ORGANISMS DEEP ALIGNMENT TO THE WA ST SCIENCE LEARNING STANDARDS

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

NOTE: This alignment document was prepared BEFORE the STC Children's' Book for this unit was completed. It is the intent to complete this document when a review of that resource is possible.

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EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
Systems	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	To meet this standard, the use of the word *system* should be applied to individual organisms and habitats. With the individual organisms observations, students should realize that the parts of the plant and/or animal work together to make a whole (a *system*). With the terrariums and aquariums, students should address the parts and how they work together to make a habitat (a *system*).
Systems	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).*a Explain how the parts of a system depend on one another for the system to function.	Addressed throughout the unit.	♦V	To meet this standard, students need to explain how the parts of the *system* work together to create a whole *system*. Also students could describe the change to a *system's* function if one or more parts were removed.
Systems	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).	Addressed throughout the unit.	♦V	To meet this standard, teachers must intentionally address what might happen if one or more parts of an organism and/or habitat where missing. Would it still *function* as a whole? Would the parts function alone? Students can also add to the drawing of the growing plant, a description of how the parts form a living *system* and whether or not the parts can *function* on their own.

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Systems	2-3	SYSD	Some objects need to have their parts connected in a certain way if they are to *function* as a whole.	*Explain* why the parts in a *system* need to be connected in a specific way for the *system* to *function* as a whole (e.g., batteries must be inserted correctly in a flashlight if it is to produce light).	Lessons 4 - 5, and 11 - 12	♦V	To meet this standard, teachers must intentionally ask students to explain why the habitats (aquarium and terrarium) need to be built in a specific order for the whole *system* to *function* properly. (ex. What would happen if we added the tree seedling and moss first, then added the rocks, leaves, and soil?)
Systems	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).	Lessons 7 - 10	♦V	To meet this standard, when students are describing individual animals, they should define how the animals use their body parts differently to meet individual needs.
Systems	K-1	SYSA	Living and nonliving things are made of parts. People give names to the parts that are different from the name of the whole object, plant, or animal.	Given an illustration of a whole object, plant, or animal, name at least five different parts. *Compare* a part of an object with the whole object, correctly using the words —whole and part	Addressed throughout the unit.	♦	
Systems	K-1	SYSB	Some objects can easily be taken apart and put back together again while other objects cannot be taken apart without damaging them (e.g., books, pencils, plants, and animals).	Given several *common* objects, identify which objects may be taken apart and put back together without damaging them (e.g., a jigsaw puzzle) and which objects cannot be taken apart without damaging them (e.g., books, pencils, plants, and animals). *a	Lessons 4 - 10	♦V	To meet this standard, students can be taught that taking apart living things (living *systems*) can damage them and could affect the *function* of the *system*.

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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*.*a	Addressed throughout the unit.	♦	Students make observation and acquire new knowledge through those observations and ask questions throughout this unit.
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.*b	Addressed throughout the unit.	▲	To meet this standard, teachers must ask students to create a plan of a new habitat. Students may also make a plan to observe a natural habitat. (In these instances, students may address the questions: Where will we go, what will we see, what tools and/or materials will we need, what steps will we need to follow? etc.). This will require teacher directed procedures for a scientific investigation.
Inquiry	2-3	INQC	*Inferences* are based on *observations*.	Distinguish between direct *observations* and simple *inferences*.	Addressed throughout the unit.	♦V	Teachers must be intentional to discuss the difference between a student's *observation* (what happened and was seen) and the *inferences* they draw (why it might have happened).
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.*c	Addressed throughout the unit.	♦	

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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.	Lessons 4 - 5, and 11 - 12	♦	Students are creating and observing terrariums and aquariums which are *models* of real habitats that would be too large to study directly.
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*.	Addressed throughout the unit.	♦	Students are making observations and recording these throughout the unit. They are asking questions and generating answers to those questions. They are also explaining what they are observing and how that is similar or different from other things they have observed.
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	Addressed throughout the unit.	♦V	Teachers should intentionally engage students in conversations about how results must be recorded honestly even when they contradict their predictions or expectations. Students can share their terrariums, aquariums, and science notebooks with each other as well as other classes, in a science fair, and/or at parent conferences.
Inquiry	K-1	INQA	Scientific investigations involve asking and trying to answer a *question* about the *natural world* by making and recording *observations*.	Ask *questions* about objects, *organisms*, and events in their *environment* Follow up a *question* by looking for an answer through students' own activities (e.g., making *observations* or trying things out) rather than only asking an adult to answer the *question*. Observe patterns and *relationships* in the *natural world*, and record *observations* in a table or picture graph	Addressed throughout the unit.	♦	

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Inquiry	K-1	INQB	Many children's toys are models that represent real things in some ways but not in other ways.	Given a child's toy that is a *model* of an object found in the real world, *explain how* it is like and unlike the object it represents.		▲	To meet this standard, teachers must ask students to compare and contrast a model toy animal to the real animal they are studying.
Inquiry	K-1	INQC	Scientists develop *explanations*, using recorded *observations* (*evidence*).	*Describe patterns* of data recorded, using tallies, tables, picture graphs, or bar-type graphs.*c Participate in a discussion of how the recorded data might help to *explain* the observations.	Addressed throughout the unit.	♦	Students are observing and recording throughout this unit. They are explaining their thinking on whether each organism is living or non-living, what it needs to survive, and how it is similar or different from other organisms.
Inquiry	K-1	INQD	Scientists report on their investigations to other scientists, using drawings and words.	Report *observations* of simple investigations, using drawings and simple sentences. Listen to and use *observations* made by other students.	Addressed throughout the unit.	♦	Students work with partners, in small groups, and share out whole class throughout this unit
Inquiry	K-1	INQE	*Observations* are more *reliable* if repeated, especially if repeated by different people.	State verbally or in writing a need to repeat *observations* to be certain the results are more *reliable*.	Addressed throughout the unit.	♦V	Throughout the unit, students work with partners and compare results with other partner groups doing the same investigation thus creating *repeated trials*. Teachers should be explicit about how this is occurring.
Inquiry	K-1	INQF	All scientific *observations* must be reported honestly and accurately.	Record *observations* honestly and accurately.	Addressed throughout the unit.	♦V	Teachers must intentionally remind students throughout the unit not to change predictions or observation results even if they are contradictory.

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EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
Application	2-3	APPB	Scientific ideas and discoveries can be applied to solving problems.	Give an example in which the application of scientific knowledge helps solve a problem (e.g., use electric lights to see at night).	Lessons 3 - 6, and 17	▲	To meet this standard, students will need to use knowledge of plant and animal needs (e.g. water, sunlight, food) to provide an appropriate habitat for the living organisms. Lesson 17 asks students to take advantage of all they have learned to design the best habitat.
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.	♦	
Application	K-1	APPA	*Common tools* can be used to solve problems.	Use simple *tools* and materials to solve a simple problem (e.g., make a paper or cardboard box to hold seeds so they won't get lost).*a	Lessons 3 and 6	♦	Students use a common classroom tool to make the planting hole for seeds in Lesson 3. In Lesson 6 students use a stick and rubber ring to provide support for the plant.

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Application	K-1	APPC	A problem may have more than one acceptable *solution*.	Develop two possible s*olutions* to solve a simple problem (e.g., *design* a napping place for a favorite stuffed animal; *decide* on the best food to eat for lunch).*b		▲	To meet this standard, teachers must intentionally ask students to solve problems that may arise during the unit. (E.g. When adding water to the aquarium often times the water becomes murky with sediment, what are some possible solutions to prevent the sediment from being stirred up?)
Application	K-1	APPD	Counting, classifying, and measuring can sometimes be helpful in solving a problem.	*Apply* the abilities of counting, measuring, and classifying to solving a problem (e.g., Is that enclosure big enough for a pet to stand up in? What types of food can it eat? How much food should I put into the enclosure for my pet?).*c		▲	To meet this standard, students could measure the aquarium and terrarium tubs to help determine if there is adequate space for organisms.

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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).	Lessons 3 and 6	▲	The beginning of the plant life cycle is addressed in Lessons 3 and 6. To meet this standard, students will need to observe and describe the life cycle of a plant to maturity.
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).	Addressed throughout the unit.	▲ E	In lessons 7, 8, 9, and 10, students are introduced to various animals. The life cycle of these animals is not directly covered. To meet this standard, the life cycle of these animals will need to be directly taught. In Lesson 10, the science and language arts extension activity will cover the life cycle of a beetle. In Lesson 11 and 12, the students will observe how their animals have changed over time. This may include the birth of offspring of some of the animals. In Lesson 16, the science and art extension looks at the life cycle of humans in comparison to the life cycle of a snail or beetle.

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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).	Addressed throughout the unit. Lesson 15	▲V ▲r	To meet this standard, teachers must intentionally use the term *ecosystem* interchangeably with the vocabulary words terrarium and aquarium. Teachers should teach the definition of an *ecosystem* as described on page 8 of the Science Standards. Discuss the ways the terrariums and aquariums (ecosystems) support life. When reading *A Crocodile Comes to the Zoo* (Lesson 15) discuss ecosystems.
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.*a	Lessons 11 and 12	♦V	To meet this standard, students need to discuss and/or record that some changes to their terrariums and aquariums are harmful, some changes are beneficial, and some have no effect.
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 11 and 12	▲	To meet this standard, students will need to discuss changes that occurred in the terrariums and aquariums and if those changes occurred quickly or slowly, and explain the consequences of the change.

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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).	Addressed throughout the unit.	♦	Students observe, compare, and record differences and similarities in various plants and animals of the same kind.
Life Science	2-3	LS3B	The offspring of a plant or animal closely resembles its parents, but close inspection reveals differences.	*Compare* the offspring of a plant or animal with its parents, listing features that are similar and that are different.		▲	If guppies or snails produce offspring, they can be compared to the parent organism to determine similarities and differences.
Life Science	K-1	LS1A	The human body is made up of various external parts.	Identify the external parts of a human body (e.g., head, hands, feet, knees, elbows).	Lesson 16	▲	To meet this standard, students will need to identify and compare external human body parts with those of other organisms.

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Life Science	K-1	LS1B	All plants and animals have various external parts.	Identify the external parts of different plants and animals (e.g., legs on an insect, flowers, stems, and roots on many plants, feathers on birds, scales on fish, eyes and ears on many animals).	Addressed throughout the unit.	♦	Students are drawing and labeling various parts of plants and animals throughout this unit
Life Science	K-1	LS1C	The parts of a plant or animal appear different under a *magnifier* compared with the unaided eye.	Observe how parts of a plant or animal look under a *magnifier* and draw or use words to *describe* them (e.g., a single hair, the leg of an insect, a fingerprint).	Addressed throughout the unit.	♦	
Life Science	K-1	LS1D	Different animals use their body parts in different ways to see, hear, grasp objects, and move from place to place.	*Compare* how different animals use the same body parts for different purposes (e.g., humans use their tongues to taste, while snakes use their tongues to smell).	Lessons 8, 10, and 14	♦	In Lessons 8 & 10 students are comparing different types of freshwater animals and then different types of woodland animals. In Lesson 14, students are comparing freshwater with woodland animals and looking at how they move.

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Life Science	K-1	LS1E	Animals have various ways of obtaining food and water. Nearly all animals drink water or eat foods that contain water.	*Compare* how different animals obtain food and water (e.g., a squirrel hunts for nuts, a pet dog eats prepared food and drinks water from a bowl or puddle, many birds and insects find nectar in flowers, which contain food and water, people may grow food in gardens and many shop for food in stores and get water from the tap).	Lessons 7 - 10	♦	In Lessons 7-10 students are introduced to the organisms that they study in the unit. Through on-going observation students determine how each of the organisms obtains food and water.
Life Science	K-1	LS1F	Most plants have roots to get water and leaves to gather sunlight.	*Explain that* most plants get water from soil through their roots, they gather light through their leaves.	Lessons 3 - 6	♦	In Lessons 3-6 students' plant seeds, and are introduced to the fresh water and woodland plants that they will observe in the aquarium and terrarium in the Organisms unit. To meet this standard, teachers should be intentional about the function that roots and leaves provide for the plants.
Life Science	K-1	LS2A	There are different kinds of natural areas, or *habitats*, where many different plants and animals live together.	*Investigate* an area near the students' home or school where many different plants and animals live together (e.g., a lawn, a vacant lot, a wooded park, a flower bed) and *describe* the different plants and animals found there.	Addressed throughout the unit.	♦	Students create and investigate both aquatic and land habitats in the Organisms lessons, as well as visit the school yard habitat.

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Life Science	K-1	LS2B	A habitat supports the growth of many different plants and animals by meeting their basic needs of food, water, and shelter.	Identify the *characteristics* of a habitat that enable the habitat to support the growth of many different plants and animals (e.g., have trees to provide nesting places for birds and squirrels; pond water for tadpoles and frogs; blackberry bushes for rabbits to hide in).	Addressed throughout the unit.	♦	Students investigate how the basic needs of the plants and animals in the aquarium and terrarium are met in these habitats.
Life Science	K-1	LS2C	Humans can change natural *habitats* in ways that can be helpful or harmful for the plants and animals that live there.	List two or more things that humans do that might harm plants and animals in a given habitat (e.g., throwing litter in a pond might cause difficulty for water birds and fish to find food or might poison the plants and animals that live there). Communicate ways that humans protect *habitats* and/or improve conditions for the growth of the plants and animals that live there. (e.g., reuse or recycle products to avoid littering.)	Lessons 11 and 12	▲	To meet this standard, the human impact on habitats needs to be taught explicitly. Students should identify ways that humans can have both helpful and harmful impact on an environment.
Life Science	K-1	LS3A	Some things are alive and others are not.	Use logical rules to sort objects into two groups, those that are alive and those that are not.*a	Addressed throughout the unit.	♦	The concept of *living and non-living* is present throughout the unit.

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Life Science	K-1	LS3B	There are many different types of living things on Earth. Many of them are classified as plants or animals.	Given a list, illustrations, or actual plants or animals, classify them as plants or animals.	Addressed throughout the unit.	♦	Students observe and discuss the properties of plants and animals throughout the unit.
Life Science	K-1	LS3C	External features of animals and plants are used to classify them into smaller groups.	*Describe* several external features and behaviors of animals that can be used to classify them (e.g., size, color, shape of body parts). *Describe* several external features of plants that can be used to classify them (e.g., size, color, kinds of seeds, shapes, or texture of plant parts). Give examples to illustrate how pairs of plants and/or animals are similar to and different from each other (e.g., cats and dogs both have four legs, but many dogs have longer snouts than cats).*b	Addressed throughout the unit.	♦	Students compare pairs of plants and animals and determine how the organisms are similar to and different from each other.