

3rd Grade

Unit 3: Life Science

Duration: 4-8 weeks

Power of Flowers- Life Cycle, Traits, & Heredity

Desired Results		
ESTABLISHED GOALS/ STANDARDS: 3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. <i>[Clarification Statement: Changes organisms go through during their life form a pattern.] [Assessment Boundary: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.]</i> 3-LS3-1 Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. <i>[Clarification Statement: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.] [Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.]</i>	<i>Transfer</i>	
	<i>Meaning</i> ENDURING UNDERSTANDINGS: Crosscutting Concepts <i>Students will understand that...</i> - Students explore the pattern of similarities in life cycles among organisms. Students observe that a plant's stigma (structure) is sticky to 'catch' pollen (function). - Students use patterns to sort food as a science fruit or a science vegetable. Students learn that fruit (structure) contains seeds and helps them spread (function). - Students identify the similarities and differences shared between offspring and their parents, or among siblings as a pattern. - Students recognize similarities and differences among the traits of different plants as a pattern.	
	<i>Acquisition</i> Disciplinary Core Ideas <i>Students will know...</i> All plants grow from a seed, which is a baby plant. Just like animals, some plants--all flowering plants--need two parent plants to create a seed. Flowering plants make seeds through a process called pollination. Pollination happens when pollen from one flower gets transferred to a special part of	Students will be skilled at... - Students develop a model of a flower and bee to simulate pollination. With a partner, they carry out an investigation to determine how bees fly between flowers and cause pollination. Students analyze their data and construct an explanation for if their flower will produce seeds or not. - Students carry out an investigation to determine if a food is a science

	another flower - the stigma. Flowers make seeds! These plants have a unique life cycle that start with pollination. DCIs: Foundational LS1.B • We learned in the last Mystery that pollen travels to the stigma of a flower to make a seed. But it isn't that simple - the pollen travels down the stigma, and into the flower's ovary. Then a seed is made! Some plants grow fruit next. Fruit, a yummy 'container' for seeds, is eaten by animals! They swallow the seeds and excrete them away from the parent plant. This helps the seeds spread to new places and grow new plants. A lot of vegetables have seeds, but to plant scientists they are actually fruits! DCIs: LS1.B • Apples, like all living things, inherit their characteristics from their parents. Sweet apples grow from the seeds of sweet apples, and sour apples grow from the seeds of sour apples. While offspring have similar traits as their parents and siblings, they are not exactly the same. There are over 2,000 varieties of apples, each with unique traits. Farmers choose people's favorites, plant that type of seed over and over, and grow more of them. This is called selection. DCIs: LS3.A, LS3.B • No two individual offspring are	fruit or vegetable. They cut open each food to determine if there are seeds. Students analyze this data to determine if the food is a fruit or vegetable. • Students carry out an investigation to determine the sweetness of different apple varieties. • Students engage in argument from evidence about which plants and fruits are related to one another. Students obtain, evaluate, and communicate information by sorting plant cards into groups based on similar traits. They determine which plants share wild parents and are varieties of each other. Inquiry Questions: 1. Why do plants grow flowers? 2. Why do plants give us fruit? 3. Why are some apples red and some green? 4. How could you make the biggest fruit in the world?
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	exactly alike! Organisms inherit their traits from their parents which is why they are similar but not identical. Selection is when a desired trait is chosen to reproduce. It is used to change any trait of a plant. Plant-growers watch closely for changes in traits so that they can create new varieties of plants. Many fruits and vegetables we eat today were created through selection. DCIs: LS3.A, LS3.B	
	<i>Acquisition</i>	
Evidence		
Evaluation Criteria	Assessment Evidence	

	PERFORMANCE TASK(S):
	OTHER EVIDENCE: Unit assessment
Learning Plan	
<i>Summary of Key Learning Events and Instruction</i>	