Fresno Unified School District

2020-21

Kindergarten

Kindergarten Science

Semester 1		Semester 2	
Quarter 1	Quarter 2	Quarter 3	Quarter 4
Instructional Segment #1: Plant and Animal Needs	**Instructional Segment #2**: Plants and Animals Change their Environment	**Instructional Segment #3**: Weather Patterns	**Instructional Segment #4**: Pushes and Pulls
K-LS1-1$_1$ K-ESS3-1$_4$ K-ESS3-3$_2$	K-ESS2-2$_4$ K-ESS3-3$_2$ K-2-ETS1-1*	K-ESS2-1$_1$ K-ESS3-2$_2$ K-PS3-1$_4$ K-PS3-2$_2$ K-2-ETS1-1* K-2-ETS1-2$_6$ K-2-ETS1-3	K-PS2-1*$_2$ K-PS2-2$_2$ K-2-ETS1-1*
** = standard is taught more than once within this course*			
EP&Cs Connections: Principles 1, 2, 4	**ELD Connections:** ELD.PI.K.3	**EP&Cs Connections:** Principles 1, 2, 4	**ELD Connections:** ELD.PI.K.2, 5, 6; ELD.PII.K.3
CCSS ELA Connections: W.K.2, 8; SL.K.1, 4, 5; L.K.5c	**CCSS Math Connections:** MP. 2, 4, K.CC.1-3, K.MD.2-3	**CCSS ELA Connections:** RI.K.1, 2, 10; SL.K. 2, 3, 5; W.K.2, 7, 8; L.K.1, 2	**CSS Math Connections:** K.MD.3
EP&Cs Connections: Principles 1, 3, 4	**ELD Connections:** PI.K.A.1, PI.K.A3, PI.K.C.9	**EP&Cs Connections:** n/a	**ELD Connections:** ELD.PI.K.A1, PI.K.A3, PI.K.B5.
CCSS ELA Connections: L.K.5c, 5d, 6; W.K.2, 3, 8; SL.K.1, 4, 5, 6	**CSS Math Connections:** K.CC.5-6; K.MD.2-3, 10; K.G.1	**CCSS ELA Connections:** L.K.5b-c; L.1e-f; RL.K.10a-b; RI.K.1-10	**CSS Math Connections:** MP.2; K.CC.4-6; K.MD.1-2; K.G.1, 4-6

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

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Guiding Questions:			
Instructional Segment #1: Plant and Animal Needs	***Instructional Segment #2:*** Plants and Animals Change their Environment	***Instructional Segment #3:*** Weather Patterns	***Instructional Segment #4:*** Pushes and Pulls
• How do we know that something is alive? • What do animals and plants need to survive? • Does what they need affect where they live?	• How do animals and plants change their environment to survive? • What do we (humans) do that changes our environment? • What can we do to modify our impact on the environment?	• What is the weather like today and how it is different from yesterday? • Can I predict tomorrow's weather? • What happens when the sun shines on different objects? • How can I protect myself from the sunlight? • How do we prepare for severe weather?	• What happens when you push or pull on an object? • How can you make an object move faster or in a different direction?

Table 3.2. Overview of Instructional Segments for Kindergarten

	**1** Plant and Animal Needs	Students observe plants and animals directly and through books and media to discover patterns in what they need to survive. They distinguish between plants and animals based on these needs. They describe how organisms meet their needs using resources from their surroundings.
	**2** Plants and Animals Change Their Environment	Students gather evidence about how organisms can directly change their environment. They focus especially on human impacts by gathering information about ways to reduce those impacts. They communicate their solutions.
	**3** Weather Patterns	Students observe the weather to spot patterns in the rhythm of the seasons and of the day. They investigate the effects of the Sun on the Earth and design a shade shelter.
	**4** Pushes and Pulls	Students explore how pushes and pulls speed objects up, slow them down, or change their direction. They design solutions to schoolyard challenges such as moving heavy boxes and protecting a block structure from an oncoming ball.

Sources: Labuda 2014; Nightingale 2009; Hodan n.d.; Virginia State Parks 2011.

Retrieved from: CA Science Framework, Ch. 3, pgs. 7-8

Kindergarten Science- Quarter 1 Overview			
Quarter Topic Focus: Plant and Animal Needs			
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 to describe	patterns of what plants and animals (including humans) need to survive.	(Patterns)	K-LS1-1
Use a model to represent the relationship between	the needs of different plants and animals (including humans) and the places they live.	(Systems and System Models)	K-ESS3-1

Kindergarten Science- Quarter 2 Overview			
Quarter Topic Focus: Plants and Animals Change their Environment			
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)**
Construct an argument supported by evidence for	how plants and animals (including humans) can change the environment to meet their needs.	(Systems and System Models)	K-ESS2-2
Communicate solutions	that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	(Cause and Effect)	K-ESS3-3
Ask questions, make observations, and gather information about	a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	n/a	K-2-ETS1-1

Kindergarten Science- Quarter 3 Overview			
Quarter Topic Focus: Weather Patterns			
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 and share observations of	local weather conditions to describe patterns over time.	(Patterns)	K-ESS2-1
Plan and conduct an investigation to compare	the effects of different strengths or different directions of pushes and pulls on the motion of an object.	(Cause and Effect)	K-PS2-1
Use tools and materials provided to design and build a structure	that will reduce the warming effect of sunlight on Earth's surface.	(Cause and Effect)	K-PS3-2
Ask questions to obtain information about	the purpose of weather forecasting to prepare for, and respond to, severe weather.	(Cause and Effect)	K-ESS3-2
Ask questions, make observations, and gather information about	a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	n/a	K-2-ETS1-1
Develop a simple sketch, drawing, or physical model	to illustrate how the shape of an object helps its function as needed to solve a given problem.	(Structure and Function)	K-2-ETS1-2
Analyze data from tests of two objects designed to	solve the same problem to compare the strengths and weakness of how each perform.	n/a	K-2-ETS1-3

Kindergarten Science- Quarter 4 Overview			
Quarter Topic Focus: Pushes and Pulls			
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)**
Plan and conduct an investigation to compare	the effects of different strengths or different directions of pushes and pulls on the motion of an object.	(Cause and Effect)	K-PS2-1
Analyze data to determine if	a design solution works as intended to change the speed or direction of an object with a push or a pull.	(Cause and Effect)	K-PS2-2
Ask questions, make observations, and gather information about	a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	n/a	K-2-ETS1-1