



ADW GRADE 1 SCIENCE STANDARDS & INSTRUCTION GUIDE

PHYSICAL SCIENCE (PS)	Standards	Core Concepts	Scientific Terms and Scientists	EdTech Resources
SC.1.PS.1	Make observations to construct an evidence-based account that objects can be seen only when illuminated.	<ul style="list-style-type: none">• Light is required to make objects visible.• Objects can be seen if light is available to illuminate them or if they give off their own light.• Shadows change when the position of the light source changes.	<ul style="list-style-type: none">• light• illumination	<ul style="list-style-type: none">• https://betterlesson.com/browse/common_core/standard/2069/ngss-1-ps4-2-make-observations-to-construct-an-evidence-based-account-that-objects-can-be-seen-only-when-illuminated
SC.1.PS.2	Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.	<ul style="list-style-type: none">• Some materials allow light to pass through them, while others allow only some light through.• Some materials block all the light and create a dark shadow on any surface beyond them, where the light cannot reach.• Mirrors can be used to change the direction of a beam of light.	<ul style="list-style-type: none">• shadow• opaque• transparent• translucent• reflection	<ul style="list-style-type: none">• https://wardsci.com/www.wardsci.com/images/Gr_1_light_probe.pdf



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SC.1.PS.3	Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	<ul style="list-style-type: none">• Sound can make matter vibrate.• Vibrating matter can make sound.• Stopping the vibration will stop the sound. (For example, putting your hand on a vibrating drum top, tuning fork, or guitar string.)	<ul style="list-style-type: none">• sound• vibration	<ul style="list-style-type: none">• https://wardsci.com/www.wardsci.com/images/Gr_1_sound.pdf• https://www.sciencebuddies.org/teacher-resources/lesson-plans/sound-vibrating-sprinkles• https://betterlesson.com/lesson/635196/communicating-with-light-people?from=cc_lesson
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PHYSICAL SCIENCE (PS)	Standards	Core Concepts	Scientific Terms and Scientists	EdTech Resources
SC.1.PS.4E	Use tools and materials to design and build a simple device that uses light or sound to solve the problem of communicating over a distance.	<ul style="list-style-type: none">• People use a variety of devices to communicate (send and receive information) over long distances.• Tools and materials can be used to design a device that solves a specific problem.	<ul style="list-style-type: none">• communication	<ul style="list-style-type: none">• https://betterlesson.com/lesson/635196/communicating-with-light-people?from=cc_lesson•



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LIFE SCIENCE (LS)	Standards	Core Concepts	Scientific Terms and Scientists	EdTech Resources
SC.1.LS.1	Use observations of physical features of common living organisms to determine patterns used for classification.	<ul style="list-style-type: none"> Animals have external features such as body coverings (fur, skin, feathers, scales) and limbs (arms, legs, flippers, tails). Animals have body parts that capture and convey different kinds of information needed for growth and survival (eyes, ears, etc.). Scientists use physical characteristics to classify animals such as mammals, birds, amphibians, reptiles, fish, or insects. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive, grow, and produce more plants. 	<ul style="list-style-type: none"> plants animals fungi 	<ul style="list-style-type: none"> https://itunes.apple.com/us/app/classify-it/id911484593?mt=8
SC.1.LS.2	Describe and compare the basic needs of living organisms.	<ul style="list-style-type: none"> Plants can produce their own food and require sunlight, air, water, and minerals (from the soil) to grow. Animals and fungi cannot make their own food and require a source of food for energy. They also require water, shelter, and a favorable temperature. Some animals eat plants, some eat other animals, and some eat both plants and animals. 	<ul style="list-style-type: none"> producer consumer omnivore carnivore herbivore 	<ul style="list-style-type: none"> https://whut.pbslearningmedia.org/resource/tdc02.sci.life.colt.lp_stayalive/the-needs-of-living-things/



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LIFE SCIENCE (LS)	Standards	Core Concepts	Scientific Terms and Scientists	EdTech Resources
SC.1.LS.3	Read texts and use media to determine patterns of behavior that aid in survival.	<ul style="list-style-type: none"> Animals respond to inputs from their surroundings with behaviors that help them survive (e.g. find food, run from a predator, and hibernate in the winter.) Plants also respond to some external inputs (e.g. leaves turn toward the sun; some plants change color and lose their leaves in the fall, roots grow down into the soil for water.) In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. Plants may produce large amounts of seeds with unique features to ensure a large area of dispersal and survival of offspring. 	<ul style="list-style-type: none"> behavior parent offspring survival habitat 	<ul style="list-style-type: none"> http://sciencenetlinks.com/lessons/butterfly-2-a-butterflys-home/
SC.1.LS.4E	Develop a model mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. Explore how those external parts could solve a human problem.	<ul style="list-style-type: none"> See LS.1-1 Humans can solve problems by mimicking how plants and animals use their external parts to help them survive, grow, and meet their needs. 		<ul style="list-style-type: none"> https://betterlesson.com/browse/common_core/standard/2074/ngss-1-ls1-1-use-materials-to-design-a-solution-to-a-human-problem-by-mimicking-how-plants-and-or-animals-use-their-external-par



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EARTH AND SPACE SCIENCE (ESS)	Standards	Core Concepts	Scientific Terms and Scientists	EdTech Resources
SC.1.ESS.1	Describe and compare objects seen in the night and day sky.	<ul style="list-style-type: none"> • The Sun is a star that provides heat and light energy for Earth. • Day occurs when Earth's surface faces the Sun. • Night occurs when Earth's surface faces away from the Sun. • The moon can be seen sometimes at night and sometimes during the day, because it is illuminated by the Sun. • The Sun can only be seen during the daytime. • Stars other than our Sun are visible at night and not during the day. 	<ul style="list-style-type: none"> • Earth • day • night • sun • moon • stars 	<ul style="list-style-type: none"> • http://www.cpalms.org/Public/PreviewResourceLesson/Preview/29487 • http://education.abc.net.au/home#!/media/1389191/day-sky-night-sky
SC.1.ESS.2	Use observations of the sun, moon, and stars to describe patterns that can be predicted.	<ul style="list-style-type: none"> • Objects in the sky have patterns of movement. • The Earth moves (revolves) around the Sun in a nearly circular pattern. • The Sun, moon, and stars appear to move slowly across the sky. • Earth rotates and the rotation gives us day and night. • The Sun and moon appear to rise in one part of the sky, move across the sky, and set. 	<ul style="list-style-type: none"> • rotation • revolution • moon phases 	<ul style="list-style-type: none"> • https://betterlesson.com/browse/common_core/standard/2080/ngss-1-ess1-1-use-observations-of-the-sun-moon-and-stars-to-describe-patterns-that-can-be-predicted



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		<ul style="list-style-type: none"> The moon looks a little different each night but looks the same again in about four weeks. The amount of daylight and the times of sunrise and sunset change at different times of the year. 		
EARTH AND SPACE SCIENCE (ESS)	Standards	Core Concepts	Scientific Terms and Scientists	EdTech Resources
SC.1.ESS.3E	Make observations to determine the effect of sunlight on Earth's surface and use tools and materials to design and build a structure to increase or decrease the warming effect on an area.	<ul style="list-style-type: none"> Sunlight warms Earth's surface, including the land, air, and water. Some materials allow light to pass through them, while others allow only some light through. (See 1.PS.3-3) New types of buildings are being constructed to reduce the effects of the Sun. Temperature is measured using a thermometer and can vary greatly in an area due to shade cover, color of materials or ground cover, distance above the ground, etc. *Technology is any modification to the natural world created to fulfill the wants and needs of humans. 	<ul style="list-style-type: none"> temperature light heat thermometer technology 	<ul style="list-style-type: none"> https://betterlesson.com/browse/common_core/standard/2053/ngss-k-ps3-2-use-tools-and-materials-to-design-and-build-a-structure-that-will-reduce-the-warming-effect-of-sunlight-on-an-area



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Grades K-2 Engineering Standards (E)

SC.K-2.E.1 Pose questions, make observations, and obtain information about a situation people want to change. Use this data to define a simple problem that can be solved through the construction of a new or improved object or tool.

SC.K-2.E.2 Develop a simple sketch, drawing, or physical model to illustrate and investigate how the shape of an object helps it function as needed to solve an identified problem.

SC.K-2.E.3 Analyze data from the investigation of two objects constructed to solve the same problem to compare the strengths and weaknesses of how each performs.