease when they invade another organism's body; microorganisms, e.g., bacteria and viruses
79	<b>mitochondria</b>	cell biology	the organelles at which the cell's energy is released
80	<b>mitosis</b>	reproduction, cell biology	the division of one cell's nucleus into two identical daughter cell nuclei
81	<b>molecules</b>	biochemistry	the smallest unit of a compound, made up of atoms
82	<b>movement</b>	physiology, ecology	the flow of materials between the cell and its environment; a property of living things, i.e., locomotion
83	<b>multicellular</b>	physiology	describes organisms that are made up of more than one cell
84	<b>mutation</b>	genetics	an error in the linear sequence (gene) of a DNA molecule
85	<b>natural selection</b>	evolution	the process by which organisms having the most adaptive traits for an environment are more likely to survive and reproduce
86	<b>nerve cells</b>	physiology, regulation	in animals, the cells that transmit nerve impulses to other nerve cells and to other types of cells
87	<b>niche</b>	Ecology	an organism's role in, or interaction with, its ecosystem
88	<b>nitrogen</b>	Ecology, biochemistry	one of the six most important chemical elements for living things
89	<b>nucleotides</b>	Biochemistry, genetics	the building blocks, or subunits, of DNA; they include four types of nitrogen bases, which occur in two pairs
90	<b>nucleus</b>	Cell biology	the dense region of a (eukaryotic) cell that contains the genetic material
91	<b>nutrients</b>	nutrition	important molecules in food, such as lipids, proteins, and vitamins
92	<b>nutrition</b>	Physiology	the life process by which organisms take in and utilize nutrients
93	<b>organ</b>	Physiology	describes a level of organization in living things, i.e., a structure made up of similar tissues that work together to perform the same task, e.g., the liver
94	<b>organ system</b>	Physiology	a group of organs that works together to perform a major task, e.g., the digestive system
95	<b>organelles</b>	Cell biology	structures within a cell that perform a particular task, e.g., the vacuole
96	<b>organic</b>	Biochemistry, ecology	relating to compounds that contain carbon and hydrogen (in living things)
97	<b>organisms</b>		living things; life-forms
98	<b>ovaries</b>	Human physiology, reproduction	the female reproductive organs that produce the mature egg cells
99	<b>oxygen</b>	Biochemistry, respiration, ecology	one of the six most important chemical elements for living things; released as a result of photosynthesis; essential to cellular (aerobic) respiration
100	<b>ozone shield</b>	Ecology	the layer of ozone gas that surrounds Earth high in the atmosphere and blocks out harmful ultraviolet (UV) radiation
101	<b>pancreas</b>	Human physiology	gland that secretes pancreatic juice (containing enzymes that aid digestion), and insulin (maintains normal blood sugar levels)
102	<b>parasites</b>	Ecology	organisms that live in or on another organism (a host), causing it harm
103	<b>passive transport</b>	Regulation, cell biology	movement of substances across a membrane; requires no use of energy
104	<b>pathogens</b>	Immunity	microscopic organisms that cause diseases, such as certain bacteria and viruses; see also <i>microbes</i>
105	<b>pesticides</b>	Ecology	chemicals used to kill agricultural pests, mainly insects, some of which have evolved resistance to the chemicals

106	pH	Biochemistry	a measurement (on a scale of 0 to 14) of how acidic or basic a solution is
107	photosynthesis	Ecology	the process that, in the presence of light energy, produces chemical energy (glucose) and water
108	placenta	Reproduction	the organ that forms in the uterus of mammals to nourish a developing embryo and remove its waste products
109	population	Ecology	all the individuals of the same species that live in the same area
110	predator	Ecology	an organism that feeds on another living organism (the prey); a consumer
111	predator-prey	Ecology	an interaction in which the prey is usually killed right away
112	pregnancy	Reproduction	in animals, the condition of having a developing embryo within the body
113	prey	Ecology	an organism that is eaten by another organism (the predator)
114	producers	Ecology	organisms on the first trophic level, which obtain their energy from inorganic sources, e.g., by photosynthesis; autotrophic life-forms
115	progesterone	Reproduction	in females, along with estrogen, <del>causes growth of uterine lining</del> <i>estrogen causes growth of uterine lining</i>
116	proteins	Biochemistry	a group of organic compounds that are made up of chains of amino acids
117	radiation	Genetics	a form of energy that can cause genetic mutations in sex cells and body cells
118	receptors	Regulation, cell biology, immunity	molecules that play an important role in the interactions between cells, e.g., molecules that bind with hormones
	recombination	Genetics	the formation of new combinations of genetic material due to crossing-over during meiosis or due to genetic engineering
20	replicate	Genetics	the process by which DNA makes a copy of itself during cell division and protein synthesis
21	reproduction	Reproduction	the production of offspring (i.e., passing on of hereditary information), either by sexual or asexual means
22	residue	Ecology	the remains of dead organisms, which are recycled in ecosystems by the activities of bacteria and fungi
23	response	Regulation	an organism's reaction to a stimulus; can be inborn or learned
24	ribosomes	Cell biology	the organelles at which protein synthesis occurs, and which contain RNA
25	scavenge	Ecology	to gather the remains of a kill, rather than to hunt living animals
26	selective breeding	Genetics	the process by which humans encourage the development of specific traits by breeding the plants or animals that have those traits
27	sex cells	Reproduction	the male and female gametes; they have one-half the normal chromosome number as a result of meiosis
28	sexually	Reproduction	describes reproduction that requires two parents to pass on genetic information
9	simple sugars	Respiration, biochemistry	single sugars that have six carbon atoms, e.g., glucose
0	solar energy	Ecology	radiant energy from the sun that is a renewable resource
1	Species	Ecology	A group of related offspring that can breed and produce fertile offspring
2	Sperm	Reproduction	The male gamete that supplies half the genetic information to the zygote
	stability	Ecology	the ability of an ecosystem to continue and to remain healthy; usually, the greater the species diversity, the more stable the ecosystem
	starches	Biochemistry	complex carbohydrates made up of many glucose molecules; used for energy storage in plants

135	<b>stimulus</b>	Regulation	(plural, stimuli) any event, change, or condition in the environment that causes an organism to make a response (i.e., to react)
136	<b>subunits</b>	Genetics	The four types of nucleotide bases that make up a DNA molecule
137	<b>succession</b>	Ecology	the gradual replacement of one ecological community by another until reaching a point of stability
138	<b>symbiosis</b>	Ecology	a close relationship between two or more different organisms that live together, which is often but not always beneficial
139	<b>synthesis</b>	Cell biology	the building of compounds that are essential to life, e.g., protein synthesis
140	<b>systems</b>	Human physiology	describes a level of organization in living things, i.e., groups of organs that work together to perform the same task; see also <i>organ system</i>
141	<b>template</b>	Genetics	in DNA replication, the original molecule that is used to make a copy
142	<b>territory</b>	Ecology	the area in which an animal lives, and which it usually defends
143	<b>testes</b>	Reproduction	the pair of male reproductive organs that produces the sperm cells
144	<b>testosterone</b>	Reproduction	in males, the main sex hormone that influences secondary sex characteristics and reproduction
145	<b>tissues</b>	Human physiology	describes a level of organization in living things, i.e., groups of similar cells that work together to perform the same function
146	<b>toxins</b>	Reproduction, ecology	chemicals that can harm a developing fetus if taken in by the mother during pregnancy; also, chemicals that may get passed from one trophic level to the next (and increase in each organism) as they move up the food chain
147	<b>trophic level</b>	Ecology	a feeding level on a food chain or in a food web
148	<b>uterus</b>	Reproduction	in mammals, the reproductive organ that holds the developing embryo
149	<b>vaccinations</b>	Immunity	injections that prepare the immune system to better fight specific disease in the future
150	<b>vacuole</b>	Cell biology	an organelle that stores materials, including wastes, for the cell
151	<b>viruses</b>	Immunity	particles of genetic material that can only replicate within a host cell, where they usually cause harm
152	<b>white blood cells</b>	Immunity	several types of cells that work to protect the body from disease-causing microbes and foreign substances
153	<b>zygote</b>	Reproduction	the fertilized egg cell that is formed when the nuclei of two gametes (a male and a female) fuse