

Unit Title: Explore Heredity		Content Area: Life Science		Grade Level: K	
Unit Summary: Students will be able to correctly identify plants, animals, and other organisms as well as their offspring and stages/pollination needs/life cycle. The cross cutting concepts; patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence are organizing concepts for this unit. The practices students will engage in are (K-LS1-1), (1-LS3-1), (2-LS2-2).					
Unit Essential Questions:			Unit Enduring Understandings:		
<ul style="list-style-type: none"> How are animals like their parents? How are animals different from their parents? What do animals depend on for their offspring? What do plants depend on for pollination? What behaviors do animals engage in to help the offspring survive? 			<ul style="list-style-type: none"> Students will understand that animals have offspring. Animals needs and behaviors ensure the survival of their offspring. Plants depend on animals, water, and light to grow and move their seeds around (pollination) 		
Possible Student Misconceptions:					
<ul style="list-style-type: none"> Students may have misconceptions regarding how an animal takes care of its offspring and how a plant does/doesn't. Additionally, students may have misconceptions pertaining to certain animals' needs and plants' needs in order to produce offspring/pollination. 					
NGSS Performance Expectations: <i>Students who demonstrate understanding can...</i>					
<ul style="list-style-type: none"> Correctly identify animals with their matching offspring Correctly identify plants with their matching environmental needs Identify animals' needs to care for their offspring Identify plants' needs to survive and pollinate 					
Primary CCSS ELA/Literacy Connections: SL.K.1, SL.K.2, SL.K.3			Primary CCSS Mathematics Connections: K.MD.A.1, K.MD.B.3		
Lesson Pace & Sequence					
Lesson Title/Number: Animal Heredity/Lesson 1		Learning Objective(s): Students will be able to correctly identify animals and their offspring.		Lesson Duration: 1 week/ 160 minutes	
Learning Cycle	Learning Activities	Resources/Materials	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i> <i>*Elements do not have to be in conducted in sequence.</i>	<i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i>	<i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i>	<i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i>	<i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i>	<i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i>
Elicit: How will you access students' prior knowledge?	Teacher will access students' prior knowledge through topic introduction (Heredity of Animals) and circle time discussions. (Text-to-self connections, text-to-text connections, and text-to-world connections. Please note to record responses on an anchor chart to refer back to in following lessons)	<ul style="list-style-type: none"> Chart Paper 		Adult plants and animals can have young. In many kids of animals, parents, and the offspring, themselves engage in behaviors that help the offspring to survive. (1-LS1-2)	
Engage: How will you	Students' interest and minds	<ul style="list-style-type: none"> Baby Animal Videos: 	Constructing Explanations and	Young animals are very much,	Systems and System Models

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capture students' interest and get students' minds focused on the concept/topic?	will be focused on the topic as teachers will begin their class discussions and introductions with educational and captivating video/photographs. (see Resources/Materials)	http://zoo.sandiegozoo.org/videos	Designing Solutions Use information from observations (firsthand and from media) to construct an evidence-based account for natural phenomena.	but not exactly, like their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1)	Objects and organisms can be described in terms of their parts.
Explore: What hands-on/minds-on common experience(s) will you provide for students?	Students will participate in matching the animal with their correct offspring in this "Animal Babies" Game (See Resources/Materials)	<ul style="list-style-type: none"> Animal Babies: http://kcs-kindergarten.wikispaces.com/file/detail/animalbabies.pdf 		Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)	
Extend: How will students deepen their conceptual understanding through use in new context?	Students will complete "What Will I be When I Grow Up?" for homework	<ul style="list-style-type: none"> What Will I be When I Grow Up?: http://archive.fossweb.com/modulesK-2/AnimalsTwoByTwo/activities/findtheparent.html 			

Lesson Pace & Sequence

Lesson Title/Number: Plant Heredity/Lesson 2		Learning Objective(s): Students will be able to correctly identify plants/organisms and their respective stages/growth patterns.			Lesson Duration: 1 week/ 160 minutes	
Learning Cycle	Learning Activities	Resources/Materials	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	
<p><i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i></p> <p><i>*Elements do not have to be in conducted in sequence.</i></p>	<p><i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i></p>	<p><i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i></p>	<p><i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i></p>	<p><i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i></p>	<p><i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i></p>	
Elicit: How will you access students' prior knowledge?	Teacher will access students' prior knowledge through topic introduction (Heredity of Plants) and circle time discussions. (Text-to-self connections, text-to-text connections, and text-to-world connections. Please note to record responses on an anchor chart to refer back to in following lessons)	<ul style="list-style-type: none"> PowerPoint Presentation (about different organisms as they grow from baby to adult): http://kcs-kindergarten.wikispaces.com/file/detail/growing_up.ppt 		<p>Adult plants and animals can have young. In many kinds of animals, parents, and the offspring, themselves engage in behaviors that help the offspring to survive. (1-LS1-2)</p> <p>Plants depend on animals for pollination or to move their seeds around. (2-LS2-2)</p>		
Engage: How will you capture students' interest and get students' minds	Students' interest and minds will be focused on the topic as teachers will begin their class	<ul style="list-style-type: none"> Growing Plants: http://www.bbc.co.uk/schools/scienceclips/ages/5_6/ 		Young animals are very much, but not exactly, like their parents. Plants also are very		

<i>focused on the concept/topic?</i>	discussions and introductions with educational and captivating video/photographs. (see Resources/Materials)	growing_plants.shtml		much, but not exactly, like their parents. (1-LS3-1)	
<i>Explore: What hands-on/minds-on common experience(s) will you provide for students?</i>	Students will participate in correctly placing the three stages of a plant/organism's growth in correct sequential order (See Resources/Materials)	<ul style="list-style-type: none"> Science Growth Activity: http://www.primaryresources.co.uk/online/princes_science.swf 	Constructing Explanations and Designing Solutions Use information from observations (firsthand and from media) to construct an evidence-based account for natural phenomena.	Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)	Systems and System Models Systems in the natural and designed world have parts that work together
<i>Extend: How will students deepen their conceptual understanding through use in new context?</i>	Students will complete 'Heredity Games/Puzzles' for homework	<ul style="list-style-type: none"> Interactive 'Heredity' Games/Puzzles: http://www.crickweb.co.uk/ks1science.html 			

• Lesson Pace & Sequence

Lesson Title/Number: Organism Heredity/Lesson 3		Learning Objective(s): Students will be able to correctly identify organisms as living things, as well as their basic needs for survival and to produce offspring		Lesson Duration: 1 Week, 160 minutes	
<i>Learning Cycle</i>	<i>Learning Activities</i>	<i>Resources/Materials</i>	<i>Science and Engineering Practices</i>	<i>Disciplinary Core Ideas</i>	
<i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i> <i>*Elements do not have to be in conducted in sequence.</i>	<i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i>	<i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i>	<i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i>	<i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i>	
<i>Elicit: How will you access students' prior knowledge?</i>	Teacher will access students' prior knowledge through topic introduction (Heredity of various organisms) and circle time discussions. (Text-to-self connections, text-to-text connections, and text-to-world connections. Please note to record responses on an anchor chart to refer back to in following lessons)			Adult plants and animals can have young. In many kinds of animals, parents, and the offspring, themselves engage in behaviors that help the offspring to survive. (1-LS1-2)	

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Engage: How will you capture students' interest and get students' minds focused on the concept/topic?	Students' interest and minds will be focused on the topic as teachers will begin their class discussions and introductions with educational and captivating video/photographs. (see Resources/Materials)			Plants depend on animals for pollination or to move their seeds around. (2-LS2-2)	
Explore: What hands-on/minds-on common experience(s) will you provide for students?	Students will complete "Which Does Not Belong?" to provide documentation and evidence of mastery.'	<ul style="list-style-type: none"> "Which Does Not Belong?": https://www.teachervision.com/tv/printables/TCR/1576901106_46.pdf 	Constructing Explanations and Designing Solutions Use information from observations (firsthand and from media) to construct an evidence-based account for natural phenomena.	Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)	Systems and System Models Objects and organisms can be described in terms of their parts. Systems in the natural and designed world have parts that work together
Extend: How will students deepen their conceptual understanding through use in new context?	Students will complete "Bar Graph Family Members" for homework; this will expose them to forthcoming lessons, as well as provide them with an opportunity to explain to their families what they are learning in school while allowing families to take part.	<ul style="list-style-type: none"> Math Cross Curricular Activity - "Bar Graph Family Members": https://www.teachervision.com/graphs-and-charts/printable/29336.html 			

Lesson Pace & Sequence

Lesson Title/Number: Your Heredity/Lesson 4	Learning Objective(s): Students will be able to understand family/heredity, how they are directly connected/related to their family members, and how their families' heredity is directly linked to what they look like, etc.	Lesson Duration: 1 week/160 Minutes
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Learning Cycle	Learning Activities	Resources/Materials	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p align="center"><i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i></p> <p align="center"><i>*Elements do not have to be in conducted in sequence.</i></p>	<p align="center"><i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i></p>	<p align="center"><i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i></p>

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<p>Elicit: How will you access students' prior knowledge?</p>	<p>Teacher will access students' prior knowledge through topic introduction (Your Heredity) and circle time discussions. (Text-to-self connections, text-to-text connections, and text-to-world connections. Please note to record responses on an anchor chart to refer back to in following lessons)</p>	<ul style="list-style-type: none"> • What is meant by genetic difference?: https://www.youtube.com/watch?v=a5yzRRvROpE 		<p>Adult plants and animals can have young. In many kinds of animals, parents, and the offspring, themselves engage in behaviors that help the offspring to survive. (1-LS1-2)</p>	
<p>Engage: How will you capture students' interest and get students' minds focused on the concept/topic?</p>	<p>Students' interest and minds will be focused on the topic as teachers will begin their class discussions and introductions with their own family tree written/drawn on chart paper (See Resources/Materials)</p>	<ul style="list-style-type: none"> • "Your Family Tree": https://www.teachervision.com/family-tree/printable/55049.html 		<p>Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1)</p>	
<p>Explore: What hands-on/minds-on common experience(s) will you provide for students?</p>	<p>Students will complete "We Are a Family" worksheet in group of 4-5; following this activity students will complete "The Family" for homework. When students have completed this activity sheet students will report out to their groups/or whole class (See Resources/Materials).</p>	<ul style="list-style-type: none"> • "We are a Family": https://www.teachervision.com/tv/printables/orange/s-80.pdf 	<p>Constructing Explanations and Designing Solutions</p> <p>Use information from observations (firsthand and from media) to construct an evidence-based account for natural phenomena.</p>	<p>Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1)</p>	<p>Systems and System Models</p> <p>Objects and organisms can be described in terms of their parts.</p>
<p>Extend: How will students deepen their conceptual understanding through use in new context?</p>	<p>This will provide them with an opportunity to explain to their families what they are learning in school while allowing families to take part.</p>	<ul style="list-style-type: none"> • "The Family": https://www.teachervision.com/tv/printables/0876281390_127.pdf <p>All About My Family: https://www.teachervision.com/family-learning/printable/39848.html</p>			