

Science Standards 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.

As illustrated by the grid below, the three crosscutting EALRs of Systems, Inquiry, and Application are not to be learned in isolation, but rather in conjunction with content in the science domains. Not every topic needs to address all three crosscutting EALRs. But in any given year, content in Systems, Inquiry, and Application should be experienced in the context of several science lessons so that students can see the commonalities among the fields of science.

Grades 2-3	EALR 1 Systems SYS	EALR 2 Inquiry INQ	EALR 3 Application APP
EALR 4 Domains of Science			
Physical Science PS1 Force Makes Things Move PS2 Properties of Materials PS3 Forms of Energy Earth and Space Science ES1 The Sun's Daily Motion ES2 Water and Weather Life Science LS1 Life Cycles LS2 Changes in Ecosystems LS3 Variation of Inherited Characteristics	Role of Each Part in a System	Conducting Investigations	Solving Problems

Standards for Grades 2-3

EALR 1: Systems

Big Idea: Systems (SYS)

Core Content: *Role of Each Part in a System*

In prior grades students learned to recognize part-whole relationships. In grades 2-3 students learn to think systematically about how the parts of objects, plants, and animals are connected and work together. They realize that the whole object, plant, or animal has properties that are different from the properties of its parts, and that if one or more parts are removed, the whole system may not continue functioning the same way. Students also note cases in which the same part may play a different role in a different system. Finally, they learn to define *system* as “a group of interacting parts that form a whole.” Understanding that an object, plant, or animal is more than the sum of its parts is a deep insight that has value in investigating all natural and human-made systems.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</i>
2-3 SYSA	A <i>system</i> is a group of interacting parts that <i>form</i> a whole.	<ul style="list-style-type: none"> Give examples of simple living and physical <i>systems</i> (e.g., a whole animal or plant, a car, a doll, a table and chair set). For each example, <i>explain how</i> different parts make up the whole.
2-3 SYSB	A whole object, plant, or animal may not continue to <i>function</i> the same way if some of its parts are missing.	<ul style="list-style-type: none"> <i>Predict</i> what may happen to an object, plant, or animal if one or more of its parts are removed (e.g., a tricycle cannot be ridden if its wheels are removed).^{*a} <i>Explain how</i> the parts of a <i>system</i> depend on one another for the <i>system</i> to <i>function</i>.
2-3 SYSC	A whole object, plant, or animal can do things that none of its parts can do by themselves.	<ul style="list-style-type: none"> Contrast the <i>function</i> of a whole object, plant, or animal with the <i>function</i> of one of its parts (e.g., an airplane can fly, but wings and propeller alone cannot; plants can grow, but stems and flowers alone cannot).
2-3 SYSD	Some objects need to have their parts connected in a certain way if they are to <i>function</i> as a whole.	<ul style="list-style-type: none"> <i>Explain</i> why the parts in a <i>system</i> need to be connected in a specific way for the <i>system</i> to <i>function</i> as a whole (e.g., batteries must be inserted correctly in a flashlight if it is to produce light).
2-3 SYSE	Similar parts may play different roles in different objects, plants, or animals.	<ul style="list-style-type: none"> Identify ways that similar parts can play different roles in different <i>systems</i> (e.g., birds may use their beaks to crack seeds while other birds use their beaks to catch fish).

Mathematics Connections

^{*a} 3.6.J Make and test conjectures based on data (or information) collected from explorations and experiments.

EALR 2: Inquiry

Big Idea: Inquiry (INQ)

Core Content: *Conducting Investigations*

In prior grades students learned that scientific investigations involve trying to answer questions by making observations or trying things out. In grades 2-3 students learn to conduct different kinds of investigations. Although students may not yet be able to plan investigations alone, they can carry out investigations in collaboration with other students and support from the teacher. Actions may include observing and describing objects, events, and organisms, classifying them and making and recording measurements. Students should also display their data using various tables and graphs, make inferences based on evidence, and discuss their results with other students.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</i>
2-3 INQA Question	Scientific <i>investigations</i> are <i>designed</i> to gain knowledge about the <i>natural world</i> .	<ul style="list-style-type: none"> • Explain how <i>observations</i> can lead to new knowledge and new <i>questions</i> about the <i>natural world</i>.*a
2-3 INQB Investigate	A scientific <i>investigation</i> may include making and following a plan to accurately observe and <i>describe</i> objects, events, and <i>organisms</i> ; make and record measurements, and <i>predict</i> outcomes.	<ul style="list-style-type: none"> • Work with other students to make and follow a plan to carry out a scientific <i>investigation</i>. Actions may include accurately observing and describing objects, events, and <i>organisms</i>; measuring and recording data; and predicting outcomes.*b
2-3 INQC Infer	<i>Inferences</i> are based on <i>observations</i> .	<ul style="list-style-type: none"> • Distinguish between direct <i>observations</i> and simple <i>inferences</i>.
2-3 INQD Investigate	Simple instruments, such as <i>magnifiers</i> , <i>thermometers</i> , and rulers provide more information than scientists can obtain using only their unaided senses.	<ul style="list-style-type: none"> • Use simple instruments (e.g., metric scales or balances, <i>thermometers</i>, and rulers) to observe and make measurements, and record and display data in a table, bar graph, line plot, or pictograph.*c
2-3 INQE Model	<i>Models</i> are useful for understanding <i>systems</i> that are too big, too small, or too dangerous to study directly.	<ul style="list-style-type: none"> • Use a simple <i>model</i> to study a <i>system</i>. Explain how the <i>model</i> can be used to understand the <i>system</i>.
2-3 INQF Explain	Scientists develop explanations, using <i>observations (evidence)</i> and what they already know about the world. Explanations should be based on <i>evidence</i> from <i>investigations</i> .	<ul style="list-style-type: none"> • Accurately <i>describe</i> results, referring to the graph or other data as <i>evidence</i>. Draw a conclusion about the <i>question</i> that motivated the study using the results of the <i>investigation</i> as <i>evidence</i>.*d
2-3 INQG Communicate Intellectual Honesty	Scientists make the results of their <i>investigations</i> public, even when the results contradict their expectations.	<ul style="list-style-type: none"> • Communicate honestly about their <i>investigations</i>, describing how <i>observations</i> were made and summarizing results.*d

Standards for Grades 2-3

Mathematics Connections

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| *a | 2.5.A | Identify the question(s) asked in a problem and any other questions that need to be answered to solve the problem. |
| | 3.6.A | Determine the question(s) to be answered, given a problem situation. |
| *b | 2.3.C | Measure length to the nearest whole unit in both metric and U.S. customary units. |
| | 3.5.B | Measure temperature in degrees Fahrenheit and degrees Celsius using a thermometer. |
| | 3.5.C | Estimate, measure, and <i>compare</i> weight and mass, using appropriate-size U.S. customary and metric units. |
| *c | 3.5.E | Construct and analyze pictographs, frequency tables, line plots, and bar graphs. |
| *d | 3.6.I | Summarize mathematical information, draw conclusions, and explain reasoning. |
| | 3.6.J | Make and test conjectures based on data (or information) collected from explorations and experiments. |

EALR 3: Application

Big Idea: Application (APP)

Core Content: Solving Problems

In earlier grades, students learned to use simple tools and materials to solve problems in creative ways. In grades 2-3 students develop the ability to design a solution to a simple problem, using an elementary version of the technological design process. They also increase their abilities to use tools and materials to design and build something that solves a problem. Students can apply these abilities in their daily lives.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</i>
2-3 APPA	Simple problems can be solved through a <i>technological design process</i> that includes: defining the problem, gathering information, exploring ideas, making a plan, testing possible <i>solutions</i> to see which is best, and communicating the results.	<ul style="list-style-type: none"> • <i>Design a solution</i> to a simple problem (e.g., <i>design a tool</i> for removing an object from a jar when your hand doesn't fit) using a <i>technological design process</i> that includes: defining the problem, gathering information, exploring ideas, making a plan, testing possible <i>solutions</i> to see which is best, and communicating the results. *a
2-3 APPB	Scientific ideas and discoveries can be applied to solving problems.	<ul style="list-style-type: none"> • Give an example in which the application of scientific knowledge helps solve a problem (e.g., use electric lights to see at night). *b
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.	<ul style="list-style-type: none"> • <i>Describe</i> a problem that people in different cultures around the world have had to solve and the various ways they have gone about solving that problem.*a
2-3APPD	Tools help scientists see more, measure more accurately, and do things that they could not otherwise accomplish.	<ul style="list-style-type: none"> • Select appropriate <i>tools</i> and materials to meet a goal or solve a specific problem (e.g., build the tallest tower with wooden blocks or the longest bridge span) and <i>explain</i> the reason for those choices.
2-3 APPE	Successful <i>solutions</i> to problems often depend on selection of the best <i>tools</i> and materials and on previous experience.	<ul style="list-style-type: none"> • <i>Evaluate</i> how well a selected tool solved a problem and discuss what might be done differently to solve a similar problem.*b,c

Mathematics Connections

*a	3.6.F	Represent a problem situation, using words, numbers, pictures, physical objects, or symbols.
*b	2.5.G	Determine whether a solution to a problem is reasonable.
*c	2.5.D	Select from a variety of problem-solving strategies and use one or more strategies to solve a problem.
	3.6.E	Select and use one or more appropriate strategies to solve a problem.

Note: This standard is closely aligned to Core Processes 2.5 and 3.6

Standards for Grades 2-3

EALR 4: **Physical Science**

Big Idea: **Force and Motion (PS1)**

Core Content: *Force Makes Things Move*

In prior grades students learned to use appropriate words to describe the position and motion of objects and the effects of forces on objects. In grades 2-3 students learn that forces work not only to push and pull objects, but also affect objects when they are dropped or thrown. Whenever the motion of an object changes, there is a force involved. Greater forces on a given object result in greater changes of motion. In addition to being able to describe how forces change the motion of objects, students are expected to measure the position of objects using measuring instruments such as rulers. Students can also measure time to the nearest minute. Emphasis should be on comparisons of forces and motions rather than on calculation so that students develop conceptual understanding of how forces make things move.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</i>
2-3 PS1A	<i>Motion</i> can be <i>described</i> as a change in position over a period of time.	<ul style="list-style-type: none"> Give an example to illustrate <i>motion</i> as a change in position over a period of time (e.g., if a student stands near the door and then moves to his/her seat, the student is “in <i>motion</i>” during that time).^{*a}
2-3 PS1B	There is always a <i>force</i> involved when something starts moving or changes its <i>speed</i> or direction of <i>motion</i> .	<ul style="list-style-type: none"> Identify the <i>force</i> that starts something moving or changes its <i>speed</i> or direction of <i>motion</i> (e.g., when a ball is thrown or when a rock is dropped).
2-3 PS1C	A greater <i>force</i> can make an object move faster and farther.	<ul style="list-style-type: none"> Give examples to illustrate that a greater <i>force</i> can make an object move faster than a lesser <i>force</i> (e.g., throwing a ball harder or hitting it harder with a bat will make the ball go faster).
2-3 PS1D	The relative strength of two <i>forces</i> can be <i>compared</i> by observing the difference in how they move a <i>common</i> object.	<ul style="list-style-type: none"> Measure and <i>compare</i> the distances moved by an object (e.g., a toy car) when given a small push and when given a big push.^{*b}

Mathematics Connections

^{*a} 2.3.E Use both analog and digital clocks to tell time to the minute.

^{*b} 2.3.C Measure length to the nearest whole unit in both metric and U.S. customary units.

EALR 4: Physical Science

Big Idea: Matter: Properties and Change (PS2)

Core Content: *Properties of Materials*

In prior grades students learned about liquids and solids. In grades 2-3 students learn to identify different physical properties of materials (matter) and to realize that an object may be made from several different types of materials. They also learn that properties of materials change when environmental conditions change. Water, for example, changes to a solid when the temperature drops below 0°Celsius. Although few students at this age will fully understand that water may change to an invisible gas (e.g., water vapor) when left in an open container overnight, they can start to become familiar with changes of state by observing ice cubes freeze and then melt, and seeing water turn to steam when heated. Looking closely at matter to describe its characteristics will eventually lead to understanding the basic nature of matter and its physical and chemical properties.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</i>
2-3 PS2A	Objects have <i>properties</i> , including size, <i>weight</i> , hardness, color, shape, texture, and magnetism. Unknown substances can sometimes be identified by their <i>properties</i> .	<ul style="list-style-type: none"> List several <i>properties</i> of an object. Select one of several objects that best matches a list of <i>properties</i>. Sort objects by their <i>functions</i>, shapes, and the materials they are composed of.
2-3 PS2B	An object may be made from different materials. These materials give the object certain <i>properties</i> .	<ul style="list-style-type: none"> List <i>properties</i> of <i>common</i> materials. <i>Compare</i> similar objects made of different materials (e.g., a plastic spoon and a metal spoon) and <i>explain how</i> their <i>properties</i> are similar and different. <i>Compare</i> two objects made of the same material but a different shape (e.g., a plastic fork and a plastic spoon) and identify which of their <i>properties</i> are similar and different.
2-3 PS2C	Water changes <i>state</i> (<i>solid, liquid, gas</i>) when the temperature of the water changes.	<ul style="list-style-type: none"> <i>Predict</i> what will happen to a sample of <i>liquid</i> water if it is put into a freezer (it will turn to ice) and if it is put into a pan and heated on the stove (it will turn to <i>steam</i> or <i>water vapor</i>).^{*a}
2-3 PS2D	The amount of water and other <i>liquids</i> left in an open container will decrease over time, but the amount of <i>liquid</i> in a closed container will not change.	<ul style="list-style-type: none"> <i>Predict</i> what will happen to a small quantity of water left in an open container overnight. <i>Predict</i> what will happen to the same quantity of water left in a closed container overnight. <i>Explain</i> where the <i>liquid</i> water goes when the amount decreases over time. ^{*a}

Mathematics Connections

^{*a} 3.6.J Make and test conjectures based on data (or information) collected from explorations and experiments.

Standards for Grades 2-3

EALR 4: **Physical Science**

Big Idea: **Energy: Transfer, Transformation, and Conservation (PS3)**

Core Content: *Forms of Energy*

Students learn to identify several different forms of energy. Children in this age range have an intuitive understanding of energy concepts. For example, energy is needed to get things done; humans get energy from food. It is possible to build on these ideas by having the students explore different energy phenomena.

	Content Standards	Performance Expectations
2-3 PS3A	<i>Students know that:</i> <i>Heat, light, motion, electricity, and sound are all forms of energy.</i>	<i>Students are expected to:</i> <ul style="list-style-type: none">• Use the word <i>energy</i> to <i>explain</i> everyday activities (e.g., food gives people energy to play games).• Give examples of different forms of <i>energy</i> as observed in everyday life: light, sound, and <i>motion</i>.• <i>Explain how</i> light, sound, and <i>motion</i> are all <i>energy</i>.

EALR 4: Earth and Space Science

Big Idea: Earth in Space (ES1)

Core Content: *The Sun's Daily Motion*

In prior grades students learned that some of the objects they see in the sky change from minute to minute, while other things can be seen to follow patterns of movement if observed carefully over time. In grades 2-3 students learn that carefully observing and recording shadows provides an excellent way to trace the daily movement of the Sun through the sky, which extends their observational skills. In later years, students will use this knowledge to realize that the Sun's apparent movement reflects Earth's daily spin on its axis.

	Content Standards	Performance Expectations
2-3 ES1A	<p><i>Students know that:</i></p> <p>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.</p>	<p><i>Students are expected to:</i></p> <ul style="list-style-type: none"> • Mark the position of shadows cast by a stick over the course of a few hours, and <i>infer</i> how the Sun has moved during that time.*a • Observe that the length of shadows is shortest at about noon, and <i>infer</i> that this is because the Sun is highest in the sky (but not directly overhead) at about that time. *a • <i>Explain how</i> shadows could be used to tell the time of day.*b

Mathematics Connections

*a 2.4.A Solve problems involving properties of two- and three-dimensional figures.

*b 2.3.E Use both analog and digital clocks to tell time to the minute.

Standards for Grades 2-3

EALR 4: Earth and Space Science

Big Idea: Earth Systems, Structures, and Processes (*ES2*)

Core Content: *Water and Weather*

In prior years, students learned about Earth materials through their own observations. In grades 2-3 students learn that water exists in various locations and plays an essential role in Earth systems, including shaping land forms and weather. Weather changes from day to day, and weather conditions can be described by measurable quantities, such as temperature and rainfall. Environments can be affected by natural causes. Some of these changes are gradual and some are rapid. Water is essential for life, but it can also be destructive when too much is deposited too rapidly.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</i>
2-3 ES2A	Water plays an essential role in Earth systems, including shaping landforms.	<ul style="list-style-type: none"> Identify where natural water bodies occur in the students' local environment. Show how water has shaped a local landform (e.g., river valley, canyon, Puget Sound).
2-3 ES2B	Water can be a <i>liquid</i> or <i>solid</i> and can go back and forth from one <i>form</i> 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 <i>air</i> as rain, snow, hail, fog, and clouds.	<ul style="list-style-type: none"> <i>Describe</i> the various forms and places that water can be found on Earth as <i>liquids</i> and <i>solids</i> (e.g., as <i>liquid</i> in morning dew; in lakes, streams, and oceans; as solid ice at the North and South Poles, and on the tops of mountains; and in the <i>air</i> as clouds, fog, rain, hail, and snow). <i>Predict</i> that the <i>weight</i> of a sample of water will be nearly the same before and after it is frozen or melted. <i>Explain</i> why the <i>weight</i> will be almost the same.*a
2-3 ES2C	<i>Weather</i> changes from day to day and over the seasons. Weather can be described by measurable quantities, such as <i>temperature</i> and <i>precipitation</i> .	<ul style="list-style-type: none"> Measure and record changes in weather (e.g., inches of rain using a <i>rain gauge</i>, depth of snow using a ruler, and temperature using a <i>thermometer</i>).*a Interpret graphs of weather conditions to <i>describe</i> with measurements how weather changes from season to season.*b

Mathematics Connections

*a	2.3C	Measure length to the nearest whole unit in both metric and U.S. customary units.
	3.5.B	Measure temperature in degrees Fahrenheit and degrees Celsius, using a thermometer.
*b	2.4.B	Collect, organize, represent, and interpret data in bar graphs and picture graphs.
	3.5.E	Construct and analyze pictographs, frequency tables, line plots, and bar graphs.

Note: Students are not expected to convert between English and metric units at this grade level.

EALR 4: **Earth and Space Science**

Big Idea: **Earth History (*ES3*)**

Core Content: *None*

No standards for 2-3 Earth History because content on fossils would duplicate content in 2-3 LS3 Biological Evolution.

Standards for Grades 2-3

EALR 4: Life Science

Big Idea: Structures and Functions of Living Organisms (LS1)

Core Content: Life Cycles

In prior grades students learned that living things have basic needs and they meet those needs in various ways. In grades 2-3 students learn that all plants and animals have life cycles. They also compare the life cycles of a few common animals to see how they are similar and how they are different, and learn about the life cycles of plants. Focus should be on observable characteristics of how plants and animals change over time. An important aspect of life cycles is that plants and animals resemble their parents. This is a first step in understanding how the structures of plants and animals develop and function.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</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.	<ul style="list-style-type: none">• Describe the <i>life cycle</i> of a <i>common</i> type of plant (e.g., the growth of a fast-growing plant from seed to sprout, to adult, to fruits, flowers, and seeds).
2-3 LS1B	Animals have <i>life cycles</i> that include being born; developing into juveniles, adolescents, then adults; reproducing (which begins a new cycle); and eventually dying. The details of the <i>life cycle</i> are different for different animals.	<ul style="list-style-type: none">• Describe the <i>life cycle</i> of a <i>common</i> type of animal (e.g., the development of a butterfly or moth from egg to larva to pupa to adult, or the development of a frog from egg to tadpole to adult frog).

EALR 4: Life Science

Big Idea: Ecosystems (LS2)

Core Content: *Changes in Ecosystems*

In prior grades students learned that all plants and animals live in and depend on habitats. In grades 2-3 students learn that ecosystems include plant and animal populations as well as nonliving resources. Plants and animals depend both on each other and on the nonliving resources in their ecosystem to survive. Ecosystems can change through both natural causes and human activities. These changes might be good or bad for the plants and animals that live in the ecosystem, or have no effect. Humans can protect the health of ecosystems in a number of ways.

	Content Standards	Performance Expectations
2-3 LS2A	<p><i>Students know that:</i></p> <p><i>Ecosystems</i> support all life on the planet, including human life, by providing food, fresh water, and breathable <i>air</i>.</p>	<p><i>Students are expected to:</i></p> <ul style="list-style-type: none"> Identify at least four ways that <i>ecosystems</i> support life (e.g., by providing fresh water, generating oxygen, removing toxic pollutants, and providing sources of useful materials).
2-3 LS2B	<p>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>.</p>	<ul style="list-style-type: none"> <i>Describe</i> three or more of the changes that occur in an <i>ecosystem</i> or a <i>model</i> of a natural <i>ecosystem</i> (e.g., aquarium, terrarium) over time, as well as how these changes may affect the plants and animals living there.*a
2-3 LS2C	<p>Some changes in <i>ecosystems</i> occur slowly and others occur rapidly. Changes can affect life forms, including humans.</p>	<ul style="list-style-type: none"> <i>Explain</i> the consequences of rapid <i>ecosystem</i> change (e.g., flooding, <i>wind</i> storms, snowfall, and volcanic eruptions). <i>Explain</i> the consequences of gradual <i>ecosystem</i> change (e.g., gradual increase or decrease in daily temperatures, reduction or increase in yearly rainfall).
2-3 LS2D	<p>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>.</p>	<ul style="list-style-type: none"> <i>Describe</i> a change that humans are making in a particular <i>ecosystem</i> and <i>predict</i> how that change could harm or improve conditions for a given type of plant or animal.*b Propose a plan to protect or improve an <i>ecosystem</i>.

Mathematics Connections

*a	2.4.B	Collect, organize, represent, and interpret data in bar graphs and picture graphs.
	3.5.E	Construct and analyze pictographs.
*b	3.6.J	Make and test conjectures based on data (or information) collected from explorations and experiments.

Standards for Grades 2-3

EALR 4: Life Science

Big Idea: Biological Evolution (LS3)

Core Content: *Variation of Inherited Characteristics*

In prior grades students learned that some objects are alive and others are not, and that many living things can be classified as either plants or animals. In grades 2-3 students learn about variations in inherited characteristics. That is, when plants and animals reproduce, the offspring closely resemble their parents. But the offspring are not exactly the same as their parents. Variations among animals and plants can help them survive changing conditions. Those plants and animals unable to survive and reproduce become extinct. Fossils represent the remains of plants and animals, including some that are extinct. Many extinct plants and animals looked something like plants and animals that are alive today, while others were very different from anything alive today. This topic engages students in looking closely at plants and animals and noticing similarities and subtle differences. It also lays the foundation for later study of Evolution and of Earth History.

	Content Standards	Performance Expectations
	<i>Students know that:</i>	<i>Students are expected to:</i>
2-3 LS3A	There are <i>variations</i> among the same kinds of plants and animals.	<ul style="list-style-type: none"> Give examples of <i>variations</i> among individuals of the same kinds of plants and animals within a <i>population</i> (e.g., tall and short pine trees, black cats and white cats, people with blue eyes or brown eyes, with freckles or without).
2-3 LS3B	The offspring of a plant or animal closely resembles its parents, but close inspection reveals differences.	<ul style="list-style-type: none"> <i>Compare</i> the offspring of a plant or animal with its parents, listing features that are similar and that are different.
2-3 LS3C	Sometimes differences in <i>characteristics</i> give individual plants or animals an advantage in surviving and reproducing.	<ul style="list-style-type: none"> <i>Predict</i> how differences in <i>characteristics</i> might help one individual survive better than another (e.g., animals that are stronger or faster, plants or animals that blend into the background, plants that grow taller or that need less water to survive).
2-3 LS3D	<i>Fossils</i> are often similar to parts of plants or animals that live today.	<ul style="list-style-type: none"> Observe <i>fossils</i> and <i>compare</i> them to similar plants or animals that live today (e.g., <i>compare</i> a <i>fossil</i> fern with a similar fern that grows today, a dinosaur leg bone with the leg bone of a reptile that lives today, a mastodon and an elephant).
2-3 LS3E	Some <i>fossils</i> are very different from plants and animals that live today.	<ul style="list-style-type: none"> Conclude from <i>fossil evidence</i> that once there were <i>species</i> on Earth that are no longer alive (e.g., T-Rex, trilobites). Given pictures of animals that are <i>extinct</i> (e.g., dinosaurs, mammoths), <i>describe</i> how these animals are different from animals that live today.