Balancing and Weighing - STC

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

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EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Addressed Throughout The Unit							
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	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.	♦	
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.	♦	
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.

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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.	♦	
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.

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EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Inquiry	K-1	INQF	All scientific *observations* must be reported honestly and accurately.	Record *observations* honestly and accurately.	Addressed throughout the unit.	♦	Teachers should model honesty and accuracy of 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	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 2							

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EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 3							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *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). Explain how the parts of a system depend on one another for the system to function.	Lesson 3, 5, 6	♦V	Teachers should intentionally explain what a *system* is and how the parts help the mobile *system function* . Students *predict* and explore what happens to the *system's function* when parts are added or taken away.
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).	Lesson 3, 5, 6	♦V	When introducing the parts of the beam balance *system* , mobile *system* , or equal arm balance *system* , teachers should stress that the individual parts, by themselves, do not *function* the way the entire *system functions* when the parts are working together.
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 3, 5, 6	♦V	When constructing the beam balance *system* , mobile *system* , or equal arm balance *system* , teachers should stress that *how the parts are put together* is critical to the *system's function* (e.g. If the fulcrum is placed on top of the beam in the beam balance *system* the beam balance does not *function).*
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	Lessons 3, 5, 6	♦V	As students construct each of the *systems* (beam balance, equal arm balance, and mobile) the teacher should intentionally *compare* and *discuss* the *whole* object and its *parts* .

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EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

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Lesson 4							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.

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Lesson 5							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *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). Explain how the parts of a system depend on one another for the system to function.	Lesson 3, 5, 6	♦V	Teachers should intentionally explain what a *system* is and how the parts help the mobile *system function* . Students *predict* and explore what happens to the *system's function* when parts are added or taken away.
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).	Lesson 3, 5, 6	♦V	When introducing the parts of the beam balance *system* , mobile *system* , or equal arm balance *system* , teachers should stress that the individual parts, by themselves, do not *function* the way the entire *system functions* when the parts are working together.
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 3, 5, 6	♦V	When constructing the beam balance *system* , mobile *system* , or equal arm balance *system* , teachers should stress that *how the parts are put together* is critical to the *system's function* (e.g. If the fulcrum is placed on top of the beam in the beam balance *system* the beam balance does not *function).*
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* .	Lessons 3, 5, 6	♦V	As students construct each of the *systems* (beam balance, equal arm balance, and mobile) the teacher should intentionally *compare* and *discuss* the *whole* object and its *parts* .

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Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

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Lesson 6							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *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). Explain how the parts of a system depend on one another for the system to function.	Lesson 3, 5, 6	♦V	Teachers should intentionally explain what a *system* is and how the parts help the mobile *system function* . Students *predict* and explore what happens to the *system's function* when parts are added or taken away.
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).	Lesson 3, 5, 6	♦V	When introducing the parts of the beam balance *system* , mobile *system* , or equal arm balance *system* , teachers should stress that the individual parts, by themselves, do not *function* the way the entire *system functions* when the parts are working together.
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 3, 5, 6	♦V	When constructing the beam balance *system* , mobile *system* , or equal arm balance *system* , teachers should stress that *how the parts are put together* is critical to the *system's function* (e.g. If the fulcrum is placed on top of the beam in the beam balance *system* the beam balance does not *function).*
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* .	Lessons 3, 5, 6	♦V	As students construct each of the *systems* (beam balance, equal arm balance, and mobile) the teacher should intentionally *compare* and *discuss* the *whole* object and its *parts* .

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Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

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Lesson 7							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.

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Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

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Lesson 8							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
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.	Lessons 8, 9, 16	♦	In the identified lessons, students need to select the appropriate tools and/or materials to reveal the solution to the problem being presented.
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).	Lessons 8, 9, 16	♦	In the identified lessons, students use the appropriate tools and/or materials to solve a given problem.
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?).	Lessons 8, 9, 16	♦	In these lessons, students use the skills of counting and measuring to solve a given problem. Classifying is not addressed in this unit.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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 8, 9, 10, 11	♦	Teachers must be intentional when comparing the metal cube to the wood block to discuss how their properties are similar and different. The plastic cup and plastic spoon are made of similar material but are different in shape.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 9							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
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.	Lessons 8, 9, 16	♦	In the identified lessons, students need to select the appropriate tools and/or materials to reveal the solution to the problem being presented.
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).	Lessons 8, 9, 16	♦	In the identified lessons, students use the appropriate tools and/or materials to solve a given problem.
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?).	Lessons 8, 9, 16	♦	In these lessons, students use the skills of counting and measuring to solve a given problem. Classifying is not addressed in this unit.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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 8, 9, 10, 11	♦	Teachers must be intentional when comparing the metal cube to the wood block to discuss how their properties are similar and different. The plastic cup and plastic spoon are made of similar material but are different in shape.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 10							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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 8, 9, 10, 11	♦	Teachers must be intentional when comparing the metal cube to the wood block to discuss how their properties are similar and different. The plastic cup and plastic spoon are made of similar material but are different in shape.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 11							
Physical	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 8, 9, 10, 11	♦	Teachers must be intentional when comparing the metal cube to the wood block to discuss how their properties are similar and different. The plastic cup and plastic spoon are made of similar material but are different in shape.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 12							
Physical	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.	Lesson 12, 13, 14, 15	♦	Note: In the Balancing & Weighing unit, only the first performance expectation of this standard is addressed. In these lessons, students list the observable properties of four foods, describe their volume, and their weight.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 13							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 12, 13, 14, 15	♦	Note: In the Balancing & Weighing unit, only the first performance expectation of this standard is addressed. In these lessons, students list the observable properties of four foods, describe their volume, and their weight.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 14							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 12, 13, 14, 15	♦	Note: In the Balancing & Weighing unit, only the first performance expectation of this standard is addressed. In these lessons, students list the observable properties of four foods, describe their volume, and their weight.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 15							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system* , the equal arm balance *system* and the mobile *system* .
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 12, 13, 14, 15	♦	Note: In the Balancing & Weighing unit, only the first performance expectation of this standard is addressed. In these lessons, students list the observable properties of four foods, describe their volume, and their weight.
Physical	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.	3,4,5,6,7,8,9,10,13,14,15,16	♦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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.

Balancing and Weighing - STC

EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Lesson 16							
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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	Teacher must be intentional in *explaining* what a *system* is and *how* the individual parts when working together make up the whole. Teachers should use *system* when referring to the beam balance *system*, the equal arm balance *system* and the mobile *system*.
Application	2-3	APPA	Simple problems can be solved through a *technological design process* that includes: defining the problem, gathering information, exploring ideas, making a plan, testing possible *solutions* to see which is best, and communicating the results.	*Design* a *solution* to a simple problem (e.g., *design* a *tool* for removing an object from a jar when your hand doesn't fit), using a *technological design process* that includes: defining the problem, gathering information, exploring ideas, making a plan, testing possible *solutions* to see which is best, and communicating the results.	Lesson 16	♦	In the final lesson, students are asked apply the knowledge they have gained throughout the unit to solve the problem of uncovering which film canister has six marbles.
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 16	♦	The scientific idea/discovery of using a fulcrum and a beam to compare the mass of objects is used throughout the unit.
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.	Lessons 8, 9, 16	♦	In the identified lessons, students need to select the appropriate tools and/or materials to reveal the solution to the problem being presented.

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EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
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 16	♦	In this lesson, students use scientific understandings gained throughout the unit and their previous experience to develop a successful solution to an assigned problem. They are asked to share their selected solutions (strategies and tools) and how well they worked to solve the problem.
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).	Lessons 8, 9, 16	♦	In the identified lessons, students use the appropriate tools and/or materials to solve a given problem.
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).	Lesson 16	♦	As a class, each pair develops a *solution* to a given problem. As student pairs share their *solution* , teachers should be intentional about discussing that more than one *solution* solved the given problem.
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?).	Lessons 8, 9, 16	♦	In these lessons, students use the skills of counting and measuring to solve a given problem. Classifying is not addressed in this unit.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦	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.

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EALR	GB	Code	Content Standard	Performance Expectation	Lesson #	AS	Comments/Evidence
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦V	This unit provides the opportunity to build on 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 balance beam or equal arm balance.
Physical	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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	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.	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	♦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 of the balance beam or equal arm balance.
Physical	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).	Lesson 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16	▲	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.