AMAZING ARTHROPODS
KINDERGARTEN-SECOND

Life Science TEKS	
Kindergarten:	K.9A, K.9B, K.10A, K.10B
First Grade:	1.9A, 1.9B, 1.9C, 10A, 1.10C, 1.10D
Second Grade:	2.9A, 2.9B, 2.9C, 2.10A, 2.10C

Life Science Vocabulary

abdomen, antenna, compound eyes, environment, exoskeleton, food, food chain, heat, insect, molt, organism, plants, predator, prey, shelter, survival, thorax, water

Pre-Show Activity

Pre-Show Lesson: Insect Body Parts

Materials:

insects or insect pictures, a fake cockroach, a sandwich, a bike helmet, molted skin of cicada or other insect, various craft supplies - clay, pipe cleaners, twist ties, construction paper, googly eyes, pompoms, etc.

Procedure:

1. Pretend to take a bite out of a sandwich and pull out a fake cockroach. Ask, “What is this?” “Can I eat it?” “It’s crunchy. I wonder why? Do you know why?”

2. Explain to students what an exoskeleton is. Some organisms have an exoskeleton instead of a skeleton inside their body. It is a hard, supportive covering. They do not have bones. Their skeleton is on the outside of their body. This hard shell is called an exoskeleton. The exoskeleton is on the outside of their body. Show students a picture of a human skeleton. Our skeleton is inside our body. It is important because it supports our body and anchors our muscles. Without it, we could not stand or move. We would just be a pile of mush. Insects are not like people. Have the children say the word “exoskeleton.” Have students turn to a partner and repeat it. Have students turn to another partner and explain what it means.

Model how an exoskeleton helps an insect. Put a bike helmet on your head or get a plastic shield in the toy section of a store. Have kids throw bean bags or tennis balls at it. Discuss how it helps.

2. Pass around the molted skin of a cicada or other insect. Or, pass around a dead or alive beetle or other insect. Ask students how it feels compared to our skin covering. As they answer, ask them why they think that might be important to the insect.

3. Pass out other examples or pictures of insects to groups. Ask students to look at the pictures and observe their body parts. As students name the body parts, on a large piece of chart paper, list each body part. Lead students to the following characteristics:

Head, thorax, abdomen - three main body parts
Exoskeleton - protects body
2 antennas - used to smell
6 legs - used to taste
Compound eyes - used to see
Mouth
Wings

As you list and talk about each body part draw a diagram of an insect with each part labeled. Students should also draw this diagram in their science notebook as you do. (See Appendix A-1)

4. Students will use their diagram and craft supplies to create an insect with all of the parts that were discussed.

5. Take pictures of each insect and create a PowerPoint or Microsoft Movie Maker presentation. Number each insect in the show. Students will vote for their favorite insect in each category. They cannot vote for their own insect.

Examples of Categories:
Most life like insect (has all the body parts)
Insect with best exoskeleton
Scariest looking insect
Friendliest looking insect
Etc.

Post-Show Enrichment Activities

Activity One: Insect Review

State a fact from the show and have students put their thumb up if they agree or thumb down to disagree. Be sure you misrepresent some of the facts. If it is false, have them turn and tell their partner why it is false.

- Insects have exoskeletons.
- All insects are arthropods.
- All arthropods are insects.
- All insects have three main body parts.
- Nocturnal means hunts at night.
- Crickets make noise by rubbing their wings together.
- A praying mantis looks like a leaf.
- The praying mantis is a predator.
- The walking stick looks like a scorpion.
- The hissing cockroach sound like a snake.
- Cockroaches are decomposers.

Activity Two: Classifying Insects

Students will sort various plastic insects, spiders, worms, centipede, millipede, and other animals. They will classify them as insect or not an insect. If you cannot get plastic animals, you can use pictures of animals. They should use the charts that were made in the pre-activity to help them. Older students may sort by arthropod or not an arthropod. Then they can sort the arthropods as insect or not an insect.

Activity Three: Compound Eyes

If you can get some transparent prisms, these make great models for compound eyes.

Show students pictures of compound eyes on the Internet.

Have students make their own set of compound eyes using two empty toilet paper rolls and the smallest sized bubble wrap that you can find.

1. Cut bubble wrap in squares large enough to fit around the end of a toilet paper tube.
2. Tape one bubble wrap square around the end of each toilet paper tube.
3. Look through your compound eyes.

Students can draw their compound eyes in their science notebook. They can also draw what they see.

Discuss how compound eyes help an insect. Compound eyes cannot see much detail or things far away. They see extremely quick movement and things close up. Have you ever tried to swat a fly? When you get close to it, it moves away. That's because its compound eyes detected the motion.

Activity Four: Insect Hunt

Read *Bug Hunt* by Neecy Twinem or some other book about insects. Take students on an insect hunt. They will need to bring their science notebook, a pencil and some colored pencils. They may also want to bring a container to put their insect in for observation. Review the rules when working outdoors.

1. Stay with your group at all times.
2. Do not touch any insects with your bare hands. Some insects bite or sting.
3. Do not intentionally harm any living organism; plant or animal.

Look for insects. As you find them, show students how to properly put them into the observation containers. You may want to turn over a rock and look for insects. Instruct students about the proper way to turn over a rock. You should lift the side opposite you up so that if there is a snake underneath, it will not be pointed toward you.

Have students sit, take their time and carefully draw an insect that they see. They should try to draw all of the parts and color it.

For younger students you may want to have copies of parts of several different insects cut apart by head, thorax and abdomen (lady bug, butterfly, beetle, bee, ant). Students will then chose the insect parts that fit the insect that they observed and cut and paste it together.

Activity Five: Insect Part Sort

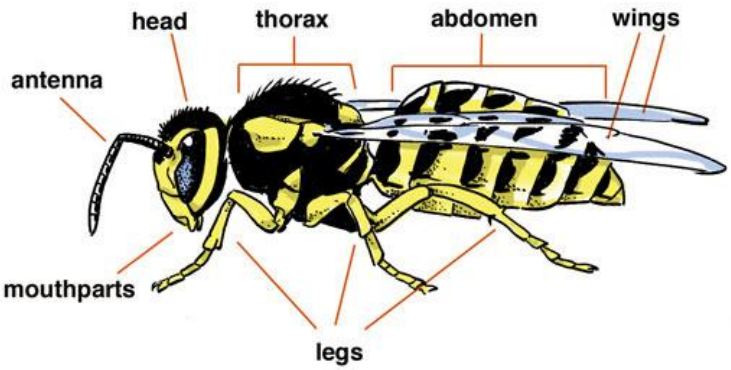
Teacher will copy pictures of several insects (lady bug, butterfly, beetle, bee, ant, grasshopper, etc.) onto paper and cut them into the pieces of head, thorax, and abdomen. Students will work in groups to sort the cutout parts as head, thorax, and abdomen. Then they can try to put the insects back together.

Activity Six: Cootie

For math the students can play a store bought game called *Cootie*. In this game the students spin a spinner and add the correct body parts to an insect. For example, they could land on a picture of two legs and they would have to count out two legs. The first one to build a complete insect is the winner.

Appendix

A-1



Graphic Source: UC Berkeley