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.

SOLIDS & LIQUIDS DEEP ALIGNMENT

EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
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.	♦	
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.	▲	In this unit, students engage in guided inquiry in which they follow a plan but do not develop a plan themselves.
Inquiry	2-3	INQC	*Inferences* are based on *observations*.	Distinguish between direct *observations* and simple *inferences*.	Addressed throughout the unit.	♦V	When discussing observations made during the investigation of the solids and liquids in this unit, teachers need to be intentional about using the terms *observation* (information gathered through the senses) and *inference* (information inferred from observations and experiences). An example of this might be when students test objects for their magnetic properties, they might infer that all metals are magnetic from their observations while testing the various objects.
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.	♦	

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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.	♦	As students are collecting and communicating data, teachers need to be intentional about discussing the importance of *honesty* when they communicate the findings of their investigations with others.
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.	♦	
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. Participate in a discussion of how the recorded data might help to *explain* the observations.	Addressed throughout the unit.	♦	

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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.	♦	
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.	♦	Every investigation is completed by partner pairs to validate the observations. Teachers need to be intentional to point out the importance of *repeated trials* for *reliability*. They should also stress that *repeated trials* are occurring when multiple teams in the classroom are all conducting the same investigation and comparing results.
Inquiry	K-1	INQF	All scientific *observations* must be reported honestly and accurately.	Record *observations* honestly and accurately.	Addressed throughout the unit.	♦	The teacher should model *honesty* and accuracy when recording and reporting data. As students are collecting and communicating data, teachers need to be intentional about discussing the importance of *honesty* when they communicate with others the findings of their investigations.

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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).	Lesson 14	♦r	In the reading selection *Oil Spills: Cleaning Up, Keeping Clean*, students read about how scientists use their knowledge of the properties of oil to determine the appropriate clean up methods of an oil spill.
Application	2-3	APPE	Successful *solutions* to problems often depend on selection of the best tools and materials and on previous experience.	Students can also *evaluate* how well it solved the problem and discuss what they might do differently the next time they have a similar problem.	Lesson 14	♦r	In the reading selection *Oil Spills: Cleaning Up, Keeping Clean*, students read about how scientists use different techniques and experiment with new methods to determine the best means for cleaning up oil spills.

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EALR	Grade Band	Code	Content Standard	Performance Expectation	Lesson Number	Alignment Symbol	Comments/Evidence
Physical Science	2-3	PS1A	*Motion* can be described as a change in position over a period of time.	Give an example to illustrate *motion* 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 *motion"* during that time).	Addressed throughout the unit.	♦V	Teachers must intentionally point out that a *motion,* such as in Lesson 4 when the ball rolls down the ramp, is a change in position over a period of time.
Physical Science	2-3	PS1B	There is always a *force* involved when something starts moving or changes its *speed* or direction of *motion*.	Identify the *force* that starts something moving or changes its *speed* or direction of *motion* (e.g., when a ball is thrown or when a rock is dropped).	Addressed throughout the unit.	♦V	This unit provides the opportunity to introduce the concept that a *force* (push or pull) changes the speed or direction of objects. Teachers must intentionally use the term *force* when describing the movement of the ball rolling down the ramp, for example.
Physical Science	2-3	PS1C	A greater *force* can make an object move faster and farther.	Give examples to illustrate that a greater *force* can make an object move faster than a lesser *force* (e.g., throwing a ball harder, or hitting it harder with a bat, will make the ball go faster).	Lessons 4 and 12	♦V	In Lesson 4, students observe that the higher the ramp the faster the ball rolls down the ramp and the farther the ball will travel. In Lesson 12, students observe that the steeper the angle of the tray, the faster the drop of liquid will travel down the tray.
Physical Science	2-3	PS1D	The relative strength of two *forces* can be compared by observing the difference in how they move a *common* object.	Measure and *compare* the distances moved by an object (e.g., a toy car) when given a small push and when given a big push.	Lessons 4 and 7	▲	In Lesson 4, the force of the air moving through the straw determines which of the solids the student can move. Teachers must be intentional about adding an opportunity for students to compare two forces (e.g., blowing strongly or softly through the straw to move the solids).

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Physical Science	2-3	PS2A	Objects have *properties*, including size, *weight*, hardness, color, shape, texture, and magnetism. Unknown substances can sometimes be identified by their *properties*.	Given an object, list several of its *properties*. Given several objects, select one that best matches a list of *properties*. Sort objects by their *functions*, shapes and the materials they are composed of.	Addressed throughout the unit.	♦	
Physical Science	2-3	PS2B	An object may be made from different materials. These materials give the object certain *properties*.	List *properties* of common materials. Compare similar objects made of different materials (e.g., a plastic spoon and a metal spoon) and *explain how* their *properties* are similar and different. *Compare* 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 *properties* are similar and different.	Lessons 1-9 and 16	♦	In these lessons, students have multiple opportunities to compare similar objects made of different materials (e.g., balls made of rubber or plastic and cubes made of wood, plastic, or metal) and when comparing two objects made of the same materials but a different shape (e.g., plastic cube or plastic spoon).
Physical Science	K-1	PS1A	The position of an object can be described by locating it relative to another object or to the object's surroundings.	Use *common* terms so that all observers can agree on the position of an object in relation to another object (e.g., *describe* whether the teacher's desk is in front of the room, at the side, or in the back; say whether the top of the school's flagpole is higher or lower than the roof) .	Lessons 3, 6, 9, 14, 15	♦	

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Physical Science	K-1	PS1B	*Motion* is defined as a change in position over time.	Demonstrate *motion* by moving an object or a part of a student's body and *explain that motion* means a change in position.	Lessons 3, 4, 6, 9, 12, 13, 15	♦V	Teachers must intentionally point out that a *motion,* such as when the beam balance or equal arm balance moves, it describes a change in position.
Physical Science	K-1	PS1C	A *force* is a push or a pull. Pushing or pulling can move an object. The *speed* an object moves is related to how strongly it is pushed or pulled.	Respond to a request to move an object (e.g., toy wagon, doll, or book) by pushing or pulling it. When asked to move the object farther, respond by pushing or pulling it more strongly. *Explain that* a push or a pull is a *force*.	Addressed throughout the unit.	♦V	This unit provides multiple opportunities to introduce the concept that a *force* (push or pull) moves objects. Teachers must intentionally use the term *force* when describing the movement such as a rolling ball, a floating/sinking object, or a liquid traveling down a tray.
Physical Science	K-1	PS1D	Some *forces* act by touching and other *forces* can act without touching.	Distinguish a *force* that acts by touching it with an object (e.g., by pushing or pulling) from a *force* that can act without touching (e.g., the attraction between a magnet and a steel paper clip).	Addressed throughout the unit.	♦	Teachers must be intentional to differentiate between a pull (*force*) that touches an object (e.g., teacher pulling the beam downward) and the *force* of gravity which pulls downward without touching an object.
Physical Science	K-1	PS2A	*Liquids* take the shape of the part of the container they occupy.	*Predict* the shape that water will take in a variety of different containers.	Lesson 12	♦	

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Physical Science	K-1	PS2B	*Solids* retain their shape regardless of the container they are in.	*Predict* that frozen water (i.e., ice) will retain its shape when moved among containers of different shapes (e.g., ice cubes in a tray). Given several substances, sort them into those that are liquid and those that are *solid*.	Lesson 2, 12 and 16	▲	In Lesson 2, when discussing the property of shape, teachers must be intentional to introduce the concept that solids have a definite shape regardless of the container they are in. In Lesson 12, students are introduced to the properties of liquids. In contrast to solids, liquids have no definite shape and do take the shape of the container they are in. In Lesson 16, teachers should take the opportunity to discuss the differences between solids and liquids.