

Insect Symphony

Learning Goal: Students will learn how insects make sound, create instruments to make sound in similar ways, and play those instruments together in an insect symphony.

Standards:

Music: Discover musical ideas through simple rhythm patterns (K-2); Improvise rhythms with instruments and a variety of sound sources (3-5)

Science:

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

Materials

index cards	fingernail file/emery board
balloon	plastic cups
corrugated cardboard cut in 4" squares	balloons
pencils	
rubber bands (various widths and lengths)	

Note: For younger students, teachers can make the instruments in steps 2 & 3 ahead of time. For step 2, cut off the neck of a balloon, leaving an opening wide enough to stretch tightly over the top of a plastic cup. Secure the edge of the balloon with a rubber band. For step 3, wrap a rubber band around a corrugated cardboard square enough times that the rubber band is tight and will vibrate when plucked.

Explanation/Discussion

1. Tie this lesson to previous exploration of insects, insect body structures, and insect behaviors; review what students have learned about insects.
2. Ask students if they have ever known an insect was nearby without seeing it. Ask, "How did you know?"
3. Ask students to demonstrate some sounds they think insects make.

Procedure

1. Show the students how to hold an index card upright with one long edge resting on the table. Hold the card with one hand and draw the side of the nail file across the top edge of the card two times (for older students, set up a rhythm: two "rasps", then one beat of silence, and repeat). Explain that insects like grasshoppers and crickets make noise by rubbing two body parts together—for example, some grasshoppers rub their rough hind legs against the sharp edges of their wings.

2. Next, show the students the plastic cups with balloons stretched over them. Show them how to pinch the center of the balloon, pull it outward, then release it. Explain that male cicadas are insects that vibrate special membranes to make a sound almost like a drum.
3. Show the students the cardboard card with the rubber band and pencils. Demonstrate how to pluck the rubber band, then immediately touch the vibrating rubber band with the tip of an index card to make the card vibrate and produce a buzzing sound, like bees and mosquitoes do (their wings vibrate to make the buzzing sound).
4. **For older or more advanced students:** Demonstrate how to make the instruments and allow them to construct the instruments themselves. You can also take it a step further: begin by discussing how different insects create sound, then pass out the materials and let the students design and create instruments that imitate the sound-creating processes of different insects.
5. Make sure that every student has at least one instrument. Let the students play their insect instruments together to make an insect symphony. Let them imitate the rhythms of insects they have heard, or have them create their own rhythms. Students can take turns leading the class in rhythmic patterns (as in a drum circle). Have the students trade instruments so that they all have a chance to try the different types.
6. You may also blow up a balloon and let the air out slowly to make a whistling sound. Explain that some insects make sound by forcing air out of their bodies. Join in the symphony with your students.

Assessment: Students should be able to imitate and create rhythmic patterns with the different insects. Students should be able to explain how their instruments represent the sound creation processes of different insects and identify the body parts that insects use to create sound.