

Standards-Based Learning

Power Standards

Science

Grades 2-3

The science standards for grades 2-3 consist of eight Core Content Standards within the domains of science. These standards should be learned during the two-year grade span, so that only four of them need to be learned *in depth* each year. Local school district curriculum teams will decide which of the areas will be learned at which grade level, depending on students' needs and interests.

ⓈPower Standards highlighted **All standards must be taught and assessed. Power standards identify the standards that should receive the most instructional focus.**

Systems		2-3 SYS
<i>Part-Whole Relationships</i>		
2-3 SYSA	A system is a group of interacting parts that form a whole.	
2-3 SYSB	A whole object, plant, or animal may not continue to function the same way if some of its parts are missing.	
2-3 SYSC	A whole object, plant, or animal can do things that none of its parts can do by themselves.	
2-3 SYSD	Some objects need to have their parts connected in a certain way if they are to function as a whole.	
2-3 SYSE	Similar parts may play different roles in different objects, plants, or animals.	
Inquiry		2-3 INQ
<i>Conducting Investigations</i>		
2-3 INQA	Scientific investigations are designed to gain knowledge about the natural world.	
2-3 INQB	A scientific investigation may include making and following a plan to accurately observe and describe objects, events, and organisms; make and record measurements, and predict outcomes.	
2-3 INQC	Inferences are based on observations.	
2-3 INQD	Simple instruments, such as magnifiers, thermometers, and rulers provide more information than scientists can obtain using only their unaided senses.	
2-3 INQE	Models are useful for understanding systems that are too big, too small, or too dangerous to study directly.	
2-3 INQF	Scientists develop explanations, using observations (evidence) and what they already know about the world. Explanations should be based on evidence from investigations.	
2-3 INQG	Scientists make the results of their investigations public, even when the results contradict their expectations.	
Application		2-3 APP
<i>Solving Problems</i>		
2-3 APPA	Simple problems can be solved through a technological design process that includes: defining the problem, gathering information, exploring ideas, making a plan, testing possible solutions to see which is best, and communicating the results.	
2-3 APPB	Scientific ideas and discoveries can be applied to solving problems	
2-3 APPC	People in all cultures around the world have always had problems and invented tools and techniques (ways of doing something) to solve problems.	

2-3 APPD	Tools help scientists see more, measure more accurately, and do things that they could not otherwise accomplish.
2-3 APPE	Successful solutions to problems often depend on selection of the best tools and materials and on previous experience.
Physical Science 2-3 PS	
<i>Force Makes Things Move</i>	
2-3 PS1A	Motion can be described as a change in position over a period of time.
2-3 PS1B	There is always a force involved when something starts moving or changes its speed or direction of motion.
2-3 PS1C	A greater force can make an object move faster and farther.
2-3 PS1D	The relative strength of two forces can be compared by observing the difference in how they move a common object.
<i>Properties of Materials</i>	
2-3 PS2A	Objects have properties, including size, weight, hardness, color, shape, texture, and magnetism. Unknown substances can sometimes be identified by their properties.
2-3 PS2B	An object may be made from different materials. These materials give the object certain properties.
2-3 PS2C	Water changes state (solid, liquid, gas) when the temperature of the water changes.
	The amount of water and other liquids left in an open container will decrease over time, but the amount of liquid in a closed container will not change.
<i>Forms of Energy</i>	
2-3 PS3A	Heat, light, motion, electricity, and sound are all forms of energy.
Earth and Space Science 2-3 ES	
<i>The Sun's Daily Motion</i>	
2-3 ES1A	Outdoor shadows are longest during the morning and evening and shortest during the middle of the day. These changes in the length and direction of an object's shadow indicate the changing position of the Sun during the day.
<i>Water and Weather</i>	
2-3 ES2A	Water plays an essential role in Earth systems, including shaping landforms.
2-3 ES2B	Water can be a liquid or solid and can go back and forth from one form to another. If water is turned into ice and then the ice is allowed to melt, the amount of water will be the same as it was before freezing. Water occurs in the air as rain, snow, hail, fog, and clouds.
2-3 ES2C	Weather changes from day to day and over the seasons. Weather can be described by measurable quantities, such as temperature and precipitation.
<i>Earth History (ES3)</i>	
2-3 ES3	No standards for 2-3 Earth History because the content is not developmentally appropriate for students in this grade band
Life Science 2-3 LS	
<i>Life Cycles</i>	
2-3 LS1A	Plants have <i>life cycles</i> that include sprouting, growing to full size, forming fruits and flowers, shedding seeds (which begins a new cycle), and eventually dying. The details of the <i>life cycle</i> are different for different plants.
2-3 LS1B	Animals have life cycles that include being born; developing into juveniles, adolescents, then adults; reproducing (which begins a new cycle); and eventually dying. The details of the life cycle are different for different animals.
<i>Changes in Ecosystems</i>	
2-3 LS2A	<i>Ecosystems</i> support all life on the planet, including human life, by providing food, fresh water, and breathable <i>air</i> .

2-3 LS2B	All <i>ecosystems</i> change over time as a result of natural causes (e.g., storms, floods, volcanic eruptions, fire). Some of these changes are beneficial for the plants and animals, some are harmful, and some have no <i>effect</i> .
2-3 LS2C	Some changes in <i>ecosystems</i> occur slowly and others occur rapidly. Changes can affect life forms, including humans.
2-3 LS2D	Humans impact <i>ecosystems</i> in both positive and negative ways. Humans can help improve the health of <i>ecosystems</i> so that they provide <i>habitats</i> for plants and animals and resources for humans over the long term. For example, if people use fewer resources and recycle waste, there will be fewer negative impacts on natural <i>systems</i> .
<i>Variation of Inherited Characteristics</i>	
2-3 LS3A	There are <i>variations</i> among the same kinds of plants and animals.
2-3 LS3B	The offspring of a plant or animal closely resembles its parents, but close inspection reveals differences.
2-3 LS3C	Sometimes differences in characteristics give individual plants or animals an advantage in surviving and reproducing
2-3 LS3D	Fossils are often similar to parts of plants or animals that live today.
2-3 LS3E	Some <i>fossils</i> are very different from plants and animals that live today