Science 14 - Course Glossary

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altitude: the height of a location above sea level

angiogram: an X-ray picture of blood vessels

anorexia: a condition where people do not eat enough because they think they are overweight

artery: a blood vessel that takes oxygen-rich blood from the lungs and distributes it throughout the body

artificial heart: a mechanical pump that performs the functions of the heart

biodiversity: large variety of living things in an area

biological control: any organism that is used to control the numbers of another organism

biological magnification: the accumulation of chemicals in animals as one moves up the food chain

biome: a large geographic area with distinct plants and animals

biotic limiting factor: a way in which interactions among organisms might affect the size of a population

birth rate: the number of individuals born into a population over a period of time (usually 1 year)

Brownian motion: the jiggling motion of particles

bulimia: a condition in which people eat too much then make themselves vomit or take laxatives to get rid of the food

capillary: a tiny, thin-walled blood vessel that makes the exchange of oxygen and carbon dioxide between the arteries and veins

carbon and oxygen cycles: the natural cycling of carbon dioxide and oxygen through photosynthesis, cellular respiration, and decomposition

cardiac arrest: the complete stoppage of heart functions. The heart stops pumping blood.

cell membrane: a semi-permeable layer around plant and animal cells that holds the cytoplasm in place but allows food molecules and water to pass through

cell wall: a rigid layer around a plant cell that gives the cell support and protection from the environment

cell: the smallest unit of life

cellular respiration: the process in cells that converts glucose into energy, carbon dioxide, and water

CFC: a class of chemicals that were used as refrigerants in the past but were discontinued as refrigerants because of their harmful effect on the ozone layer

chemical digestion: the part of the digestion process in which food is broken down through chemical action

circulatory system: the system of organs that moves blood throughout the body

climate: the average weather conditions (temperature and precipitation) in a region over hundreds of years

competition: individuals competing for resources in an area

compost: a mixture of decomposing plants and soil

compound microscope: a microscope that uses two lenses set at a certain distance apart to magnify objects

conduction: a method of heat transfer that requires contact

consumer: an organism that eats producers or other consumers

convection: a method of heat transfer that involves currents

cycle: the re-use of matter in ecological systems

cytoplasm: the jelly-like substance in a cell that keeps the organelles in place

death rate: the number of individuals of a population that die over a period of time (usually 1 year)

decomposer: an organism that breaks down dead plants and animals, uses the energy, and returns the elements to the environment

denitrification: the removal of nitrogen or nitrogen groups from a compound

diabetes: a condition in which the body cannot produce insulin to control the sugars in the blood

digestive system: the system of organs that converts food into energy that the body can use

dissecting scope: a low-power magnifying device used to aid in dissecting a biological specimen

distance multiplier: a simple machine that moves the load through a long distance by moving the effort through a short distance

ecological pyramid: a model in the shape of a triangle showing the relative numbers of organisms in a food chain

ecosystem: a community of living things and the environment in which they live

efficiency: a comparison of the work done to the work expended to do the work. This is usually as a percentage.

effort distance: the distance between the fulcrum and the effort

effort: the force needed to move an object

electron microscope: a microscope that uses a beam of electrons to produce an image around the cell

emigration: the departure of individuals from a population

endoplasmic reticulum (ER): an organelle that transports food, water, and waste in and around the cell

energy: the ability to do work

energy: the property or quality of a thing that gives it the ability to move, do work, or cause changes

enzyme: a chemical that helps break down food during the digestive process

equilibrium: balance

eutrophication: the buildup of nutrients in an aquatic ecosystem that results in increased plant growth and reduced oxygen levels

exotic species: a species that has been introduced to an area from another area

extinction: the elimination of a species from Earth

first class lever: a lever with the fulcrum between the effort and load

fixed pulley: a pulley that does not move. It does not change the effort required.

food chain: a model that shows how energy and matter are passed from one organism to another in an ecosystem

food web: a network of food chains that provides a complete model of how energy and matter are passed from one organism to another

force multiplier: a simple machine that exerts a large force on the load when a small effort is applied to the machine

force: a push or a pull

fossil fuel: a fuel formed from the remains of organisms that lived millions of years ago e.g., coal, natural gas, oil

friction: resistance to motion of two objects pressed together

fulcrum: the support point of a lever

gallstones: pieces of crystallized cholesterol that forms in the gall bladder

global warming: a hypothesis stating that excess carbon dioxide in the atmosphere is causing an increase in average global temperatures on Earth

glucose: a basic sugar made by plants during photosynthesis

glucose: the simple sugar that is produced by plants during photosynthesis

greenhouse effect: the situation where carbon dioxide and other gases form a blanket around Earth that traps heat and keeps it from escaping into space

habitat: an organism's shelter and food

hand lens: a single lens used to magnify objects

heart attack: a restriction of blood flow to the arteries that supply the heart

heat absorption: the rate at which a substance absorbs heat

heat: the sum of all kinetic energies of all particles of a substance

high blood pressure: a condition in which the systolic pressure is greater than 130 and the diastolic pressure is greater than 90

homeostasis: the ability of an organism to maintain an internal balance, even when external conditions change

horizon: horizontal layers in soil

host: an organism upon which another organism depends

humus: part of soil that contains decaying plant fibres and organisms as well as soil

hyperthermia: abnormally high body temperature. This occurs when a person's body temperature is more than 4°C above normal.

hypothermia: abnormally low body temperature. This occurs when a person's body temperature is more than 4°C below normal

immigration: the arrival of individuals into a population

inclined plane: a simple machine that consists of a sloping surface

individual: one member of a population

insulation: a material that slows heat transfer

joule: the unit used to report work. (1 J = 1 Nïm)

kidney dialysis: a process where the blood is passed through a machine that removes the waste products and returns the cleansed blood back to the body

kilowatt hour: the amount of electricity consumed when a 1000 watts of power is used for 1 h

kinetic energy: a form of energy associated with motion

land breeze: a mild wind that blows from cool land out to a warmer sea

landfill: a site that has been built to prevent waste materials from entering the environment

latitude: the distance north or south a location is from the equator

leaching: the washing down of materials in the soil by rain water

life functions or processes: the seven activities carried out by cells or organ systems to maintain life

limiting factor: a factor that limits the growth of a population

load distance: the distance between the fulcrum and the load

load: the object moved by a lever

malnutrition: an occurrence when essential nutrients are missing from a diet

mechanical digestion: the part of the digestion process through which food is broken down by chewing or churning

mitochondrion: an organelle that provides energy in a cell; the power house of the cell

moderate: the effect of large bodies of water storing large amounts of thermal energy on the adjacent land

moveable pulley: a pulley that moves with the load. It changes the effort required.

newton-metre (Nïm): the work done when 1 N of force is used for a distance of 1 m

nitrogen cycle: the natural cycling of nitrogen through food chains, decomposition, and fixing/producing bacteria

nucleus: the control centre for all activities in a cell

nutrient: substance found in food that provides nourishment to the body

nutrition: a branch of science that studies foods and how the body uses them

organ: two or more tissues combined to perform a particular job or function. e.g., stomach, lungs, and liver

organelles: parts of a cell that carry out particular functions of the cell

organism: any living thing that carries out the necessary life processes, including reproduction, growth, and transportation

ozone layer: a layer of gas in Earth's atmosphere that absorbs UV radiation from the Sun. The ozone layer is about 15 km to 35 km above Earth's surface.

parasitism: a relationship between two organisms in which one organism benefits and the other is harmed

pesticide: a chemical used to eliminate unwanted plants or animals

photosynthesis: the process by which plants produce glucose and oxygen from carbon dioxide, water, and energy

population: a group of individuals of the same species that lives in the same place at the same time

predation: a relationship in which one organism catches and eats another organism

predator: an organism that catches and eats other organisms

prey: an animal that is caught and eaten by a predator

primary consumer: a consumer that eats plants

producer: an organism that is able to make its own food

pulley: a simple machine made of a grooved wheel over which a rope is looped

pyramid of energy: a model in the shape of a triangle that shows the relative amount of energy available at each level in a food chain

radiation: a method of heat transfer that involves electromagnetic waves

refrigerant: a substance used in refrigerators and air conditioners that absorbs and transfers heat

reproductive rate: the rate at which offspring are produced by an organism or pair of organisms

R-value: a measure of how well insulation slows heat transfer

sea breeze: the cool wind that blows from a cool sea or lake toward the warmer land

second class lever: a lever with the load between the fulcrum and the effort

secondary consumer: a consumer that eats primary consumers

simple machine: a tool or machine that involves only one movement

soil crumbs: particles of humus that have formed crumbs

species at risk: a species that is near extinction

specific heat capacity: the measure of a substance's ability to absorb or lose heat This is measured in J/(gï°C)

starch: the carbohydrate form in which plants store excess glucose produced during photosynthesis

system: two or more organs working together to perform a particular job or function. e.g., digestive system and circulatory system

temperature: the average kinetic energy of all particles in an object

tertiary consumer: a consumer that eats secondary consumers

thermal energy: the sum of all kinetic energies of all particles of a substance; heat

third class lever: a lever with the effort between the fulcrum and the load

tissue: a group of cells that work together to perform a particular job or function. e.g, stomach lining and muscles in your leg or arm

topography: the physical features of a region e.g., mountains, lakes, rivers, and trees

topsoil: the upper most layer of soil

ulcer: a break or hole in the lining of the stomach or esophagus

vacuole: a storage container in a cell for food, water, or waste

vacuum bottle: a container that slows all three methods of heat transfer

vein: a blood vessel that takes oxygen-poor blood from body tissues and returns it to the heart

water cycle: the natural cycling of water through evaporation/transpiration, condensation, and precipitation

wetland: a marshy area that remains wet throughout the year

wheel and axle: a simple machine consisting of a wheel turning a smaller rod

work: what is done when a force moves an object