STANDARDS ALIGNMENT KEY

♦	Unit is aligned as is.
♦ V	Unit is aligned with the intentional use of vocabulary from the Washington Science Standards
♦ R	Unit is aligned with the intentional use of the STC Children's Book
♦ r	Unit is aligned with the intentional use of the readings within the unit.
♦ E	Unit is aligned with the intentional use of the lesson extensions
▲	Unit needs identified changes or additions to be aligned

ECOSYSTEMS DEEP ALIGNMENT TO THE WASHINGTON STATE SCIENCE LEARNING STANDARDS

EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
System	4-5	SYSA	Systems contain *subsystems*.	Identify at least one of the *subsystems* of an object, plant, or animal (e.g., an airplane contains *subsystems* for propulsion, landing, and *control*).	Addressed throughout the unit.	♦V	In this unit, multiple opportunities exist to use the term *subsystem*. Teachers must intentionally use the vocabulary word *subsystem*. Examples of a subsystem in an ecosystem are the plants and animals in the aquarium or terrarium systems. Note that each subsystem (mosquito fish, cricket, and elodea) can be systems in and of themselves. When teachers use the reading selections in Lessons 3, 4, and 14 they must be intentional about the use of the terms *system* and *subsystem*.
System	4-5	SYSB	A *system* can do things that none of its *subsystems* can do by themselves	Specify how a *system* can do things that none of its *subsystems* can do by themselves (e.g., a forest *ecosystem* can sustain itself, while the trees, soil, plant, and animal *populations* cannot).	Addressed throughout the unit.	♦V	Teachers should be intentional about referring to the *system*, and how the interactions of the parts of the *system* allow the *system* to function in a way that none of the *subsystems* could do alone.

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System	4-5	SYSC	Systems have *inputs* and *outputs*. Changes in inputs may change the *outputs* of a *system*.	*Describe* what goes into a *system (input)* and what comes out of a *system (output)* (e.g., when making cookies, inputs include sugar, flour, and chocolate chips; *outputs* are finished cookies). *Describe* the *effect* on a *system* if its *input* is changed (e.g., if sugar is left out, the cookies will not taste very good).	Addressed throughout the unit.	♦r ♦V	In the reading selection for Lesson 3, students read about the oxygen-carbon dioxide cycle and the inputs and outputs in this system. This unit contains multiple opportunities for the use of the terms *inputs* and *outputs,* but intentional use of the terms is required by the teacher. In an ecosystem, the sun's energy is an example of an *input*, while increased growth of the plants is an *output*.
System	4-5	SYSD	One defective part can cause a subsystem to malfunction, which in turn will affect the system as a whole.	*Predict* what might happen to a *system* if a part in one or more of its *subsystems* is missing, broken, worn out, mismatched, or misconnected (e.g., a broken toe will affect the skeletal *system*, which can greatly reduce a person's ability to walk).	Addressed throughout the unit.	♦	
System	2-3	SYSA	A *system* is a group of interacting parts that form a whole.	Give examples of simple living and physical *systems* (e.g., a whole animal or plant, a car, a doll, a set of table and chairs). For each example, *explain how* different parts make up the whole.	Addressed throughout the unit.	♦V	Teachers should be intentional in using the term *system* when referring to the ecocolumn and the individual plants and animals in the ecocolumn.

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System	2-3	SYSB	A whole object, plant, or animal may not continue to *function* the same way if some of its parts are missing.	*Predict* 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). Explain how the parts of a system depend on one another for the system to function.	Lesson 3, 4 Reading Selections	♦r	Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are They Important?* Lesson 4 Reading Selection - *Mosquito Fish: Strong Little Fish* As students read about and discuss the role that producers, consumers, and decomposers play in the ecosystem, they meet the performance expectation by understanding how the parts of the ecosystem depend on one another.
System	2-3	SYSC	A whole object, plant, or animal can do things that none of its parts can do by themselves.	Contrast the *function* of a whole object, plant, or animal with the *function* 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).	Lessons 3,4,6 Reading Selections	♦r V	This unit contains many opportunities for students to develop an understanding of structure and function of an object, plant or animal however the teacher must be intentional about using the term *function*. Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are They Important?* Lesson 4 Reading Selection - *Mosquito Fish: Strong Little Fish* Lesson 6 Reading Selection – *Isopods: More Like a Lobster!* and *Crickets: A Closer Look.* As students read about and discuss the structure and function of the organisms, teachers should help students understand the *function* of the parts of the organism compared to the whole.

System	2-3	SYSE	Similar parts may play different roles in different objects, plants, or animals.	Identify ways that similar parts can play different roles in different *systems* (e.g., birds may use their beaks to crack seeds while other birds use their beaks to catch fish).	Lesson 3 Reading Selection Lesson 6	♦r ♦	Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are They Important?* The Elodea and Duckweed leaves produce food for the plant through photosynthesis, however the Duckweed leaf serves as the reproductive part of the plant through the process of budding.

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EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
Inquiry	4-5	INQA	Scientific investigations involve asking and answering *questions* and comparing the answers with *evidence* from the real world.	Identify the *questions* being asked in an investigation. Gather scientific evidence that helps to answer a *question.*	Lessons 10-14	♦	In Lesson 10, students identify an investigable question. In Lessons 11-13, students collect data related to their investigation question. In Lesson 14, students share their findings from their investigation.
Inquiry	4-5	INQB	Scientists plan and conduct different kinds of investigations, depending on the *questions* they are trying to answer. Types of investigations include systematic *observations* and descriptions, *field studies*, *models*, and *open-ended explorations* as well as *experiments*.	Given a research *question*, plan an appropriate investigation, which may include systematic *observations, field studies, models, open-ended explorations*, or *controlled experiments*. Work collaboratively with other students to carry out an investigation, selecting appropriate *tools* and demonstrating safe and careful use of equipment.	Addressed throughout the unit.	♦	
Inquiry	4-5	INQC	An *experiment* involves a *comparison*. For an *experiment* to be valid and fair, all of the things that can possibly change the outcome of the *experiment* should be kept the same, if possible.	Conduct or critique an *experiment*, noting when the *experiment* might not be fair because some of the things that might change the outcome are not kept the same.	Lessons 10-13	♦	

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Inquiry	4-5	INQD	Investigations involve systematic collection and recording of relevant *observations* and data.	Gather, record, and organize data using appropriate units, tables, graphs, or maps.	Lessons 2-3 and 11-13	♦	
Inquiry	4-5	INQE	Repeated *trials* are necessary for *reliability*.	*Explain that* additional *trials* are needed to ensure that the results are repeatable.	Lessons 10-14	▲	In Lesson 10, the opportunity exists for *repeated trials* if groups working with a common pollutant agree on the concentration and amount to be added during the investigations.
Inquiry	4-5	INQF	A scientific *model* is a simplified representation of an object, event, *system*, or process created to understand some aspect of the *natural world*. When learning from a *model*, it is important to realize that the *model* is not exactly the same as the thing being modeled.	Create a simple *model* to represent an event, *system*, or process. Use the *model* to learn something about the event, *system*, or process. *Explain how* the *model* is similar to and different from the thing being modeled.	Addressed throughout the unit.	♦	Students create model terrariums and aquaria to be studied over time. Teachers should intentionally use the term *model.*
Inquiry	4-5	INQG	Scientific explanations emphasize *evidence*, have logically consistent arguments, and use known scientific *principles, models*, and theories.	*Generate* a conclusion from a scientific investigation and show how the conclusion is supported by *evidence* and other scientific *principles*.	Lessons 13 and 14	♦	

Inquiry	4-5	INQH	Scientists communicate the results of their investigations verbally and in writing. They review and ask *questions* about the results of other scientists' work.	Display the findings of an investigation, using tables, graphs, or other visual means to represent the data accurately and meaningfully. Communicate to peers the purpose, procedure, results, and conclusions of an investigation. Respond non-defensively to comments and *questions* about their investigation. Discuss differences in findings and conclusions reported by other students.	Addressed throughout the unit.	♦	Students communicate their observations and the results of their investigations verbally and in written form through the use of the science notebook.
Inquiry	4-5	INQI	Scientists report the results of their investigations honestly, even when those results show their predictions were wrong, or when they cannot *explain* the results.	*Explain* why records of *observations* must never be changed, even when the *observations* do not match expectations.	Addressed throughout the unit.	♦	To meet this standard, teachers must intentionally emphasize that honesty is an important trait scientists must posses even when they predict a different outcome or when the data does not support their prediction. Teachers should stress that accurate scientific drawings and data are necessary for validity and reliability.
Inquiry	2-3	INQA	Scientific investigations are *designed* to gain knowledge about the *natural world*.	Explain how observations can lead to new knowledge and new *questions* about the *natural world*.	Addressed throughout the unit.	♦	

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Inquiry	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.	Work with other students to make and follow a plan to carry out a scientific investigation. Actions may include accurately observing and describing objects, events, and *organisms*; measuring and recording data; and predicting outcomes.	Addressed throughout the unit.	♦	
Inquiry	2-3	INQC	*Inferences* are based on *observations*.	Distinguish between direct *observations* and simple *inferences*.	Lessons 1-4 and 13	♦	Teachers must be explicit in their use of the terms *inference* and *observation* as they teach this unit. For example, in Lesson 1, students identify living and non-living elements in a riverbank environment and are asked to infer how they depend on one another and how humans could impact the environment. In Lesson 13, students are asked to infer what might have happened to the animals in their ecocolumns had these ecosystems also been polluted.
Inquiry	2-3	INQD	Simple instruments, such as *magnifiers*, *thermometers*, and rulers provide more information than scientists can obtain using only their unaided senses.	Use simple instruments (e.g., metric scales or balances, thermometers, and rulers) to observe and make measurements, and record and display data in a table, bar graph, line plot, or pictograph.	Addressed throughout the unit.	♦	Students use magnifiers, rulers, thermometers, and Ph test paper to make detailed observations of the ecocolumn.

Inquiry	2-3	INQE	*Models* are useful for understanding *systems* that are too big, too small, or too dangerous to study directly.	Use a simple *model* to study a *system*. *Explain how* the *model* can be used to better understand the system.	Addressed throughout the unit.	♦	Students create a model terrarium and aquarium to be studied over time. Teachers should intentionally use the term *model.*
Inquiry	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.	Accurately *describe* results, referring to the graph or other data as *evidence*. Draw a conclusion about the *question* that motivated the study using the results of the investigation as *evidence*.	Lessons 13 and 14	♦	
Inquiry	2-3	INQG	Scientists make the results of their investigations public, even when the results contradict their expectations.	Communicate honestly about their investigations, describing how *observations* were made, and summarizing results.	Lesson 14	♦	

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EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
Application	4-5	APPD	Scientists and engineers often work in teams with other individuals to *generate* different *ideas* for solving a problem.	Work with other students to *generate* possible *solutions* to a problem, and agree on the most promising *solution* based on how well each different idea meets the *criteria* for a successful *solution.*	Lesson 15	♦	
Application	4-5	APPF	*Solutions* to problems must be communicated, if the problem is to be solved.	Communicate the *solution*, results of any tests, and modifications persuasively, using oral, written, and/or pictorial representations of the process and product.	Lesson 16	♦	
Application	4-5	APPH	People of all ages, interests, and abilities engage in a variety of scientific and technological work.	*Describe* several activities or careers that require people to *apply* their knowledge and abilities in *science*, *technology*, engineering, and mathematics.	STC Children's Book	♦R	STC Children's Book: • *Preserving the Wilderness: John Muir* • *Rachel Carson's Silent Spring: A Quiet Book Makes Noise*
Application	2-3	APPD	Tools help scientists see more, measure more accurately, and do things that they could not otherwise accomplish.	Select appropriate *tools* and materials to meet a goal or solve a specific problem (e.g., build the tallest tower with wooden blocks, or longest bridge span) and *explain* the reason for those choices.	Addressed throughout the unit.	♦	Students use magnifiers, rulers, thermometers, and Ph test paper to make detailed observations of the ecocolumn.

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EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
Physical Science	4-5	PS3A	*Energy* has many forms, such as *heat*, light, sound, *motion*, and electricity.	Identify different forms of *energy* (e.g., *heat*, light, sound, *motion*, and electricity) in a given *system*.	Lesson 2 Lesson 3 Reading Selection STC Children's Book	▲ ▲r ▲R	Teachers must intentionally discuss the importance of sunlight (light energy) to plant growth. Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are They Important?* In this lesson, students read about producers and how they use the sun's energy to create their own food. Producers are also described as the energy source for consumers. STC Children's Book: • *What Eats What?* The reading selection discusses how plants (producers) obtain their energy from the sun.

Earth & Space Science	4-5	ES2A	Earth materials include solid rocks and soil, water, and *gases* of the atmosphere. Materials have different *physical* and *chemical properties*, which make them useful in different ways. Earth materials provide many of the resources that humans use.	*Describe* Earth materials and list their physical and *chemical properties*. *Explain how* the *properties* of an Earth material make it useful for certain purposes, but not useful for other purposes (e.g., wood is easily cut, is a good *insulator*, and does not conduct electricity, so it is used to build houses, not for electrical wires). Give examples of *human-made* materials, including those that are changed only a little (e.g., wood and stones used for building) and those that look very different from the raw materials (e.g., metal, ceramics, and plastics).	Lessons 2,3	♦	When using Record Sheets 2A and 3A, students observe and record the physical properties of the earth materials used in the model terrarium.

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Life Science	4-5	LS1B	Each animal has different structures and behaviors that serve different *functions*.	List parts of an animal's body and *describe* how it helps the animal meet its basic needs (e.g., the bones support the body so it can move; the blood carries food and oxygen throughout the body). Given an animal behavior (e.g., salmon swim upstream to spawn, owls hunt at night), *describe* the *function* that it serves.	Lesson 4 Lessons 4, 6 Reading Selections	♦ ♦r	Lesson 4 Reading Selections - *Mosquito Fish: Strong Little Fish;* and *Snails: A Head at the End of a Foot* Lesson 6 Reading Selections - *Isopods: More Like a Lobster, Crickets: A Closer Look*
Life Science	4-5	LS1C	Certain structures and behaviors enable plants and animals to respond to changes in their *environment*.	Give examples of how plants and animals respond to their *environment* (e.g., many plants grow toward the light, animals hide when they see a predator).	Lessons 4, 6 Lessons 4, 6 Reading Selections	♦ ♦r	Lesson 4 Reading Selections - *Mosquito Fish: Strong Little Fish* and *Snails: A Head at the End of a Foot,* students discover that Mosquito Fish can adjust to temperatures varying from 4 to 38 degrees Celsius, that their coloring serves as camouflage for both the young and adults, and that they mature quickly in order to survive and multiply. Lesson 6 Reading Selection - *Isopods: More Like a Lobster,* students read about how the Isopod curls up into a ball to protect itself from predators.
Life Science	4-5	LS1D	Plants and animals have structures and behaviors that respond to internal needs.	Give examples of how plants and animals respond to internal needs (e.g., plants wilt when they don't have water; animals seek food when they are hungry).	Lesson 3 Reading Selection	♦r	Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are they Important?* In Lesson 3, students read that when there is little sunlight the Elodea changes color, becomes thin, and reproduces less to conserve energy.

Life Science	4-5	LS2A	An *ecosystem* includes all of the plant and animal *populations* and *nonliving resources* in a given area. Plants and animals depend on one another and the nonliving resources in their *ecosystem* to help them survive.	Identify the living and nonliving parts of an ecosystem. Give examples to show how the plants and animals depend on one another for survival (e.g., worms *decompose* waste and return *nutrients* to the soil, which helps plants grow). *Describe* how the plants and animals in an *ecosystem* depend on nonliving resources.	Addressed throughout the unit.	♦	
Life Science	4-5	LS2B	Plants make their own food using energy from the sun. Animals get food by eating plants and/or other animals that eat plants. Plants make it possible for animals to use the energy of sunlight.	*Explain that* plants make their own food, and animals, including humans, get food by eating plants and/or eating other animals.	Lesson 4 Lessons 3 and 4 Reading Selections STC Children's Book	♦ ♦r ♦R	Lessons 3 and 4 Reading Selections - *Duckweed, Elodea, and Algae: Why are they Important?* and *Mosquito Fish: Strong Little Fish,* and *Snails: A Head at the End of a Foot,* students read about producers and consumers and how the sun's energy is used to create food for producers. STC Children's Book: • *What Eats What?* The reading selection discusses how plants (producers) obtain their energy from the sun.

Life Science	4-5	LS2C	Plants and animals are related in *food webs* with *producers* (plants that make their own food), *consumers* (animals that eat producers and/or other animals), and *decomposers* (primarily bacteria and fungi) that break down wastes and dead *organisms*, and return *nutrients* to the soil.	Given a list of three *common organisms*, draw arrows properly in a simple *food web* and identify the *producers* and *consumers*. Compare the roles of *producers, consumers*, and *decomposers* in an *ecosystem*.	Lessons 4, 6, 7,12 Lesson 3 Reading Selection STC Children's Books	♦ ▲ ♦r ♦R	Teachers should intentionally discuss food webs and have students draw arrows in a simple food web. The lessons use the term f*ood chain* as opposed to the term f*ood web.* This lesson does not discuss the role of decomposers in an ecosystem. Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are they Important,* students read about producers and how they use the sun's energy to create their own food. Producers are also described as the energy source for consumers. STC Children's Book: • *What Eats What? Webs and Pyramids* • *Tell the Story* and *Dead and Done?*
Life Science	4-5	LS2D	*Ecosystems* can change slowly or rapidly. Big changes over a short period of time can have a major impact on the *ecosystem* and the *populations* of plants and animals living there.	*Apply* knowledge of a plant or animal's *relationship* to its *ecosystem* and to other plants and animals to *predict* whether and how a slow or rapid change in the *ecosystem* might affect the *population* of that plant or animal.	Lessons 12-16	♦	

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Life Science	4-5	LS2E	All plants and animals change the *ecosystem* where they live. If this change reduces another organism's access to resources, that *organism* may move to another location or die.	*Describe* how one *population* may affect other plants and/or animals in the *ecosystem* (e.g., increase in Scotch Broom replaces native plants normally eaten by butterfly caterpillars, reducing the butterfly *population*).	Lessons 3, 14 Reading Selections STC Children's Book	♦r ♦R	Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are they Important?* students read about how Duckweed and Elodea affect the ecosystem as they reproduce. In the Lesson 14 Reading Selection - *The Chesapeake Bay: An Ecosystem in Danger,* students read about how algae blooms reduce the amount of light reaching the bottom of the bay thus killing off the underwater grass beds. In the STC Children's Book: • *Snakes Rule!* Students read about how non-native species affect native species.
Life Science	4-5	LS2F	People affect *ecosystems* both positively and negatively.	*Describe* ways that humans can improve the health of *ecosystems* (e.g., recycling wastes, establishing rain gardens, planting native *species* to prevent flooding and *erosion*).	Lessons 1, 14-16 Lessons 8, 14 Reading Selections STC Children's Book	♦ ♦r ♦R	Lesson 8 and 14 Reading Selections - *The Story Behind Acid Rain; Crops and Cows -- What's the Problem?; When Salt Isn't Safe,* and *The Chesapeake Bay: An Ecosystem in Danger*, students read about how humans impact ecosystems. STC Children's Book – • *Tale of the Cod; Something's In the Air;* and *Florida Fire Ecology*

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Life Science	4-5	LS3A	In any *ecosystem*, some *populations* of *organisms* thrive and grow, some decline, and others do not survive at all.	List some reasons why some *populations* may not do as well as others. *Evaluate* similar *populations* in an *ecosystem* with regard to their ability to thrive and grow (e.g., bird *populations* with different color feathers).	Addressed throughout the unit Lesson 3 Reading Selection STC Children's Book	♦ ♦r ♦R	Lesson 3 Reading Selection, *Duckweed, Elodea, and Algae: Why are they Important?*, students read about how Elodea and Duckweed are uniquely able to reproduce allowing them to multiply and grow quickly, thus killing other plant and animal life. STC Children's Book: • *Snakes Rule!*
Physical Science	2-3	PS3A	*Heat*, light, *motion*, electricity, and sound are all forms of energy.	Use the word *energy* to *explain* everyday activities (e.g., food gives people energy to play games). Give examples of different forms of energy as observed in everyday life: light, sound, and *motion*. *Explain how* light, sound, and *motion* are all energy.	Lessons 2, 3 Lesson 3 Reading Selection	▲ ♦r	In Lessons 2 and 3 teachers have the opportunity to discuss the importance of sunlight (light energy) to plant growth. Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are they Important?,* students read about how producers use energy from the sun to create their own food through the process of photosynthesis.
Life Science	2-3	LS1A	Plants have *life cycles* 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 *life cycle* are different for different plants.	*Describe* the *life cycle* of a *common* type of plant (e.g., the growth of a fast-growing plant from seed to sprout, to adult, to fruits, flowers, and seeds).	Lesson 2 Lessons 3, 5 Reading Selections	♦ ♦r	In Lesson 2 students plant seeds and are introduced to sprouting and germination. The entire plant life cycle is discussed in the Lesson 5 reading selection. Lesson 3, 5 Reading Selections - *Duckweed, Elodea; Algae: Why are they Important?;* and *Growing Plants: How Seeds Spring to Life*, students read about the life cycles of plants.

Life Science	2-3	LS1B	Animals have *life cycles* that include being born, developing into children, adolescents, then adults, reproducing (which begins a new cycle), and eventually dying. The details of the *life cycle* are different for different animals.	*Describe* the *life cycle* of a common 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).	Lesson 4 Reading Selection	♦r	Lesson 4 Reading Selection - *Mosquito Fish: Strong Little Fish* and Snails*: A Head at the End of a Foot*, students read about the life cycle of these organisms.
Life Science	2-3	LS2A	*Ecosystems* support all life on the planet, including human life, by providing food, fresh water, and breathable *air*.	Identify at least four ways that *ecosystems* support life (e.g., by providing fresh water, generating oxygen, removing toxic pollutants, and providing sources of useful materials).	Lessons 3, 14 Reading Selections	♦r	Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are they Important?*, students read about the role of producers in providing oxygen to consumers in ecosystems. The oxygen-carbon dioxide cycle is introduced. In the Lesson 14 Reading Selection - *The Chesapeake Bay: An Ecosystem in Danger*, students read about the varying ways that an ecosystem supports life for the organisms in that system.
Life Science	2-3	LS2B	All *ecosystems* 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 *Effect*.	*Describe* three or more of the changes that occur in an *ecosystem* or *model* of a natural *ecosystem* (e.g., aquarium, terrarium) over time, as well as how these changes may affect the plants and animals living there.	Addressed throughout the unit	♦	

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Life Science	2-3	LS2C	Some changes in *ecosystems* occur slowly, and others occur rapidly. Changes can affect life forms, including humans.	*Explain* the consequences of rapid *ecosystem* change (e.g., flooding, *wind* storms, snowfall, volcanic eruptions). *Explain* the consequences of gradual *ecosystem* change (e.g., gradual increase or decrease in daily temperatures, reduction or increase in yearly rainfall).	Lessons 12,13,14,15,16 STC Children's Book	♦ ♦R	STC Children's Book: • *Hot Enough for You?* • *Florida Fire Ecology* • *Why Did the Dinosaurs Disappear?*
Life Science	2-3	LS2D	Humans impact *ecosystems* in both positive and negative ways. Humans can help improve the health of *ecosystems* so that they provide *habitats* 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 systems.	*Describe* a change that humans are making in a particular *ecosystem*, and *predict* how that change could harm or improve conditions for a given type of plant or animal. Propose a plan to protect or improve an *ecosystem*.	Lessons 1, 14, 15, 16 Lessons 8, 14 Reading Selections STC Children's Book	♦ ♦r ♦R	Lesson 8 and 14 Reading Selections - *The Story Behind Acid Rain; Crops and Cows -- What's the Problem?; When Salt Isn't Safe;* and *The Chesapeake Bay: An Ecosystem in Danger*, students read about how humans impact ecosystems. STC Children's Book : • *Tale of the Cod* • *Something's In the Air* • *Florida Fire Ecology*

Life Science	2-3	LS3A	There are *variations* among the same kinds of plants and animals.	Give examples of *variations* among individuals of the same kinds of plants and animals within a *population* (e.g., tall and short pine trees, black cats and white cats, people with blue eyes or brown eyes, with freckles or without).	Lessons 4, 6	♦	
Life Science	2-3	LS3C	Sometimes differences in *characteristics* give individual plants or animals an advantage in surviving and reproducing.	*Predict* how differences in *characteristics* 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).	Lesson 3 Reading Selection	♦r	Lesson 3 Reading Selection - *Duckweed, Elodea, and Algae: Why are they Important?*, students read about the life cycle of two non seed producing plants and how they are uniquely able to reproduce in an aquatic environment. Teachers should discuss how the unique means of reproduction enable the plants to flourish in poor conditions.