

# Third Grade Science Vocabulary

Taken from the Utah State Elementary Science Core Curricula

**Standard 1: Students will understand that the shape of Earth and the moon are spherical and that Earth rotates on its axis to produce the appearance of the sun and moon moving through the sky.**

model, orbit, sphere, moon, axis, rotation, revolution, appearance

**Standard 2: Students will understand that organisms depend on living and nonliving things within their environment.**

environment, interaction, living, nonliving, organism, survive, observe, terrarium, aquarium, temperature, moisture, small-scale

**Standard 3: Students will understand the relationship between the force applied to an object and resulting motion of the object.**

**Standard 4: Students will understand that objects near Earth are pulled toward Earth by gravity.**

distance, force, gravity, weight, motion, speed, direction, simple machine

**Standard 5: Students will understand that the sun is the main source of heat and light for things living on Earth. They will also understand that the motion of rubbing objects together may produce heat.**

mechanical, electrical, temperature, degrees, lubricated, misconception, heat source, machine



# Fourth Grade Science Vocabulary

Taken from the Utah State Elementary Science Core Curricula

**Standard 1: Students will understand that water changes state as it moves through the water cycle.**

vapor, precipitation, evaporation, clouds, dew, condensation, temperature, water cycle

**Standard 2: Students will understand that the elements of weather can be observed, measured, and recorded to make predictions and determine simple weather patterns.**

atmosphere, meteorologist, freezing, cumulus, stratus, cirrus, air pressure, thermometer, air temperature, wind speed, forecast, severe, phenomena, precipitation, seasonal, accuracy, barometer, rain gauge, components

**Standard 3: Students will understand the basic properties of rocks, the processes involved in the formation of soils, and the needs of plants provided by soil.**

mineral, weathering, erosion, sedimentary, igneous, metamorphic, topsoil, subsoil, bedrock, organism, freeze, thaw, profile, nonliving, structural support, nutrients

**Standard 4: Students will understand how fossils are formed, where they may be found in Utah, and how they can be used to make inferences.**

infer, environments, climate, dinosaur, preserved, extinct, extinction, impression, fossil, prehistoric, mineral, organism, replacement, trilobite, sedimentary, tropical

**Standard 5: Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.**

wetland, forest, desert, adaptation, deciduous, coniferous, invertebrate, vertebrate, bird, amphibian, reptile, fish, mammal, insect, hibernation, migration



# Fifth Grade Science Vocabulary

Taken from the Utah State Elementary Science Core Curricula

**Standard 1: Students will understand that chemical and physical changes occur in matter.**

heat, substance, chemical change, dissolve, physical change, matter, product, reactants, solid, liquid, weight

**Standard 2: Students will understand that volcanoes, earthquakes, uplift, weathering, and erosion reshape Earth's surface.**

earthquakes, erode, erosion, faults, uplift, volcanoes, weathering, buttes, arches, glaciers, geological, deposition

**Standard 3: Students will understand that magnetism can be observed when there is an interaction between the magnetic fields of magnets or between a magnet and materials made of iron.**

**Standard 4: Students will understand features of static and current electricity.**

battery, complete circuit, incomplete circuit, current, conductor, insulator, pathway, power source, attract, compass, electromagnetism, magnetic force, magnetic field, natural magnet, permanent magnet, properties, repel, static electricity, temporary magnet, switch, load

**Standard 5: Students will understand that traits are passed from the parent organisms to their offspring, and that sometimes the offspring may possess variations of these traits that may help or hinder survival in a given environment.**

inherited, environment, species, offspring, traits, variations, survival, instincts, population, specialized structure, organism, life cycle, parent organism, learned behavior



# Sixth Grade Science Vocabulary

Taken from the Utah State Elementary Science Core Curricula

**Standard 1: Students will understand that the appearance of the moon changes in a predictable cycle as it orbits Earth and as Earth rotates on its axis.**

**Standard 2: Students will understand how Earth's tilt on its axis changes the length of daylight and creates the seasons.**

earth's tilt, seasons, axis of rotation, orbits, phases of the moon, revolution, reflection

**Standard 3: Students will understand the relationship and attributes of objects in the solar System.**

**Standard 4: Students will understand the scale of size, distance between objects, movement, and apparent motion (due to Earth's rotation) of objects in the universe and how cultures have understood, related to and used these objects in the night sky.**

asteroids, celestial object, comets, galaxy, planets, satellites, star, distance, force, gravity, gravitational force, mass, scale, solar system, constellation, Milky Way galaxy, speed of light, telescope, universe, sun, light years

**Standard 5: Students will understand that microorganisms range from simple to complex, are found almost everywhere, and are both helpful and harmful.**

algae, fungi, microorganism, decomposer, single-celled, organism, bacteria, protozoan, producer, hypothesis, experiment, investigation, variable, control, culture



# Seventh Grade Integrated Science Vocabulary

Taken from the Utah State Secondary Science Core Curricula

**Standard 1: Students will understand the structure of matter.**

**Standard 2: Students will understand the relationship between properties of matter and Earth's structure.**

atmosphere, atom, crust, density, diffusion, gas, liquid, models, mass, matter, molecule, particle, solid, temperature, heat energy, volume

**Standard 3: Students will understand that the organs in an organism are made of cells that have structures and perform specific life functions.**

**Standard 4: Students will understand that offspring inherit traits that make them more or less suitable to survive in the environment.**

acquired trait, asexual reproduction, genetics, nucleus, organ, organism, osmosis, system, tissue, inherited trait, offspring, sexual reproduction, cytoplasm, diffusion, membrane, chloroplast, cell, cell wall

**Standard 5: Students will understand that structure is used to develop classification systems.**

classification, classification key, kingdom, organism, species



# **Eighth Grade Integrated Science Vocabulary**

Taken from the Utah State Secondary Science Core Curricula

**Standard 1: Students will understand the nature of changes in matter.**

chemical properties, physical properties, chemical change, physical change, reaction, reactants, products, respiration, photosynthesis, temperature, molecules, heat energy, chemical energy, atoms, energy

**Standard 2: Students will understand that energy from sunlight is changed to chemical energy in plants, transfers between living organisms, and that changing the environment may alter the amount of energy provided to living organisms.**

food web, food chain, photosynthesis, respiration, predator, energy flow, solar energy, chemical energy, mechanical energy, producer, consumer, prey, mutualism, parasitism, competition, environment, capacity, organism, decomposer

**Standard 3: Students will understand the processes of rock and fossil formation.**

volcano, earthquake, weathering, minerals, fossils, sedimentary, magma, metamorphic, rock cycle, igneous, sedimentation, deposition, geology, paleontology

**Standard 4: Students will understand the relationships among energy, force, and motion.**

energy, potential energy, kinetic energy, force, gravity, complex machine, wave, friction, amplitude



# Earth Systems Science Vocabulary

Taken from the Utah State Secondary Science Core Curricula

**Standard 1: Students will understand the scientific evidence that supports theories that explain how the universe and solar system developed.**

big bang theory, blue shift, heavy element, mass, nuclear fusion, red shift, theory, universe, astronomy

**Standard 2: Students will understand that the features of Earth's evolving environment affect living systems, and that life on Earth is unique in the solar system.**

abiotic, atmosphere, biodiversity, biome, biotic, ecosystem, extinction, system, aesthetic, ethical, social, economic, stellar, photosynthesis, biomass, species

**Standard 3: Students will understand that gravity, density, and convection move Earth's plates and this movement causes the plates to impact other Earth systems.**

plate tectonics, convergent, divergent, transform, plate, convection current, hypothesis, theory, seafloor spreading, biomes, climate, weather, geosphere, biosphere, hydrosphere, volcanic eruption, hot spot, fault

**Standard 4: Students will understand that water cycles through and between reservoirs in the hydrosphere and affects the other spheres of the Earth system.**

groundwater, reservoir, salinity, glacier, biological dynamics, tide, geologic time

**Standard 5: Students will understand that Earth's atmosphere interacts with and is altered by the lithosphere, hydrosphere, and biosphere.**

carbon cycle, climate, decomposer, matter, nitrogen cycle, ozone layer, depletion, fossil fuel, lithosphere

# Biology Science Vocabulary

Taken from the Utah State Secondary Science Core Curricula

**STANDARD I: Students will understand that living organisms interact with one another and their environment.**

predator-prey, symbiosis, competition, ecosystem, carbon cycle, nitrogen cycle, oxygen cycle, diversity, energy pyramid, consumers, producers, limiting factor, decomposers, food chain, biotic, abiotic, community, variable, evidence, inference, quantitative, qualitative

**STANDARD II: Students will understand that all organisms are composed of one or more cells that are made of molecules, come from preexisting cells, and perform life functions.**

organelles, photosynthesis, respiration, cellular respiration, osmosis, diffusion, active transport, homeostasis, cell theory, organic, carbohydrate, fermentation, protein, fat, nucleic acid, enzyme, chlorophyll, cell membrane, nucleus, cell wall, solvent, solute, adhesion, cohesion, microorganism

**STANDARD III: Students will understand the relationship between structure and function of organs and organ systems.**

organ, organ system, organism, hormonal modification, stomata, tissue, homeostasis, structure, function

**STANDARD IV: Students will understand that genetic information coded in DNA is passed from parents to offspring by sexual and asexual reproduction. The basic structure of DNA is the same in all living things. Changes in DNA may alter genetic expression.**

DNA, replication, fertilization, dominant trait, recessive trait, genetic engineering, gene splicing, phenotype, genotype, sexual reproduction, asexual reproduction, chromosome, gene, mutation, cloning, inheritance, bioethics, pedigree

**STANDARD V: Students will understand that biological diversity is a result of evolutionary processes.**

evolution, fossil record, geologic record, molecular, homologous, vestigial structures, mutation, recombination, hierarchy, classification scheme, theory, natural selection, adaptation, evidence, inference, speciation, biodiversity, taxonomy, kingdom, virus, protist, fungi, plant, animal, dichotomy





# Chemistry Science Vocabulary

Taken from the Utah State Secondary Science Core Curricula

**STANDARD I: Students will understand that all matter in the universe has a common origin and is made of atoms, which have structure and can be systematically arranged on the periodic table.**

**STANDARD II: Students will understand the relationship between energy changes in the atom specific to the movement of electrons between energy levels in an atom resulting in the emission or absorption of quantum energy. They will also understand that the emission of high-energy particles results from nuclear changes and that matter can be converted to energy during nuclear reactions.**

atom, element, nucleus, proton, neutron, electron, isotope, metal, nonmetal, metalloid, malleable, conductive, periodic table, quanta, wavelength, radiation, emit, absorb, spectrum, half-life, fission, fusion, energy level, mole

**STANDARD III: Students will understand chemical bonding and the relationship of the type of bonding to the chemical and physical properties of substances.**

chemical property, physical property, compound, valence electrons, ionic, covalent, malleability, conductivity, solubility, intermolecular, polarity

**STANDARD IV: Students will understand that in chemical reactions matter and energy change forms, but the amounts of matter and energy do not change.**

**STANDARD V: Students will understand that many factors influence chemical reactions and some reactions can achieve a state of dynamic equilibrium.**

chemical reaction, matter, law of conservation of mass, law of conservation of energy, temperature, electrochemical cell, entropy, chemical equation, endothermic, exothermic, heat, rate, catalyst, concentration, collision theory, equilibrium, half reaction

**STANDARD VI: Students will understand the properties that describe solutions in terms of concentration, solutes, solvents, and the behavior of acids and bases.**

solution, solute, solvent, concentration, molarity, percent concentration, colligative property, boiling point, freezing point, acid, base, pH, indicator, titration, hydrogen ion, neutralization, parts per million, concentrated, dilute, dissolve



# Physics Science Vocabulary

Taken from the Utah State Secondary Science Core Curricula

**STANDARD I: Students will understand how to measure, calculate, and describe the motion of an object in terms of position, time, velocity, and acceleration.**

position, time, speed, velocity, acceleration, distance, displacement, rate, instantaneous velocity, average velocity, frame of reference, balanced forces

**STANDARD II: Students will understand the relation between force, mass, and acceleration.**

**STANDARD III: Students will understand the factors determining the strength of gravitational and electric forces.**

force, electric force, electric charge, friction, gravitational force, mass, net force, normal force, weight, vector, vector diagram

**STANDARD IV: Students will understand transfer and conservation of energy.**

**STANDARD V: Students will understand the properties and applications of waves.**

energy, potential energy, kinetic energy, law of conservation of energy, wave, mechanical wave, electromagnetic wave, electromagnetic spectrum, wavelength, frequency, amplitude, period, reflection, refraction, diffraction, Doppler effect, elastic potential energy, medium, radio wave, microwave, infrared, visible light, ultraviolet, x-ray, gamma ray, conduction, convection, radiation

