

Life Science Vocabulary

Structure and Function

cell - basic unit of life found in all living things

tissue - a group of specialized cells

organ - group of tissues that work together to carry out a specific function

organ system - group of organs that work together within an organism to carry out a specific function

organism - any living thing

multicellular - living things that are composed of many cells

specialized cell - cell that carries out a specific function within an organism

microorganism - living thing that can only be seen with a microscope

bacteria – single celled microorganism that has a cell wall but no nucleus

protist – living things that have a nucleus, are usually singled celled microorganisms, and are not plants, animals, or fungus (ex: amoeba, paramecium)

fungi – living things that have a nucleus, cell wall, are usually multicellular, and obtain their food from dead and organic matter (ex: mushrooms, yeast)

animal – living things that are multicellular, have a nucleus, do not have cell walls, and are consumers

plant – living things that are multicellular, have a nucleus and cell walls, and are producers

ecosystem – all of the living and the non living things that exist together in a certain place

Regulation and Behavior

stable internal environment – internal conditions of an organism that remain fairly constant

stimulus – anything that causes an organism to react or respond

response – reaction of an organism to an internal or external stimulus

Reproduction and Heredity

reproduction – process by which organisms produce new organisms

species – group of similar organisms that can mate and reproduce fertile offspring

asexual reproduction – process by which a single organism can reproduce by itself

sexual reproduction – process by which sex cells from two organisms join to reproduce a new organism

egg – female reproductive cell

sperm – male reproductive cell

heredity – passing of characteristics or traits from one generation of organisms to another

trait – specific characteristic that varies from one organism to another

gene – small part of a chromosome that determines a specific trait for an organism

chromosome – structure found in the nucleus that carries the genetic information for an organism

Diversity and Adaptations of Organisms

diversity – differences among traits within a species

adaptation – inherited characteristic or trait that increases an organism's chance of survival

extinction – disappearance of a species from its geographical range

Populations and Ecosystems

population – group of organisms of the same species that live in the same area

producers – organisms that make their own food using the energy from the sun

consumers – organism that gets its food supply from other organisms or plants

decomposer – organism that breaks down and gets its food from dead organic matter

food chain - the path of energy transfer (food) from one living thing to another in an ecosystem

food web – complex interactions formed by the feeding relationships among various organisms in an ecosystem

photosynthesis – process that plants and some other organisms use to convert light energy into usable food energy

abiotic factor – physical, or nonliving, thing that has an affect on the organisms in an ecosystem

biotic factor – living components that affect other organisms in an ecosystem

niche – all of the physical and biological conditions in which an organism lives and how it uses these conditions

Earth and Space Science Vocabulary

Structure of the Earth System

earth materials - rocks, soils, water, and gases of the atmosphere

soil - made of weathered rock, and decomposed organic material; properties are: color, texture, ability to retain water and support plant growth, and often layers of different chemical composition

minerals - make up rocks; properties are color, texture, and hardness

lithosphere – thin outer shell of the earth consisting of the crust and the rigid upper mantle

crust – outermost layer of the earth

mantle – layer of rock below the earth's crust

core – center of the earth below the mantle; consists mostly of iron and has a dense liquid layer and a dense solid center sphere

lithospheric plates – separate pieces of the lithosphere that move very slowly due to motion in the mantle

rock cycle – series of processes in which rock changes from one type to another and back again

sedimentary rock – rock formed from hardened deposits of sediment

metamorphic rock – rock formed from other rocks as result of intense heat, pressure, or chemical processes

igneous rock – rock formed from cooled and hardened magma

constructive force – forces that deform and change the surface of the earth (ex: crustal deformation, volcanic eruption, deposition of sediment)

crustal deformation – the bending, tilting, and breaking of the earth's crust caused mainly by movement of the lithospheric plates

destructive force – forces that wear away and change the surface of the earth (ex: weathering, erosion)

erosion – the slow movement of weathered rock and soil from one place to another caused by water, wind, gravity and glaciers

weathering - slow process that causes rocks to crumble, crack, and break, changing its physical form and chemical make up

hydrosphere – all the earth's water

water cycle – continuous movement of water from the air to the earth and back again

precipitation – process of water falling from clouds to earth in the form of rain, sleet, snow, or hail

condensation – process of water vapor changing to liquid water

evaporation – process of liquid water changing to water vapor

atmosphere – thick blanket of gases (nitrogen, oxygen and trace gases) surrounding the earth

troposphere – atmospheric layer closest to earth; nearly all weather change occurs here

stratosphere – second atmospheric layer above the troposphere; nearly all of ozone found here

mesosphere – third atmospheric layer above the stratosphere; coldest layer of atmosphere

thermosphere – highest layer of the earth's atmosphere; very thin air

weather – daily and seasonal changes in temperature, wind, and precipitation

climate – general weather conditions over many years

Earth's History

fossils – trace or remains of a plant or animal in sedimentary rock; preserved clues to what life on Earth and its environment were like long ago

asteroid – fragment of rock that orbits the sun; impact with Earth can cause catastrophic influence on its history

comet – body of rock, dust, ice, and gases that revolves around the sun in a long, elliptical orbit; impact with Earth can cause catastrophic influence on its history

Earth in the Solar System

solar system – the sun and the bodies (planets, moons, asteroids, comets) that revolve around it

orbit – elliptical path of motion that planets, asteroids, and comets make around the sun

revolution – one complete movement (orbit) of a planet around the sun or a moon around a planet

year – time required for the earth to make one revolution around the sun

rotation – spinning of a planet on its axis

day – time required for the earth to make one rotation on its axis

phases of the moon - repeating monthly pattern of different moon shapes we see due to the moon's movement around earth

eclipse – passing of one planetary body through the shadow of another

gravity – force of attraction between all matter in the universe; it is the force that keeps the planets in orbit and governs all motion in solar system

tides – daily change in the level of the ocean surface caused by the gravitational pull of the moon on the earth and its waters

seasons – summer, fall, winter, spring caused by the tilt of the earth on its axis as it orbits the sun that changes the angle at which the sun's rays strike the earth's surface

Physical Science Vocabulary

Properties and Changes of Properties in Matter

matter – all substance is made of this; it has mass and takes up space

mass – the amount of matter in an object

volume – amount of space occupied by an object or a substance

physical property - characteristics that is observable or measurable in a substance without changing the chemical composition of the substance (ex: mass, density, temperature, boiling point, solubility)

density – ratio of the mass of a substance to its volume, expressed in g/cm^3

solubility – amount of a substance that will dissolve in a specific amount of another substance at a given temperature

mixture – two or more substances that are blended without combining chemically

physical change - change in shape, color or size, or state; a change without a change in chemical composition (ex: paper cut into pieces, water freezing, ice melting)

chemical property – characteristics of a substance that determine how it reacts to form other substances (ex: combustion, corrosion)

element – substance that cannot be broken down by physical or chemical means; consists of only one kind of atom

periodic table – system that organizes the elements in a way that shows their common properties

atom – smallest unit of an element that has the properties of that element

compound – substance containing atoms of two or more elements that are chemically combined, always in the same ratio

chemical change – change in which a substance becomes another substance with different properties (ex: wood burning, metal rusting)

Motion and Forces

motion - a change in the position of an object over time

force - any push or pull (ex: gravity, friction)

relative position – location of an object as described in relation to a reference point (ex: you are standing to the left of the teacher's desk)

distance – the separation between two positions (ex: there are three feet between my desk and the door)

speed – the rate of change of the position of an object; how fast something is moving (ex: 55 miles per hour)

constant speed – a speed that does not change

unbalanced force – occurs when the forces acting on an object are not equal; therefore, one force is greater than the other which causes object's speed or direction to change

Transfer of Energy

energy- property of many substances that give the ability to do work; many forms of energy (i.e., light, heat, electricity, sound)

energy transfer – changing energy from one form to another, such as potential to kinetic

potential energy – energy that is being stored in an object

kinetic energy – energy that a moving object has

temperature – a measurement of the average kinetic energy in the particles of an object

heat – energy that is transferred from an object at a high temperature to an object at a lower temperature

reflection – bouncing of light off of a surface

refraction – bending of light as it passes from one substance into another

electrical circuits - complete conducting path which allows electric current to flow through; electrical energy in circuit can be transferred into light, heat, sound

conductor - material that allows electricity and heat to move through it (ex: metals)

insulator – material that does not allow electricity and heat to flow through it (ex: wood, glass)