

Butterflies Unit Lesson 2: Characteristics of the Monarch Butterfly

OVERVIEW – Students will order images of the life stages of a monarch butterfly and discuss some of the monarch’s special characteristics.

OBJECTIVES – Students will describe the main life stages of a monarch butterfly. Students will determine the difference between male and female monarchs. Students will infer how limiting a resource can effect a population.

VOCABULARY – egg, caterpillar, chrysalis, proboscis, metamorphosis, milkweed

MATERIALS – PowerPoint images, paper, pencil

TIME REQUIRED – 15-20 minutes

Engage		
Teacher Says/Does	Probing Questions	Students Answers
<p><i>There are over 20,000 different species of butterflies in the world. Today we are going to talk about just one of them: the monarch butterfly.</i></p> <p>Show image of monarch (Butterflies Lesson 2 Slide 2)</p> <p><i>Scientists name many animals based on how they look. Turn to your neighbor and make a list of all the monarch butterfly’s characteristics.</i></p>	<p><i>If you had to give the monarch butterfly a different name, what would you name it?</i></p>	<p>Answers will vary.</p>
<p><i>Monarchs are in the brushfoot butterfly family.</i></p> <p>Point out the bristles on their legs. (Butterflies Lesson 2 Slide 2)</p>	<p><i>Why do you think they are called a brushfoot butterfly?</i></p>	<p>The legs have bristles on them</p>
<p><i>Animals are grouped in families based on their characteristics. Today we are going to learn about other characteristics of monarch butterflies.</i></p>		

Explore		
Teacher says/does	Probing Questions	Student Answers
<p>Display images of various life stages of the monarch butterfly. (Butterflies Lesson 2 Slide 3)</p>		

<i>Work with your neighbor/table to put these pictures in order from first life stage to last life stage.</i>	<i>Which picture do you think comes first? Why do you think that?</i> <i>Why did you pick that order?</i>	Answers will vary.
Ask the class to share out what order they put the life stages in, but do not reveal if they are correct. Practice saying the names of the various stages aloud with the class. Encourage students to use the words and describe what each stage looks like.	<i>What do you think it feels like to be squished in a chrysalis?</i> <i>Have you ever seen a caterpillar/chrysalis/butterfly?</i> <i>Do you know any other types of animals that go through metamorphosis?</i>	Tadpoles turn into frogs, other insects, a lot of sea creatures (lobsters, crabs, anemones, and jellyfish).

Explain		
Teacher says/does	Probing Questions	Student Answers
Reveal the correct order of life stages. (Butterflies Lesson 2 Slide 4)		
<i>Monarch butterflies start their lives in tiny eggs.</i>	<i>Why do you think most animals start their lives much smaller than the adults?</i>	Answers will vary.
<i>Having smaller babies makes it easy to have a lot, and having a lot of babies means more might survive to be adults.</i>		
<i>Monarch caterpillars start as tiny eggs, but they eat so much food they have to shed their skin to get bigger. If we grew as much as a monarch caterpillar when we were born, we would be the size of a school bus when we were 2 ½ weeks old!</i>	<i>Does anyone know what the monarch caterpillar eats?</i>	Leaves
<i>That's right! Monarch caterpillars eat leaves, but they only eat the leaves of the milkweed plant.</i>		
<i>After a few more weeks, the caterpillar stops moving around, hangs by its back legs, and the chrysalis forms. It starts as a green color, but then it turns clear.</i>	<i>What kinds of changes do you think happen inside the</i>	Wings form, mouth changes, colors change, etc.

	<i>chrysalis?</i>	
<i>The mouth of the caterpillar has to change from teeth to a special tube called a proboscis.</i>	<i>Do you think the butterfly still eats leaves? How do you know? Talk to you neighbor about it.</i>	Different mouth means different food.
<i>The adult butterfly uses its proboscis to drink water and nectar from flowers.</i>		

Elaborate		
Teacher says/does	Probing Questions	Student Answers
<p>Show image of male vs. female monarchs. (Butterflies Lesson 2 Slide 5)</p> <p>(If students mention the difference in size of these butterflies, explain to them that female monarchs are usually larger than males. Explain that it is hard to tell what size objects are in pictures unless they are next to a ruler.)</p>	<i>Turn to your neighbor and compare and contrast the male and female butterflies.</i>	<p>Male has two black dots on wings</p> <p>Female veins are thicker</p>
<i>Did you know the milkweed plant is poisonous?</i>	<i>Why doesn't it kill the caterpillars or the adults that drink its nectar?</i>	Answers will vary. The caterpillar has a special adaptation to survive when eating the milkweed.
<i>The caterpillar doesn't get poisoned by its food, but if birds eat the caterpillars, they do get poisoned!</i>	<i>Why do you think this is important? Talk to your neighbor about it.</i>	Defense against birds. Fewer birds will eat them.

Evaluate		
Teacher says/does	Probing Questions	Student Answers
<i>The milkweed plant is disappearing. Write a one minute paper that explains why you think it is important to protect it.</i>	<i>What else do you think we should protect?</i>	Answers will vary, but essentially less milkweed means fewer monarchs
<i>California State Parks protects the habitats and food sources of adult monarch butterflies since adults come to over-winter, or</i>		

<i>spend the cold months in California.</i>		
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