

PLANNING

UNIT AT A GLANCE

Activity	Time to Complete	Questions	Phenomena	Summary: Students Will...
1 Life Sounds	Preparation: 35 min. Activity 1: 6 days Lesson 1A: 45–50 min. Lesson 1B: 45–50 min., 2 days Lesson 1C: 45–50 min. Lesson 1D: 45–50 min., 2 days Lesson 1E: 45–50 min.	How can we develop a model that will explain why and how frogs make frog calls or croaking sounds?	Frogs of different kinds make different frog calls or croaking sounds.	<ul style="list-style-type: none"> • Make observations of different frog calls. • Develop a chart that reflects what they think about frogs and frog calls. • Use a variety of materials to make a device that makes three different sounds as three different frog calls. • Demonstrate their frog sound devices. • Role play male and female frogs on a pond. • Read informational text about frogs.
2 More About Frogs	Preparation: 40 min. Activity 2: 8 days Lesson 2A: 45–50 min., 2 days Lesson 2B: 45–50 min. Lesson 2C: 45–50 min. Lesson 2D: 45–50 min., 2 days Lesson 2E: 45–50 min., 2 days	How can we build a model habitat to observe how frogs develop and grow? What other kinds of habitats do frogs live and grow in?	Frogs of different kinds make different frog calls or croaking sounds. Observations of frog eggs.	<ul style="list-style-type: none"> • Make observations of a container to determine what is in the container. • Collaborate to build a suitable habitat for the tadpoles and frogs as they hatch and grow. • Make observations of different kinds of habitats to determine where frogs would survive. • Use multiple sources to research habitats and what lives there.
3 Animal Life Cycles	Preparation: 40 min. Activity 3: 8 days Lesson 3A: 45–50 min., 2 days Lesson 3B: 45–50 min., 2 days Lesson 3C: 45–50 min., 2 days Lesson 3D: 45–50 min., 2 days	What are the stages of the life cycle of the frog? How does the frog life cycle compare to the life cycle of other animals?	Observations of frog eggs hatching. Observations of chicken and turtle eggs hatching.	<ul style="list-style-type: none"> • Brainstorm ideas about eggs, animals that produce eggs, and why eggs are important to the survival of animals. • Watch videos of frogs, chickens, and turtles hatching from eggs. • Present information from research.

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Students Figure Out How To:	Practices	Performance Expectations (PE) at Lesson Level and Assessment
<ul style="list-style-type: none"> • Develop a model that demonstrates how and why frogs make frog calls. • Work as an engineering team to design a sound maker that will make three different sounds to mimic frog calls. • Explain how vibrations make sounds and relate vibrations to how frogs make frog calls. • Use their sound devices in a role play to determine how frogs work in groups to call a mate. • Explain the importance of mating in the survival of different frog species. • Obtain information about frog calls from text. 	<p>Constructing Explanation and Designing Solutions</p> <p>Developing and Using Models</p> <p>Analyzing and Interpreting Data</p> <p>Obtaining, Evaluating, and Communicating Information</p> <p>Cause and Effect</p>	<p>PE at Lesson Level: Develop an initial model that explains why and how frogs make frog calls that help them to survive.</p> <p>Formative Assessment What We Think chart Journal Entry (frog call initial models) Activity Page main idea charts</p> <p>Summative Assessment presentations revised models Science Talk Journal Entry Activity Page</p>
<ul style="list-style-type: none"> • Determine what frogs need to survive in their habitat. • Obtain and analyze information from text to determine the suitable components of a frog habitat. • Collaborate on a habitat research project to find out what habitats are suitable for frogs and other organisms. 	<p>Developing and Using Models</p> <p>Obtaining, Evaluating, and Communicating Information</p> <p>Analyzing and Interpreting Data</p> <p>Constructing Explanation and Designing Solutions</p> <p>Systems and System Models</p>	<p>PE at Lesson Level: Revise and build on model from Activity 1 to reflect a variety of habitats.</p> <p>Formative Assessment Activity Pages models sticky notes Science Talks Journal Entry</p> <p>Summative Assessment Activity Pages Science Talks Journal Entry/Respond to Text research presentations</p>
<ul style="list-style-type: none"> • Develop and revise models of the life cycles of different organisms. • Obtain information from videos of frogs, chickens, and turtles hatching from eggs. • Find patterns in life cycles to determine the common features (birth, growth, reproduction, death). • Obtain and analyze information from text and reliable media about the life cycle of the frog and compare it to another research plant or animal. 	<p>Constructing Explanation and Designing Solutions</p> <p>Analyzing and Interpreting Data</p> <p>Developing and Using Models</p> <p>Obtaining, Evaluating, and Communicating Information</p> <p>Systems and System Models</p>	<p>PE at Lesson Level: Develop a model of a life cycle of a frog based on text and observations.</p> <p>Formative Assessment Activity Pages What We Think chart Science Talk</p> <p>Summative Assessment Respond to Text models presentations</p>

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4 Inherited Traits	Preparation: 25 min. Activity 4: 3 days Lesson 4A: 45–50 min. Lesson 4B: 45–50 min. Lesson 4C: 45–50 min.	How can we find evidence that traits are passed from parent to offspring?	Some students can do the tongue roll and some cannot.	<ul style="list-style-type: none"> • Collect data to determine the percent of students in the class who are able to do the tongue roll and those who are not. • Collect data on multiple observable inherited traits. • View a “What Are Traits?” video • Read <i>The One and Only Me</i>.
5 Frogs Are In Trouble	Preparation: 15 min. Activity 5: 3 days Lesson 5A: 45–50 min. Lesson 5B: 45–50 min. Lesson 5C: 45–50 min.	<p>Why are some frog populations decreasing?</p> <p>What steps can humans take to help plants and animals survive well in their habitats?</p>	Frogs face problems with a fungus that threatens their survival.	<ul style="list-style-type: none"> • Read about a fungus that is killing frogs. • Participate in role play of different components of an ecosystem.
6 Evidence of Organisms from Long ago	Preparation: 25 min. Activity 6: 4 days Lesson 6A: 55–60 min., 2 days Lesson 6B: 50–55 min. Lesson 6C: 50–55 min.	<p>How do rock layers and fossils provide evidence about the nature of ancient life?</p> <p>What causes the extinction of plants and animals?</p>	Scientists uncover a fossil of an extinct animal.	<ul style="list-style-type: none"> • Make observations and draw a fossil specimen. • Share and compare fossil observations. • Compare fossils to familiar organisms that are still living. • Read a book about fossils. • Read a selection about the extinction of animals. • Write a article for publication in a class magazine.

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Students Figure Out How To:	Practices	Performance Expectations (PE) at Lesson Level and Assessment
<ul style="list-style-type: none"> Obtain, analyze, and present information from media and text. Analyze data to determine traits that are passed from parent to offspring. Distinguish between an inherited trait and an environmental or learned trait. 	<p>Analyzing and Interpreting Data</p> <p>Obtaining, Evaluating, and Communicating Information</p> <p>Patterns</p>	<p>PE at Lesson Level: Make observations and collect data on observable inherited traits.</p> <p>Formative Assessment Science Talk What We Think chart</p> <p>Summative Assessment Science Talk Journal Entry</p>
<ul style="list-style-type: none"> Develop a model to explain the role a frog plays in an ecosystem. Obtain information from text about the declining population of frogs. Use role play as a model to demonstrate the effect of catastrophic and natural hazards on the population in an ecosystem. 	<p>Constructing Explanations and Designing Solutions</p> <p>Cause and Effect</p> <p>Systems and System Models</p>	<p>PE at Lesson Level: Obtain information about the effect of human activity on the declining frog population.</p> <p>Formative Assessment Activity Pages</p> <p>Summative Assessment models Science Talk Respond to Text group presentations Journal Entry</p>
<ul style="list-style-type: none"> Compare fossils of ancient life-forms to modern life-forms. Determine how changes in the environment can lead to the extinction of a species. Determine the effect of natural hazards, human activity, environmental change, and catastrophic events on the survival of species in the area. Obtain useful information in writing a magazine article to inform the reader of how environmental changes can affect the plants and animals that live there. 	<p>Obtaining, Evaluating, and Communicating Information</p> <p>Constructing Explanations and Designing Solutions</p> <p>Cause and Effect</p>	<p>PE at Lesson Level: Obtain information about the effect of catastrophic events, environmental change, human activity, and natural hazards that cause extinction in an ecosystem.</p> <p>Formative Assessment Driving Questions/What We Think chart Activity Page reading integration</p> <p>Summative Assessment Journal Articles Science Talk What We Think chart</p>