

Butterflies Unit Lesson 1: Characteristics of Insects

OVERVIEW – Students will look at pictures of insects from different parts of the world, and they will learn four of the main characteristics of all insects.

OBJECTIVES – Students will identify the head, thorax, and abdomen on pictures of insects. Students will classify animals as insects based on number of legs.

VOCABULARY – thorax, abdomen, antenna(e), exoskeleton, metamorphosis

MATERIALS – PowerPoint Presentation Butterflies Unit Lesson 1, rulers, paper

TIME REQUIRED – 15-20 minutes

Engage/Explore		
Teacher says/does	Probing Questions	Student Answers/Actions
<p><i>Today we are going to talk about the largest group of animals in the world.</i></p>	<p><i>Turn to your neighbor and make a prediction about which group of animals is the largest in the world with almost 1 million different types!</i></p> <p><i>What did you discuss with your neighbors?</i></p>	<p>Answers will vary.</p>
<p><i>That's right! There are so many different types of insects in the world scientists don't even think they have seen them all. Some are very small, and some are very large!</i></p> <p><i>The Titan Beetle can grow to more than 6 ½" in length. Before I show you a picture of the Titan Beetle, see if you can draw a picture of an insect that is 6 ½" long.</i></p> <p>Show image of Titan Beetle (Butterflies Lesson 1 Slide 2)</p> <p><i>Now take a look at the Titan Beetle. Wow! It's as big as that person's hand! The smallest insect in the world is less than 1</i></p>		<p>Students draw an insect that is 6 ½" long using their rulers.</p>

<p><i>mm in length! Look at your ruler and see if you can see the length of 1 mm. That is very small. Some areas are home to many different types of insects, but in Antarctica, there is only one type of insect: the Antarctic Midge. Show picture from PowerPoint. (Butterflies Lesson 1 Slide 3)</i></p>	<p><i>Share with your neighbor why you don't think many insects would want to live in Antarctica.</i></p> <p><i>What did you discuss with your neighbor?</i></p>	<p><i>It's very cold/harsh, so not many insects can live there.</i></p>
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Explain		
Teacher says/does	Probing Questions	Student Answers/Actions
<p><i>Now let's find out what makes an insect an insect. Let's look at the picture you drew of the Titan Beetle and see if you put all the right body parts on it. We are going to draw a new picture on the other side that has all of the right parts.</i></p> <p>Show students the picture of the insect body parts. (Butterflies Lesson 1 Slide 4)</p> <p><i>First let's draw the three main body parts of the insect: the head, the thorax, and the abdomen. When we say head, we are going to point to our heads, thorax we will point to our chests, and when we say abdomen, we will point to our stomachs.</i></p> <p><i>That's right! Insects have legs, and many of them have wings. All insects have 6 legs attached</i></p>	<p><i>Does anyone know how insects move?</i></p>	<p>Students practice motions. Students copy and label the three body parts.</p> <p>Legs, arms, wings, etc.</p>

<p><i>to the thorax. If the insect has wings, they are also attached to the thorax. When we say legs we will wiggle our fingers.</i></p> <p><i>Most insects also have antennae on their heads to help them smell and feel. When we say antennae we are going to put our fingers up on our heads like this. Draw antennae on your insect.</i></p> <p><i>Let's practice all of the body parts we have learned so far with a song. Don't forget to use the motions!</i></p> <p><u><i>Song to the tune of Head, Shoulders, Knees, and Toes</i></u> <i>Head, thorax, abdomen, abdomen!</i> <i>Head, thorax, abdomen, abdomen!</i> <i>Eyes, six legs, antennae, too</i> <i>Head, thorax, abdomen, abdomen!</i></p>	<p><i>How do you think insects can feel where they are going?</i></p>	<p>Students practice motion. Students draw six legs and wings.</p> <p>Antennae</p> <p>Show and practice motion. Students draw antennae.</p> <p>Students sing song with hand motions.</p>
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Elaborate		
Teacher says/does	Probing Questions	Student Answers
<p><i>The last body part we are going to talk about is hard to draw. It is called the exoskeleton.</i></p> <p><i>That's right; all insects make a crunch sound if you step on them because they are all protected by a hard outer covering called an</i></p>	<p>Does anyone want to tell me the noise it makes when you step on an insect?</p>	<p>Crunch</p>

<p><i>exoskeleton. It helps protect their soft insides and keeps them from drying out.</i></p> <p><i>All insects also go through some sort of metamorphosis to help them change from baby insects to adult insects. Metamorphosis means change.</i></p> <p><i>The exoskeleton needs to become stronger, but sometimes the insect has to shed its exoskeleton so it has room to grow!</i></p> <p>Show image of empty exoskeleton and dragonfly. (Butterflies Lesson 1 Slide 5)</p>	<p><i>What do you think needs to happen to an insect's exoskeleton as it changes to be an adult? Brainstorm with your neighbor.</i></p> <p><i>What did you come up with?</i></p>	<p>Answers will vary.</p>
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Evaluate		
Teacher says/does	Probing Questions	Student Answers
<p><i>Let's see if we can look at some pictures and classify the animals shown.</i></p> <p>Show slide of different organisms to determine if they are insects or not. (Butterflies Lesson 1 Slide 6)</p> <p><i>The dragonfly and beetle are both insects, but the spider and centipede are not. They look like they have antennae and</i></p>	<p><i>Are they insects or are they something else?</i></p> <p><i>How can you tell?</i></p> <p><i>Can you identify the head, thorax, and abdomen of the ones that are insects?</i></p>	<p>Answers will vary.</p>

<p><i>exoskeletons, but they have too many legs and the incorrect number of body segments.</i></p>		
<p><i>Insects are the most abundant animals on Earth. California State Parks works to protect the homes of many insects by preventing the destruction of habitats.</i></p> <p><i>It's important to protect all wildlife because they can be a source of food for other animals.</i></p>	<p><i>What do you think would happen if all of the insects disappeared?</i></p>	