

# Life Science Vocabulary

1. ABSORPTION – The process by which nutrient molecules pass through the wall of the digestive system into the blood

- If a doctor was trying to see why a person could eat a lot but the food was not being used to produce energy in the cells, the first thing the doctor might test would be how well this process was working to get the nutrients through the villi in the stomach.

ABSORPTION

2. ACTIVE TRANSPORT – The movement of materials through a cell membrane using energy

-If a cell needs a material too large to diffuse through the membrane, the material must go through the membrane using this kind of transport. ACTIVE

3. ADAPTATION – A characteristic that helps an organism survive in its environment or reproduce

-Camouflage, body fur, bird beak shape are called ADAPTATIONS because they are all traits an organism may have as part of its physical makeup to help it survive and reproduce.

4. ADDICTION – A physical dependence on a substance; an intense need by the body for a substance

-Alcoholism, smoking) is called this rather than a dependence because it has a physical effect on the body. ADDICTION

5. AIDS (ACQUIRED IMMUNODEFICIENCY SYNDROME) – A disease caused by a virus that attacks

the immune system

-A person is found to not be able to fight disease in their body through their own immune system. A doctor investigating the cause might first test the patient for this disease. AIDS

6. ALGAE – A plant like protist

-A organism is found that does not have all the characteristics of a plant yet

it makes its own food. A scientist might begin to classify it as a plant-like protist. More than likely it will be a type of ALGAE.

7 ALLELES – The different forms of a gene

-A person with blue eyes has genes that are made of different ALLELES than someone with brown eyes.

8 AMINO ACIDS – Small units that are linked together chemically to form large protein molecules

- \_\_\_\_\_ are to protein molecules as bricks are to a building.

- \_\_\_\_\_ are to protein molecules as beads are to a necklace.

9 ANTIBODY – A chemical produced by a B cell of the immune system that destroys a specific kind of pathogen

-A doctor might test these chemicals produced by a person's body to see what their immune system is trying to fight in their illness. \_\_\_\_\_

10 ARTHROPOD – An invertebrate that has an external skeleton, a segmented body, and jointed attachments called appendages

-An animal was seen with 5 body parts, an exoskeleton, and 9 jointed appendages. In which animal classification would you choose to place it? \_\_\_\_\_

11 ASEXUAL REPRODUCTION – The reproductive process that involves only one parent and produces offspring that are identical to the parent

-If an organism's DNA is found to be identical to other organisms near it, a scientist might conclude that the organism reproduces how? asexually

12 AUXIN – The plant hormone that speeds up the rate of growth of plant cells

-If a plant was observed growing rapidly in strange directions, a scientist might test these chemical hormones in it to see what is causing the growth.

13 BACTERIUM – A single-celled organism that is a prokaryote; belongs to one of two kingdoms- Archaeobacteria or Eubacteria

-An organism is found in a plant that is dying. The pathogenic organism is single-celled and has not nucleus. To begin studying it, it is

classified as a \_\_\_\_.

14 BEHAVIOR – All the actions an animal performs

-To test the effects of different lights on fish in an aquarium, a scientist will observe the animal's \_\_\_\_ (or actions).

15 BINOMIAL NOMENCLATURE – The naming system for organisms in which each organism is given a two-part name- a genus name and a species name

-Genus and Species are names used in what naming system, just as first, middle and family names are to English human names.

16 CARBOHYDRATES – Energy-rich organic compounds, such as sugars and starches, that are made of the elements carbon, hydrogen, and oxygen. They provide the raw materials to make parts of cells and provide energy for the cell

-Someone needing more energy and materials to replace parts of cells that have been damaged will need to find foods with many of these compounds in them.

17 CELL – The basic unit of structure and function in living things

- \_\_\_\_ is to an organism as an atom is to a mineral.

- \_\_\_\_ is to an organism as a student is to the student body of a school.

-A scientist wanting to know what makes up an organism will look at its \_\_\_\_ (basic units), physical characteristics and actions.

18 CELL THEORY – A widely accepted explanation of the relationship between cells and living things

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19 CHLOROPHYLL – A green pigment found in the chloroplasts of plants, algae, and some bacteria

-A new organism is found and classified as a plant at first because it was green and therefore thought to have \_\_\_\_ in it.

20 CHROMOSOME – A rod-shaped cellular structure made of condensed chromatin: contains DNA, which carries the genetic information that controls inherited

characteristic such as eye color and blood type

- To determine the genetic information necessary to help the client make a decision about their future, a genetic counselor would look at the genes on a person's \_\_\_\_

21 CIRCULATORY SYSTEM – System of the body that carries needed materials to the body cells; carries wastes away from body cells; helps fight disease

-If nutrients were being digested but not found in body cells, a doctor might look at how the patient's \_\_\_\_ is working to solve the problem.

-If white blood cells were found in the lower parts of the body, but not in the upper parts, a doctor might look at how the patient's \_\_\_\_ is working to solve the problem.

22 CLASSIFICATION – The process of grouping things based on their similarities

-To set up the areas of a store, zoo, building or storage area a person must first develop a \_\_\_\_ system to know where to place things with similar characteristics.

23 CNIDARIANS – Animals whose stinging cells are used to capture their prey and defend themselves, and who take their food into a hollow central cavity

24 CONJUGATION – The process in which a unicellular organism transfers some of its genetic material to another unicellular organism

25 CONTROLLED EXPERIMENT – An experiment in which all of the variables except for one remain the same

-If a student studied how plants grew in different lights by keeping everything around 100 plants the same except the color of light, the student would be conducting what kind of experiment?

26 CYTOPLASM – The region of a cell located inside the cell membrane (in prokaryotes) or between the cell membrane and nucleus (in eukaryotes); contains a gel-like material and cell organelles

-The Jell-O with fruit floating in it is like the \_\_\_\_ in a cell.

-If a person loses a lot of water from their body, this part of the cell will be the most dehydrated.

27 DECOMPOSER – An organism that breaks down large chemicals from dead organisms into small chemicals and returns important materials to the soil and water

-When a fly eats on something dead then puts out waste on the soil, it is acting as a \_\_\_ in the food chain.

28 DIFFUSION – The process by which molecules move from an area in which they are highly concentrated to an area in which they are less concentrated

-When a potato becomes soft when left in the air, it is because the highly concentrated water in the potato diffused to the less concentration of water in the air.

-When a potato chip gets soft when it is left in the air, it is an example of water diffusing into the dry chip from the moist air.

29 DIGESTION – The process by which the body breaks down food into small nutrient molecules

-If a material is broken down as it goes through the esophagus, stomach, intestines and villi, it has been through the \_\_\_ system.

30 DNA – Deoxyribonucleic acid; the genetic material that carries information about an organism and is passed from parent to offspring

-Letters, sentences, paragraphs are to a story as \_\_\_\_\_, genes, and chromosomes are to inherited traits in an organism.

31 ECHINODERM - A radially symmetrical invertebrate that lives on the ocean floor and has a spiny internal skeleton.

-Starfish and sand dollars each have spiny skins and are radially symmetrical invertebrates, so they are considered to be in this classification.

32 EGG

-A scientist sees a cell with only  $\frac{1}{2}$  the number of chromosomes in it as she sees in all the other cells in a female organism. She knows the cell is an EGG.

33 EMBRYO

-Fertilization makes a zygote that becomes an embryo that becomes a

young plant or animal.

#### 34 ENDOCRINE SYSTEM –

-The thyroid that has chemicals to control growth, and the pituitary that sends chemicals to parts of the body telling them to release more chemicals into the body are all parts of the ENDOCRINE SYSTEM system.

#### 35 ENDOTHERM

-If an animal is tested and found to have parts in its body that control its body temperature it would be classified as an ENDOTHERM .

#### 36 EUKARYOTE – An organism with cells that contain nuclei and other cell structures

-Most classifications of organisms on earth are eukaryotes because their cells contain nuclei.

#### 37 EVOLUTION – The gradual change in a species over time

-If an archaeologist in an area finds some fossils of organisms that have many but not all of the characteristics of some animals living in the area now, she would probably say that EVOLUTION had taken place with those organisms.

#### 38 EXCRETORY SYSTEM – System of the body that removes wastes

-Trash compactors and disposals are to garbage control as the large intestines, kidneys and skin are to the EXCRETORY SYSTEM system.

#### 39 FERTILIZATION – The joining of a sperm cell and an egg cell

- FERTILIZATION that joins an egg and sperm cell to make a zygote is like the assembly line where chocolate is joined with peanut butter to make a Reeces Peanut Butter Cup.

#### 40 FOOD GUIDE PYRAMID – A chart that classifies foods into six groups to help people plan a healthy diet

-When a man wants to prepare balanced meals for his family, what chart would be good for him to study to find out the types of foods and number of servings he should prepare each day? FOOD GUIDE PYRAMID

41 GAMETE – A sperm cell or an egg cell

-A sperm cell or an egg cell is to the term GAMETE as a boy or girl is to the term child.

42 GENE – A segment of DNA on a chromosome that codes for a specific trait

-The chemicals A G C T make up DNA which is what genes are made of and these make up chromosomes that code for a trait in an organism.

43 GENETICS – The scientific study of heredity

-If a person wanted to find out about any hereditary disorders in them she might go to someone who studies GENETICS.

-Gregor Mendel and his pea experiments was the scientist who provided information that formed the basis of the study of \_\_\_\_.

44 HABITAT – The place where an organism lives and that provides the things the organism needs

-Oceans for fish, forests for birds, and deserts for cacti are all HABITAT for the organisms because they provide the things the organisms need to survive and reproduce.

45 HEREDITY – The passing of traits from parents to offspring

-People wanting to know what traits they may pass on to their offspring might go to a genetic counselor to ask help in studying HEREDITY patterns in their family.

46 HOMEOSTASIS – The process by which an organism's internal environment is kept stable in spite of changes in the external environment

-When an organism's body produces heat to balance the cold air surrounding itself, the body is trying to reach HOMEOSTASIS.

47 HORMONE – A chemical that affects a plant's growth and development.

Also, the chemical product of an endocrine gland that speeds up or slows down the activities of an organ or tissue

-If the body processes suddenly speed up or slow down, a doctor might check the HORMONE levels in the organisms to see which chemical is affecting the activities.

-The chemicals in your body that are causing you to grow a lot now

and to make the maturing development in your body happen are called HORMONE.

48 HOST – An organism that provides a source of energy or a suitable environment for a virus or for another organism to live

-The AIDS virus must find a T cell in the immune system to be its HOST and give it energy to reproduce.

-Mistletoe must live on a tree as its HOST to get what it needs to live.

49 IMMUNE SYSTEM – System of the body that fights disease

-If a person is often sick with different diseases and it takes a long time to get over each one, a doctor may check the person's IMMUNE system to solve the problem.

50 INVERTEBRATE – An animal that does not have a backbone

-A new organism is found. After the scientist determines it is an animal, she must then determine if it is an INVERTEBRATE or VERTEBRATE.

-An animal is found to be a eukaryote and less complex than a fish because it has not backbone. It would be classified as an INVERTEBRATE first.

51 MAMMAL – An endothermic vertebrate with a four chambered heart, skin covered with fur or hair, and has young fed with milk from the mother's body

-An endothermic vertebrate with a four chambered heart, skin covered with hair, and feeding its young with milk from the mother's body is found and immediately classified as a MAMMAL.

52 MANIPULATED VARIABLE – The one factor that a scientist changes to test a hypothesis during an experiment; also called the independent variable

-If a student studied how plants grew in different lights by keeping everything around 100 plants the same except the color of light on the plants, then the color of the lights would be considered the MANIPULATED VARIABLE.

53 MEIOSIS – The process that occurs in sex cells (sperm and egg) by which the number of chromosomes is reduced by half

-Mitosis is to body cells and a full number of chromosomes as meiosis is to sex cells with  $\frac{1}{2}$  the number of chromosomes in body cells.



54 MITOCHONDRIA – Rod-shaped cell structures that produce most of the energy needed to carry out the cell's function

-When a cell needs energy to make proteins or bring in materials into the cell, the \_\_\_ is the organelle that produces the energy.

-Mitochondria is to energy as ribosome is to protein synthesis.

55 MITOSIS – The stage of the cell cycle during which the cell's nucleus divides into two new nuclei and one copy of the DNA is distributed into each daughter cell

- Mitosis is to body cells and a full number of chromosomes as meiosis is to sex cells with  $\frac{1}{2}$  the number of chromosomes in body cells.

- In order to grow, cells must divide and put the same DNA into each new cell. This happens during MITOSIS.

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56 MOLLUSK – An invertebrate with a soft, unsegmented body; most are protected by hard outer shells

57 MULTICELLULAR – A type of organism that is made up of many cells

-Organisms are found to be divided into 2 groups according to the number of cells that make them up, unicellular or multicellular.

58 MUSCULAR SYSTEM – System of the body that enables the body to move; moves food through the digestive system; keeps the heart beating

-If a person had trouble moving their limbs, and getting food to get through the digestive system, a doctor might do tests on the muscular system, because she might be concerned that the heart might be in danger of irregular beating also.

59 NATURAL SELECTION – The process by which individuals that are better adapted to their environment are more likely to survive and reproduce than other members of the same species

-It was observed that in a pond a larger baby fish with good coordination of fins might survive to reproduce more than smaller, less coordinated fish. This observation can be explained by the theory of natural selection.

60 NERVOUS SYSTEM – System of the body that detects and interprets information from the environment outside the body and from within the body; controls most body functions

-If a dog seems not to notice light, sound, or touch, a vet would probably check the dog's nervous system for problems.

-Eyes, ears, brain, tongue, nose, and finger tips are all organs in the nervous system.

61 NONVASCULAR PLANT – A low-growing plant that lacks vascular tissue

-A new plant is found in the jungle of Ecuador. It is a very short plant, in a moist area with no stems. It would be classified first as a nonvascular plant.

62 NUCLEUS – The control center of a cell that directs the cell's activities; contains the chemical instructions that direct all the cell's activities and determine the cell's characteristics

-Teacher is to a class as nucleus is to the cell.

-In order to study a person's DNA and control activities of a person, a scientist would go to the nucleus of the person's cells.

63 NUTRIENTS – Substances in food that provide the raw materials and energy the body needs to carry out all the essential life processes

-Carbohydrates, proteins, minerals, vitamins, water and fats are nutrients in foods that provide energy and materials a body needs to grow and be active.

64 ORGAN – A structure in the body that is composed of different kinds of tissue

-Atoms and molecules make up cells that make up tissues that make up organs that make up systems that make up an organism.

65 ORGANELLE – A tiny cell structure that carries out a specific function within the cell

-Ribosome, mitochondria, and lysosomes are all organelles in cells that carry out specific functions in the cell.

66 OSMOSIS – The diffusion of water molecules through a selectively

permeable membrane

-Minerals moving through a membrane is called diffusion, but water moving through the membrane is called osmosis.

67 PASSIVE TRANSPORT – The movement of materials through a cell membrane without using energy

-If you observe materials going in and out of a cell without the membrane changing shape or energy being used, then you could assume that the movement is a type of passive transport.

68 PATHOGEN - An organism that causes disease

-A doctor finds a virus or bacteria in a person that seems to be causing a disease. The doctor might call the harmful organism a pathogen to the body.

69 PHOTOSYNTHESIS – The process by which plants and some other organisms capture light energy and use it to make food from carbon dioxide and water

$6\text{CO}_2 + 6\text{H}_2\text{O} + \text{light energy} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$  is the formula for photosynthesis.

-Stomata, a vascular system and chloroplasts with chlorophyll are all parts of a plant needed for photosynthesis.

70 PROKARYOTE – An organism whose cells lack a nucleus and some other cell structures

-A bacterium is a prokaryote because it has no nucleus.

71 PROTEIN – Large organic molecules made of amino acids; they are needed for tissue growth and repair and play a part in chemical reactions within cells

-If a person wants to build up their body and repair injuries to the their body, they would need to make sure their bodies get the protein nutrient.

-Cells make proteins from amino acids to build and repair cells.

72 PROTIST –

-If a scientist finds an organism that can't be classified in any kingdom it will probably be put into the protist kingdom, especially if it

must live a moist environment.

73 PUNNETT SQUARE – A chart that shows all the possible combinations of alleles that can result from a genetic cross

-If a person wants to see what the possible genetic combinations and the probability of those combinations happening with different genetic pairings, he might use a punnett square table to see those.

74 REGENERATION – The ability of an organism to regrow body parts

-A starfish exhibits regeneration when it regrows an arm that is cut off.

75 REPLICATION – The process by which a cell makes a copy of the DNA in its nucleus

-When a strand of DNA splits apart then brings the A G C T parts to each half to copy itself, the process is called DNA replication.

76 REPRODUCTION – The process by which living things produce new individuals of the same type

77 REPRODUCTIVE SYSTEM – System of the body that produces sex cells that can unite with other sex cells to create offspring; controls male and female characteristics

78 RESPIRATION – The process by which cells break down simple food molecules to release the energy they contain

-  $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + \text{energy}$  is the formula for

79 RESPIRATORY SYSTEM – System of the body that takes oxygen into the body and eliminates carbon dioxide

80 RNA – Ribonucleic acid; a nucleic acid that plays an important role in the production of proteins

81 SELECTIVELY PERMEABLE – A property of cell membranes that allows some substances to pass through, while others cannot

82 SEXUAL REPRODUCTION – The reproductive process that involves two parents who combine their genetic material to produce a new organism, which differs from both parents

83 SKELETAL SYSTEM – System of the body that supports the body, protects it, and works with the muscles to allow movement; makes blood cells and stores some materials

- Bones make up this system. The bones work with the muscles to help a body move. SKELETAL

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84 SKIN – Organ of the body that protects the body, keeps water inside the body, and helps regulate body temperature

85 SPONGES – An invertebrate animal that has a body like a bag that is pierced all over with openings called pores – PORIFERANS

86 STIMULANT – A drug that speeds up body processes

87 SYMMETRY – Balanced arrangement of body parts around a center point or line

88 TAXONOMIC KEY – A series of paired statements that describe the physical characteristics of different organisms

- 5 previously unknown organisms are found on another planet. After observing and measuring all the physical and chemical characteristics of each one, a scientist would then try to find similar organisms. She would use a table called this that has paired statements describing characteristics.

TAXONOMIC KEY

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89 TAXONOMY - The scientific study of how living things are classified

- If you took a class where all you did was classify things, the course would probably be called TAXONOMY.

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90 TISSUE – A group of similar cells that perform a specific function in an organism

- Atoms and molecules make up cells that make up TISSUES that make up organs that make up systems and make up an organism.

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91 TOXIN – A poison that can harm an organism

92 TRAIT – A characteristic that an organism can pass on to its offspring through its genes

- Height, eye color, and hair color are called these because they are characteristics that are passed on from parents to offspring thru their genes. TRAITS

93 TRANSPIRATION – The process by which water is lost through a plant's leaves

94 TROPISM – The growth response of a plant toward or away from a stimulus

95 UNICELLULAR – A type of organism that is made up of a single cell

- Organisms are found to be divided into 2 groups according to the number of cells that make them up. The 2 groups are UNICELLULAR and MULTICELLULAR.

96 VACCINE – A substance used in a vaccination that consists of pathogens that have been weakened or killed but can still trigger the immune system into action

- Few people have polio anymore because this was made with the weakened polio pathogen that when put into a body causes the body's immune system to recognize it and kill it before it affects the body. VACCINE

97 VASCULAR PLANT – A plant that has vascular tissue

- Most plants we know have many tubes in them, so they are called VASCULAR plants

98 VERTEBRATE – An animal with a backbone

-These more complex animals have backbones, so they are called VERTEBRATES.

99 VIRUS – A small, nonliving particle that invades and then reproduces inside a living cell

- Classifying these is difficult because the only thing about it that is like an organism is that it reproduces, and then only when it's inside a living cell. VIRUS

100 ZYGOTE – A fertilized egg, produced by the joining of a sperm and an egg

- Fertilization makes this that becomes an embryo that becomes a young plant or animal. ZYGOTE