

Science Grade 3 Curriculum Guide

West Contra Costa Unified School District



- Pacing is based on current (2016) version of Draft California Science Framework
 - <http://www.cde.ca.gov/ci/sc/cf/scifw2nd60daypubreview.asp>
- Textbook: California Science.

Instructional Segments

1. Playground Forces

Students investigate the effects of forces on the motion of playground objects like balls and swings. They use pictorial models to describe multiple forces on objects and predict how they will move as those forces change. They ask questions about how electric and magnetic forces can act without touching and then use them to solve a problem in a design challenge.

2. Life Cycles for Survival

Students observe lifecycles as well as animals living in groups and then describe how these traits help organisms meet their needs. Students measure different traits to document the differences between offspring, their parents, and other members of their population. Some of these variations make organisms more likely to survive.

3. Surviving in Different Environments

Students develop a model of the relationship between traits, environment, and survival. Students collect evidence that organisms live in environments that best meet their needs, and that changes in the environment can affect the traits and survival of organisms.

4. Weather Impacts

Students record patterns in weather over the school year and then analyze their data. They learn about weather patterns around the world and design solutions to reduce the impacts of weather hazards right in their own schoolyard.

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<u>Instructional Segment</u>	<u>Guiding Questions</u>	<u>Phenomena</u>	<u>Performance Expectation</u>	<u>Suggested Lessons/Activities</u>	<u>Resources</u>
3. Life Cycles for Survival	<p><i>Why do organisms grow and develop?</i></p> <p><i>How do animals' lifecycles help them survive?</i></p> <p><i>How similar are animals and plants to their siblings and their parents?</i></p> <p><i>How does being similar to parents help an animal survive?</i></p>	<p>Chickens come from eggs.</p> <p>Dogs, cats and people are born live as "miniature" adults.</p> <p>A butterfly starts as a caterpillar, but then changes.</p> <p>Frogs come from eggs, and are first tadpoles.</p> <p>Flowering plants come from seeds.</p>	<p>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.</p>	<ul style="list-style-type: none"> • What is a life cycle? • Compare the patterns (birth-growth-reproduction-death) between various forms of life. • Art project or graphic organizer describing/comparing various forms of life. • Videos of life cycles of various life forms • Grow plants from seeds, hatch insect eggs, watch tadpole eggs hatch, then develop into frogs, etc. • Students develop a model to find the patterns in life cycles (birth-growth-reproduction-death) between different forms of life. Model includes direction and order of events. • Students make predictions based on patterns (e.g. If there are no births and only deaths, a population will decline). 	<p>Textbook p. ? p. ?</p> <p>3-LS1-1 Evidence Statement</p>

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3. Life Cycles for Survival	<p><i>Why do organisms grow and develop?</i></p> <p><i>How do animals' lifecycles help them survive?</i></p> <p><i>How similar are animals and plants to their siblings and their parents?</i></p> <p><i>How does being similar to parents help an animal survive?</i></p>	<p>Animals and plants tend to look similar to their parents, but not identical.</p> <p>Baby dogs come from dogs.</p> <p>Dogs come in many shapes and sizes.</p> <p>The corn plants in a corn field are all a little different—some taller/shorter/more/fewer corn.</p> <p>Baby oak trees come from oak trees.</p>	<p>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.</p>	<ul style="list-style-type: none"> • Offspring look similar, but not identical to parents. Emphasis on organisms other than human. • Identify relationships between parents, offspring, siblings. • What traits are shared between plant/animal parents and offspring? • What traits are different between plant/animal parent and offspring? • Compare similarities and differences in plant and animal siblings. • Use graphical displays to compare traits of plant and animal parents vs. plant and animal offspring. • Using data from research, describe patterns of similarities and differences in inheritance. 	<p>Textbook p. ? p. ?</p> <p>3-LS3-1 Evidence Statement</p>

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3. Life Cycles for Survival	<p><i>How similar are animals and plants to their siblings and their parents?</i></p> <p><i>How does being similar to parents help an animal survive?</i></p>	<p>Plants with larger thorns are less likely to be eaten.</p> <p>Animals with better camouflage are less likely to be found and eaten.</p>	<p>3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.</p>	<ul style="list-style-type: none"> Some differences in organisms help them to survive better than others, and reproduce. Give examples of adaptations such as color/camouflage, thorns Students create chain of reasoning with cause and effect: members of a species are different, some differences allow some to survive better, the ones that survive reproduce with offspring that share these characteristics. 	<p>Textbook p. ? p. ?</p> <p>3-LS4-2 Evidence Statement</p>

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3. Life Cycles for Survival	<i>Why do some animals live alone while others live in large groups?</i>	<p>Many types of fish swim in schools.</p> <p>Buffalos live in herds.</p> <p>Some birds fly in flocks.</p> <p>Hyenas hunt in packs.</p> <p>There can be thousands of ants or bees living and working together.</p>	3-LS2-1 Construct an argument that some animals form groups that help members survive.	<ul style="list-style-type: none"> • What are some examples of animals that live in groups? • What advantages are there to living in groups? • There are advantages to being part of a group, like finding food, defending from predators, coping with change. • If an animal loses its group status, it will not find as much food, be as safe, etc. • Make a claim with evidence that animals in groups helps members survive. 	<p>Textbook p. ? p. ?</p> <p>3-LS2-1 Evidence Statement</p>