1st Grade Science			
Semester 1		**Semester 2**	
Quarter 1	Quarter 2	Quarter 3	Quarter 4
Instructional Segment #1: Plant Shapes	**Instructional Segment #2**: Animal Sounds	**Instructional Segment #3**: Shadows of Light	**Instructional Segment #4**: Patterns of Motion of Objects in the Sky
1-LS3-1*[1] 1-LS1-1[6] K-2-ETS1-2[6] 1-PS4-3*[2] 1-ESS1-1*[1]	1-LS3-1*[1] 1-LS1-2[1] 1-PS4-1[2] 1-PS4-4	1-PS4-2[2] 1-PS4-3*[2]	1-ESS1-1*[1] 1-ESS1-2[1]

* = standard is taught more than once within this course

EP&Cs Connections:	**ELD Connections:**	**EP&Cs Connections:**	**ELD Connections:**	**EP&Cs Connections:**	**ELD Connections:**	**EP&Cs Connections:**	**ELD Connections:**
Principles 1, 3, 4	ELD.PII.1.6	n/a	ELD.PII.1.1, 5, 6	Principle 3	ELD.PI.1.9, 10, 12; ELD.PII.1.5	Principle 3	ELD.PI.2.5, 6, 7
CCSS ELA Connections:	**CCSS Math Connections:**	**CCSS ELA Connections:**	**CSS Math Connections:**	**CCSS ELA Connections:**	**CSS Math Connections:**	**CCSS ELA Connections:**	**CSS Math Connections:**
W.1.1, 8; SL.1.4	1.MD.2	RI.1.1, 3, 7, 9, 10; W.1.2, 8; SL.1.1, 2, 4, 5	MP.5; 1.MD.1-2	1.W.3	n/a	RI.1.2, 4, 7, 10.a; L.1.4, 6; W.1,2	1.MD.3

Science & Engineering Practices (SEPs)

1.) Asking questions and defining problems
2.) Developing and using models
3.) Planning and carrying out investigations
4.) Analyzing and interpreting data
5.) Using mathematics and computational thinking
6.) Constructing explanations and designing solutions
7.) Engaging in argument from evidence
8.) Obtaining, evaluating and communicating information

Crosscutting Concepts (CCCs)
1.) Patterns
2.) Cause and Effect
3.) Scale, Proportion, Quantity
4.) Systems and System Models
5.) Energy and Matter
6.) Structure and Function
7.) Stability and Change

Guiding Questions:			
Instructional Segment #1: Plant Shapes	*Instructional Segment #2:* Animal Sounds	*Instructional Segment #3:* Shadows of Light	*Instructional Segment #4:* Patterns of Motion of Objects in the Sky
- How can we tell different types of plants apart? - How do these differences help the plants?	- How are parents and their children similar and different? - How do animal parents and children interact to meet their needs? - How do animals communicate and make sound?	- What causes shadows? - What happens when there is no light?	- What objects are in the sky and how do they seem to move? - When will the sun set tomorrow? - How does the moon's appearance change over each month?

Table 3.3. Overview of Instructional Segments for Grade One

	1 Plant Shapes	Students explore their natural surroundings with nature hunts and garden planting. They examine the shapes and parts of plants and begin to ask questions about what purpose these parts serve, how the shape of the parts helps them accomplish this purpose, and how the shapes of young plants are similar to the shapes of their parents.
	2 Animal Sounds	Students observe the behavior of parents and babies, noticing patterns in how they communicate. They explore the nature of sound, notice the physical parts of animals that produce sounds, and construct physical models that mimic animal sounds.
	3 Shadows and Light	Students plan and conduct investigations of how light travels and interacts with different objects. They use these observations as the foundation for constructing models of how people see.
	4 Patterns of Motion of Objects in the Sky	Students track the motions of the Sun, Moon, and stars, noticing patterns in how sunlight varies throughout the seasons and moon phases change over the month. They analyze their data to develop a model that predicts the position of objects.

Sources: Saber 2006; Wander 2007; Matthews 2009; Okada 2005

Retrieved from: CA Science Framework, ch. 3, pg. 46

1st Grade Science- Quarter 1 Overview			
Quarter Topic Focus: Plant Shapes			
Science & Engineering Practice (SEP)	**Disciplinary Core Idea (DCI)**	**Crosscutting Concept (CCC)**	**Performance Expectation (PE)**
How students will demonstrate their understanding…	**What** students will understand…	How students will connect their understanding across units and courses… (**Why** they should know it)	A complete standard **(SEP + DCI + CCC = PE)** *colors are associated with SEP (see page 1 for key)
Make observations to construct	an evidence-based account that young plants and animals are like, but not exactly like, their parents.	(Patterns)	1-LS3-1
Use materials to design a solution	to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.	(Structure and Function)	1-LS1-1
Develop a simple sketch, drawing, or physical model	to illustrate how the shape of an object helps it function as needed to solve a given problem.	(Structure and Function)	K-2-ETS1-2
Plan and conduct an investigation to determine	the effect of placing objects made with different materials in the path of a beam of light.	(Cause and Effect)	1-PS4-3
Use observations of	the sun, moon, and stars to describe patterns that can be predicted.	(Patterns)	1-ESS1-1

1ˢᵗ Grade Science- Quarter 2 Overview			
Quarter Topic Focus: Animal Sounds			
Science & Engineering Practice (SEP)	**Disciplinary Core Idea (DCI)**	**Crosscutting Concept (CCC)**	**Performance Expectation (PE)**
How students will demonstrate their understanding…	**What** students will understand…	How students will connect their understanding across units and courses… (**Why** they should know it)	A complete standard **(SEP + DCI + CCC = PE)** *colors are associated with SEP (see page 1 for key)
Make observations to construct	an evidence-based account that young plants and animals are like, but not exactly like, their parents.	(Patterns)	1-LS3-1
Read texts and use media to determine	patterns in behavior of parents and offspring that help offspring survive.	(Patterns)	1-LS1-2
Plan and conduct investigations	to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	(Cause and Effect)	1-PS4-1
Use tools and materials to design and build	a device that uses light or sound to solve the problem of communicating over a distance.	n/a	1-PS4-4

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1st Grade Science- Quarter 3 Overview			
Quarter Topic Focus: Shadows of Light			
Science & Engineering Practice (SEP)	**Disciplinary Core Idea (DCI)**	**Crosscutting Concept (CCC)**	**Performance Expectation (PE)**
How students will demonstrate their understanding…	**What** students will understand…	How students will connect their understanding across units and courses… (**Why** they should know it)	A complete standard **(SEP + DCI + CCC = PE)** *colors are associated with SEP (see page 1 for key)
Make observations to construct	an evidence-based account that objects can be seen only when illuminated.	(Cause and Effect)	1-PS4-2
Plan and conduct an investigation to determine	the effect of placing objects made with different materials in the path of a beam of light.	(Cause and Effect)	1-PS4-3

1st Grade Science- Quarter 4 Overview			
Quarter Topic Focus: Patterns of Motion of Objects in the Sky			
Science & Engineering Practice (SEP)	**Disciplinary Core Idea (DCI)**	**Crosscutting Concept (CCC)**	**Performance Expectation (PE)**
How students will demonstrate their understanding…	**What** students will understand…	How students will connect their understanding across units and courses… (**Why** they should know it)	A complete standard **(SEP + DCI + CCC = PE)** *colors are associated with SEP (see page 1 for key)
Use observations of	the sun, moon, and stars to describe patterns that can be predicted.	(Patterns)	1-ESS1-1
Make observations	at different times of year to relate the amount of daylight to time of year.	(Patterns)	1-ESS1-2