

ELA: Grade 2, Lesson 3, Insects

Lesson Objective: Students will know about an insect's body parts

Practice Focus: Accessing prior knowledge, and making predictions

Today we will learn more about what makes an insect an insect by reviewing our initial predictions, listening and learning new information, and finally confirming or debunking our initial predictions based on today's learning.

TN Standards: 2.RI.KID.1; 2.RI.IKI.7; 2.W.RBPK.8

Teacher Materials:

- ELA, Grade 2, Lesson 3 Teacher Packet – printed (will hold up images for students to see)
- One piece of paper

Student Materials:

- Piece of paper
- Pen or pencil

Teacher Do	Student Do
<p>Opening</p> <p>Hello! Welcome to Tennessee's At Home Learning Series for literacy! Today's lesson is for all our 2nd graders out there, though all children are welcome to tune in. This lesson is the third in our series.</p> <p>My name is ____ and I'm a ____ grade teacher in Tennessee schools! I'm so excited to be your teacher for this lesson! Welcome to my virtual classroom!</p> <p>Today we will learn more about what makes an insect an insect by reviewing our initial predictions, listening and learning new information, and finally confirming or debunking our initial predictions based on today's learning. Wow! This sounds like fun, investigative learning! I can't wait to work on this today!</p> <p>Before we get started, to participate fully in our lesson today, you will need:</p> <ul style="list-style-type: none">• Something to write with and a surface to write on• One piece of paper <p>If you didn't see our previous lesson, you can find it on www.tn.gov/education. You can still tune in to today's lesson if you haven't see any of our others. But, it might be more fun if you first go back and watch our other lessons since we'll be talking about things we learned previously.</p> <p>Ok, let's begin!</p>	<p>Collects materials needed to engage in the lesson.</p>

<p>Today you will hear some very important vocabulary words. These words will help us better understand what we are reading about. Let's check out a few of those vocabulary words now.</p> <ul style="list-style-type: none"> • <u>Abdomen</u>- Please say the word after me. ABDOMEN This word is a noun. The definition is, the end part of an insect's body; the body segment that contains the digestive and reproductive structures Here is an example of the word in a sentence: The abdomen is the largest body part of most insects. You might hear the plural form, abdomens. • <u>Exoskeletons</u>- Please say the word after me. EXOSKELTONS This word is noun. The definition is, the stiff body coverings of insects, providing support and protection; skeletons on the outside of the body Here is an example of the word in a sentence: The thick exoskeletons on beetles protect them from being squashed by larger animals. You might hear the singular form, exoskeleton. • <u>Thorax</u> This word is a noun. The definition is, the middle part of an insect's body between the head and the abdomen; the body segment that contains the heart and the leg attachments Here is an example of the word in a sentence: Joshua's favorite dragonflies have a bright green thorax. You might hear the plural forms, thoraxes, thoraces. <p>Now that we know some important vocabulary words, let's begin!</p>	
<p><u>Intro</u> Let's review what we have already learned! [Ask students the following]:</p> <ul style="list-style-type: none"> • What is the name the largest group of animals on Earth? [Pause] Remember that the fly in our previous read-aloud introduced you to a variety of insects that live in nearly all parts of the world. • What is the one habitat in the world that does not have insects? [Pause] That's right, oceans are the only habitat that does not have insects. • What is the difference between social and solitary insects? [Pause] If you said social insects live in 	<p>Student interacts with teacher's questions as posed. Student will access prior knowledge about insects.</p>

<p>groups, and solitary insects live alone or in pairs, you are correct.</p> <ul style="list-style-type: none"> • [Show image 1A-16: Insect Collage] Let's look at the collage of insects once more. As we look at it, try to name some ways in which these insects are different from one another. [Pause] [T give a few answer examples] • Now, try to name the ways in which the insects are similar to one another. [Pause] [T give a few answer examples] Nice job listing all the ways they are similar to one another! <p>Today we are going to learn what all insects have in common.</p> <p>Before we begin today, I want you to make predictions about what things all insects have in common, or what makes an insect an insect. Write down at least two predictions! [Pause for students to write, maybe write two of your own during this time].</p> <p>Model the following predictions for students. Let me share some of my predictions:</p> <ul style="list-style-type: none"> • I predict that having wings makes an insect an insect. • I predict that stinging people is what makes an insect an insect. • I predict that have 6 legs makes an insect an insect. • I predict that not living in the oceans makes an insect an insect. <p>Please listen carefully for the things all insects have in common, or what makes an insect an insect, and to see if your predictions are correct.</p>	<p>Students write two predictions</p>
<p><u>Teacher Model</u></p> <p>What Makes an Insect an Insect?</p> <ul style="list-style-type: none"> • [Show image 2A-1: Cockroach] Hello, boys and girls. The last time you gathered to learn about insects you were joined by a fly, an insect with whom you are surely familiar with. I am also a very common insect that loves to live in bathtubs or underneath kitchen sinks. My cousins and I often hide during the day so you may not notice us. Does anyone know what type of insect I am? [Pause] I am a cockroach. Do you think I look anything like a fly? [Pause] • [Show image 2A-2: Fly and Cockroach] There are millions of insects on Earth. At first glance, we may look very different from one another. What are 	<p>Student interacts with teacher's questions as posed. Student will access prior knowledge about insects.</p>

<p>some of those differences? [Pause] What are some ways we are the same? [Pause]</p> <ul style="list-style-type: none"> • [Show image 2A-3: Butterfly, Grasshopper, Lice, and Fleas (clockwise)] Some insects, like butterflies and grasshoppers, have wings whereas others, like fleas and microscopic lice, don't. Some eat plants and others eat animals, but all insects have certain features in common. I am here to talk about what makes an insect an insect. Our name should give you a clue. An insect's body is built in sections, or parts—three parts to be exact. We'll use one of my friends, the ant, as an example. • [Show image 2A-4: Ant With Three Sections Labeled] All insects have a head, a thorax, and an abdomen. The head is the center of an insect's senses, but different kinds of insects can have very different-looking heads. [Point to the body parts in the image as you read about them.] The thorax is the middle part of the insect's body. The abdomen is the end of the insect's body farthest away from the head. • The word microscopic refers to things that are very, very small, like something that can only be seen well or at all with a microscope. • [Say the word insect followed by the word section.] What part of both these words sounds similar? [Pause] • [Show image 2A-5: Insect Heads] What do you notice about the heads of these common insects? [Pause] Do they look anything like yours? [Pause] Do they have eyes? [Pause] Yes, they do, but they are different from your eyes. For one thing, many insects have more than two eyes. • [Show image 2A-6: Cricket's Head] Most insects, like this cricket, have big eyes located on the side of the head. Many insects also have smaller, simple eyes on the tops of their heads. Look closely at this cricket's head. Can you see its eyes? [Pause] Although some insects see better than others, most insects also use other senses to get information about their environments. • [Show image 2A-7: Bush Cricket's Head With Focus On its Mouth] Look at this bush cricket. Does it have a mouth? [Pause] Yes, its mouth is a small hole at the front of its head, surrounded by mouthparts. You and the cricket both use your mouths to taste and eat. 	
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- [Show image 2A-8: Cockroach, Aphids, Mosquito, and Bee (clockwise)] **Look at the variety of insect mouthparts. Some look like sponges; others look like scissors or needles. An insect's mouth is carefully designed for eating certain types of foods. Some insects bite and chew solid foods; others suck liquids; still others pierce their foods. For example, cockroaches like me eat just about anything we can find. We have two pairs of jaws for biting, cutting, and chewing food well. Other insects, like the tiny aphids that destroy farmers' crops, have mouthparts that look more like drinking straws. They feed by sucking sap from plant leaves and stems through these tubes. Look how long and sharp this mosquito's mouthpart is—perfect for piercing the skin of its prey and sucking its blood. Have you ever been bitten by a mosquito? [Pause] I have! They love to feed on people, as well as other animals like horses and birds. Butterflies and bees have long mouthparts for sucking nectar from flowers.**
- **What are the parts of your mouth called? [Pause] Yes, tongue, teeth, taste buds, and lips.**
- [Show image 2A-8.5 Butterfly] Point to the image as you read about the specific insect. **Look closely. Can you see this Monarch butterfly's mouthparts working like a straw to suck nectar from this flower? [Pause] Yes, there it is.**
- [Show image 2A-9: Variety of Insect Antennae] **So, now you've seen insect eyes and mouths. What else do you see on the head of these insects? [Pause] Ah, yes, those long feelers! Those are the insects' antennae, their most important sense organs. Insect antennae come in a variety of shapes and sizes and help insects learn more about their surroundings. 8**
- [Show image 2A-10: Cricket Antennae] **These jointed feelers, such as those on this cricket, are often covered with tiny bristles and pegs, and some are even quite feathery. Antennae are primarily used for smell and touch, although some can pick up sounds or detect movements in the air. Do you see a nose on this cricket? [Pause] No, at least nothing that looks like your nose. Instead of a nose, the cricket uses its antennae to smell. Eyes. Mouth. Antennae.**
- **What else might you expect to find on an insect's head? [Pause] What other sensory organs do you have on the side of your head? [Pause] Right—ears!**

- **Do you see any ears on this cricket? [Pause] No. The cricket's ears are located on its legs, attached to the middle section of the cricket's body.**
- **The middle section of an insect's body is called the thorax. The thorax has three pairs of jointed legs and usually, but not always, two pairs of wings. Notice I said pairs. A pair is two of a specific item. If there are three pairs of legs, how many legs does an insect have altogether? [Pause] Yes, all insects have six legs. Let's take a look at the cricket's thorax and see if we can spot its ears.**
- **[Show image 2A-11: Cricket's Thorax and Front Legs] Look just below its knee joint on the front leg. Do you see a smooth patch of skin? [Pause] I do, right here. That is the cricket's eardrum which is very important for it as it communicates with other crickets through sound. The cricket's eardrum bends in and out to catch the sound waves so it can communicate with other crickets.**
- **What are the body parts humans use to sense things, or to learn more about our surroundings? [Pause] That's right, the eyes, ears, nose, mouth, and skin.**
- **What is the middle section of an insect's body called? [Pause] Here the word patch means a piece of skin covering an opening. The word patch can also mean a small area of land where a particular plant grows, like a pumpkin patch.**
- **[Show image 2A-12: Grasshopper, Bee, and Backswimmer Beetle] Insect legs vary according to an insect's lifestyle. How do you think the long, muscular, back legs of a grasshopper might help it? [Pause] Right—its legs are designed for jumping to quickly escape danger!**
- **Have you ever seen the fuzzy legs of a honeybee covered with yellow clumps of pollen that it carries back to its hive? [Pause] It's quite a sight! And how do you think the backswimmer beetle's pair of long legs help it in its water habitat? [Pause] Notice the oar-like shape of the legs that it uses for paddling.**
- **[Show image 2A-13: Caterpillar] Caterpillars have three pairs of true legs on the front part of their bodies, but their long bodies need extra support so they also have several pairs of stubby legs in back to help them cling to stems and leaves. These false legs are called prolegs. Caterpillars loop along, grasping stems with their front legs, or true legs, before**

<p>drawing their bodies up into a loop to hold on with their hind legs, or prolegs.</p> <ul style="list-style-type: none"> • [Show image 2A-14: Dragonfly Wings] Only adult insects have wings, and some insects don't have any wings at all. If an insect does have wings, they are located on the insect's middle section, or thorax. Wings allow insects to move quickly from place to place, and they are surely one reason insects have survived in such large numbers for so many years. Insect wings may look very different from one another, but a network of veins supports each wing. • [Show image 2A-15: Cricket Wing] When it's quiet at night, especially in the summer time, you may hear an interesting chirping noise coming from insects outside. That sound may be a cricket! Crickets' wings have veins. The veins of a male cricket's wings are thicker and shaped differently from many other insects. You'll learn more another day about how a cricket uses its wings to make its unique chirping sounds. • If caterpillars have three pairs of true legs, how many true legs do they have? [Pause] Yes, 16 legs! • [If possible, show the veins in your hand] Veins carry needed materials to different parts of the body. • [Show image 2A-16: Cricket's Abdomen] So far, we've looked at an insect's head and its thorax. Every insect body is made up of three sections. What is the name of the third section? [Pause] The third and largest section is called the abdomen. Do you have an abdomen? [Pause] Yes, you do. Your abdomen is your belly. Like an insect, your abdomen is where you digest your food, or break it down so your body can use it to grow and stay healthy. An insect's abdomen is also the part of its body where the female produces eggs. The abdomen is also where insects breathe. Like you, insects need oxygen from the air to live, but they do not have lungs, and they do not take in air through their noses or mouths. Instead, if you look closely at this cricket's abdomen, you will see a line of tiny holes along its side. That is where insects take in air, containing oxygen, to breathe. • [Show image 2A-17: Labeled Ant] So, what makes an insect an insect? [Pause] Well, it has three body parts—head, thorax, and abdomen. It also has six legs, and most insects have wings. But that's not all. All insects are invertebrates, meaning that they have 	
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<p>no backbones. Instead of having skeletons inside their bodies like you, insects wear their skeletons on the outside.</p> <ul style="list-style-type: none"> • [Show image 2A-18: Insect's Exoskeleton] These waterproof exoskeletons, made of a tough, flexible material called chitin [KY-tin], protect the insect's soft insides like a suit of armor. Just like your backbone and bones, an insect's exoskeleton is the thing to which the insect's muscles attach. • [Show image 2A-19: Cockroach] Here is a picture of another one of my cousins. We cockroaches were around long before the dinosaurs. I think our thick exoskeletons may have something to do with our long survival, don't you? [Pause] I thought so! • Next time the narrator of the read-aloud will be an insect that holds its front legs together like this... [Model prayer position with your hands] • What do you think that might be? She'll tell you how insects grow from tiny eggs into adults. Be prepared to be amazed! 	
<p><u>Guided Practice</u></p> <p>Now let's think back to our list of predictions we made about what makes an insect an insect.</p> <p>Hmmm, let's consider my prediction that all insects have 6 legs!</p> <p>I remember we read about caterpillars and we learned that they have 16 legs. So not all insects have 6 legs. In fact, some have less and some have more!</p>	<p>Student observes the teacher model.</p>
<p><u>Independent Practice</u></p> <p>Let's look back at your predictions now!</p> <ul style="list-style-type: none"> • What did we learn today about what makes an insect an insect? [Pause] We now know all insects have three body parts: head, thorax, abdomen. They also have exoskeletons, or hard outer coverings. • Check your predictions – were they correct about what makes an insect an insect? [Pause] 	<p>Student refers back to predictions made at the beginning of the lesson.</p> <p>Students confirm or debunk their predictions about what makes an insect an insect.</p>
<p><u>Closing</u></p> <ul style="list-style-type: none"> • I enjoyed learning about an insect's body parts with you today! Thank you for inviting me into your home. I look forward to seeing you in our next lesson in Tennessee's At Home Learning series. Bye! 	

PBS Lesson Series

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