

Grade	Science Standard	Description	Astro Camp Lesson	Objective	Science Language Used
Kinder	Standard 1	The Processes of Science, Communication of Science, and the Nature of Science. Students will be able to apply scientific processes, communicate scientific ideas effectively, and understand the nature of science.	Magnets; Sound; Light and Lenses; Robotics		
	Standard 2	Earth and Space Science. Students will gain an understanding of Earth and Space Science through the study of earth materials, celestial movement, and weather.	Rocks A, Rocks B	Objective 1	
			Earth, Sun, Moon (emphasis on Earth, Sun)	Objective 2	
			Weather A (weather and seasons)	Objective 3	
	Standard 3	Physical Science. Students will gain an understanding of Physical Science through the study of the forces of motion and the properties of materials.	Newton's Laws		
	Standard 4	Life Science. Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.			
1st	Standard 1	The Processes of Science, Communication of Science, and the Nature of Science. Students will be able to apply scientific processes, communicate scientific ideas effectively, and understand the nature of science.	Magnets; Sound; Light and Lenses; Robotics		
	Standard 2	Earth and Space Science. Students will gain an understanding of Earth and Space Science through the study of earth materials, celestial movement, and weather.	Soils, Rocks B (Rock Cycle)	Objective 1	
			Earth, Sun, Moon (Rotation of sun and moon)	Objective 2	
			Weather A (weather and seasons)	Objective 3	
	Standard 3	Physical Science. Students will gain an understanding of Physical Science through the study of the forces of motion and the properties of materials.	Newton's Laws	Objective 1	
			Matter	Objective 2	
	Standard 4	Life Science. Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.			

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2nd	Standard 1	The Processes of Science, Communication of Science, and the Nature of Science. Students will be able to apply scientific processes, communicate scientific ideas effectively, and understand the nature of science.	Magnets; Sound; Light and Lenses; Robotics		
	Standard 2	Earth and Space Science. Students will gain an understanding of Earth and Space Science through the study of earth materials, celestial movement, and weather.	Rocks A (Classification); Rocks B (Rock cycle)	Objective 1	
			Earth, Sun, Moon (emphasis on movement); Astronomy	Objective 2	
			Weather A (weather and seasons)	Objective 3	
	Standard 3	Physical Science. Students will gain an understanding of Physical Science through the study of the forces of motion and the properties of materials.	Newton's Laws (emphasis on gravity)	Objective 1	
			Matter	Objective 2	
	Standard 4	Life Science. Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.			
3rd	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.	Earth, Sun, Moon		model, orbit, sphere, moon, axis, rotation, revolution, appearance
	Standard 2	For any particular environment, some types of plants and animals survive well, some survive less well and some cannot survive at all. Organisms in an environment interact with their environment. Models can be used to investigate these interactions.	Utah Animals and Environments		environment, living, nonliving, organism, survive, moisture,
	Standard 3	Students will understand the relationship between the force applied to an object and resulting motion of the object.	Newton's Laws; Work and Machines; Principles of Flight		force, gravity, weight, motion, speed, direction, simple machine
	Standard 4	Students will understand that objects near Earth are pulled toward Earth by gravity.	Newton's Laws; Principles of Flight		distance, force, gravity, weight, motion, speed, direction
	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.	Work and Machines	Objective 2 Objective 3	mechanical; misconception; heat source; machine

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4th Grade	Standard 1	Students will understand that water changes state as it moves through the water cycle.	Weather B (water cycle)		vapor, precipitation, evaporation, clouds, 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.	Weather A (weather predicting, clouds)		atmosphere, meteorologist, freezing, cumulus, stratus, cirrus, air pressure, thermometer, wind speed, forecast, precipitation, seasonal, accuracy, barometer, rain gauge
	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.	Rocks A (classification)	Objective 1	mineral, weathering, erosion, sedimentary, igneous, metamorphic, topsoil, subsoil, bedrock, organism, freeze, thaw, profile, nonliving, structural support, nutrients
			Rocks B (rock cycle)	Objective 2	
			Soils	Objective 3	
	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.	Fossils and Dinosaurs		environments, climate, dinosaur, preserved, extinct, extinction, impression, fossil, mineral, organism, replacement, trilobite, sedimentary
	Standard 5	Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.	Utah Plants and Animals		wetland, forest, desert, adaptation, deciduous, coniferous, invertebrate, vertebrate, bird, amphibian, reptile, fish, mammal, insect, hibernation, migration
5th Grade	Standard 1	Students will understand that chemical and physical changes occur in matter.	Matter		heat, chemical change, dissolve, physical change, matter, product, reactants, solid, liquid, weight

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	Standard 2	Students will understand that volcanoes, earthquakes, uplift, weathering, and erosion reshape Earth's surface.	Rocks B; Landforms		earthquakes, erode, erosion, faults, uplift, volcanoes, weathering, buttes, arches, glaciers, 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.	Magnets		electromagnetism, magnetic force, magnetic field, natural magnet, permanent magnet, properties, repel, static electricity, temporary magnet, switch, load
	Standard 4	Students will understand features of static and current electricity.	Electricity A (static and current electricity); Electricity B (Circuits)		
	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.			
6th Grade	Strand 6.1	The solar system consists of the Sun, planets, and other objects within Sun's gravitational influence. Gravity is the force of attraction between masses. The Sun-Earth-Moon system provides an opportunity to study interactions between objects in the solar system that influence phenomena observed from Earth. Scientists use data from many sources to determine the scale and properties of objects in our solar system.	Earth, Sun, Moon	6.1.1	
			Newton's Laws	6.1.2	
			Astronomy	6.1.3	
	Strand 6.2	Matter and energy are fundamental components of the universe. Matter is anything that has mass and takes up space. Transfer of energy creates change in matter. Changes between general states of matter can occur through the transfer of energy. Density describes how closely matter is packed together. Substances with a higher density have more matter in a given space than substances with a lower density. Changes in heat energy can alter the density of a material. Insulators resist the transfer of heat energy, while conductors easily transfer heat energy. These differences in energy flow can be used to design products to meet the needs of society.	Matter; Light and Lenses		

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	Strand 6.3	All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. Heat energy from the Sun, transmitted by radiation, is the primary source of energy that affects Earth's weather and drives the water cycle. Uneven heating across Earth's surface causes changes in density, which result in convection currents in water and air, creating patterns of atmospheric and oceanic circulation that determine regional and global climates. „	Weather B (water cycle); Weather A (weather patterns)		
	Strand 6.4	The study of ecosystems includes the interaction of organisms with each other and with the physical environment. Consistent interactions occur within and between species in various ecosystems as organisms obtain resources, change the environment, and are affected by the environment. This influences the flow of energy through an ecosystem, resulting in system variations. Additionally, ecosystems benefit humans through processes and resources, such as the production of food, water and air purification, and recreation opportunities. Scientists and engineers investigate interactions among organisms and evaluate design solutions to preserve biodiversity and ecosystem resources.			
ALL	Engineering and Technology		Principles of Flight		
			Work and Machines		
			Newton's Laws		
			Robotics		
			Rocketry		