

The Five Senses: Hearing

Strand Scientific Investigation, Reasoning, and Logic

Topic Investigating the sense of hearing

Primary SOL K.2 The student will investigate and understand that humans have senses that allow them to seek, find, take in, and react or respond to information in order to learn about their surroundings. Key concepts include

- a) the five senses and corresponding sensing organs;
- b) sensory descriptors used to describe common objects and phenomena.

Related SOL K.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

- a) basic characteristics or properties of objects are identified by direct observation.

Background Information

The sensing organs—eyes, ears, nose, tongue, and skin—are associated with the five senses. Using the senses, we can make observations about the world. To communicate what is observed, descriptors are used.

We use our ears to hear sounds around us. Ears are shaped so that they funnel sounds (vibrations) into the ear canal. Different animals have different shaped ears. Cupping your hands around your ears will help funnel sounds into them.

Materials

- Small box
- Large paper clip
- Cards labeled “Loud,” “Soft,” “High,” and “Low”
- Four small, opaque containers per small group, labeled with a circle, a triangle, a rectangle, and a square. Fill the containers with the following:
 - Circle = water
 - Square = rice
 - Triangle = two pennies
 - Rectangle = cotton ball
- One large brown paper grocery bag

Vocabulary

five senses, sound, hearing, ear, loud, soft, high, low

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

Introduction

1. Prepare a “mystery box” by placing a large paperclip in the small box and closing it so that students cannot see what is inside.

2. Introduce the box to the students. Ask them for ways that they can find out what is in the box.
3. Explain that they will be using their ears and will be listening to the sound the item makes when the box is shaken.
4. Shake the box, and ask students what they think is in the box and why they think that.
5. Open the box, and show them the paperclip.

Procedure

1. Ask students for the name of a favorite song to sing. Encourage them to select a fairly easy and short song (e.g., “Mary Had a Little Lamb,” “The Farmer in the Dell”). Sing the song as a group in a normal voice, then in a loud voice, a soft voice, with a low pitch, and a high pitch.
2. Compare the five ways the song was sung. Talk about the descriptors “loud,” “soft,” “high,” and “low.”
3. Sing the song again. Start out in a normal voice. While the class is singing, hold up one of the sound cards. Have students change their voice according to what is written on the card. As they continue to sing, hold up the other cards.
4. Divide students into small teams, and pass out the containers that are marked with the shapes.
5. Select a shape, and have one teammate from each team stand with that container. Have students from each team who are now standing shake the containers together, and have the whole class listen to the sound that is produced. Classify the sound as “loud,” “soft,” “high,” or “low.” Repeat the activity with the other containers.
6. Monitor students as they shake their containers. Note what words they use to describe the sound of each shake.

Observations and Conclusions

1. Ask students in their teams to choose one of their containers, but not the one they shook for the whole class.
2. Without any talking, have them walk to the other teams and try to match the sound that is produced when the container is shaken.

Assessment

- **Questions**
 - What body part (organ) do we use to hear?
 - What are several things that make a loud sound; a soft sound; a high sound; and a low sound?
- **Journal/Writing Prompts**
 - Divide a journal page into four rectangles by drawing a line across the middle of the page and a line through the middle from top to bottom. Label the rectangles with the four sound descriptor words “Loud,” “Soft,” “High,” and “Low.” Below each word, draw a picture of something that can make that kind of sound.

- **Other**

- Give students a sense assessment in which they have to draw the sensing organ that helps them find out more about each of the following:
 - The sound of a bird singing
 - The taste of a strange vegetable
 - The smell of spoiled milk
 - The feel of a fuzzy kitten
 - The sound of your teacher calling you
 - The smell of a flower

Extensions and Connections (for all students)

- Set up a sound station. Provide a small box and pairs of items. Place one of each of the items on a tray. Put the other items in a large brown grocery bag. Have one student select an item out of the grocery bag and hide it in the box. Have the same student shake the box. A second student will look at the collection of objects on the tray and try to guess which object makes that particular sound.
- Make a recording of common sounds (e.g., cars honking, people cheering, dogs barking, rain falling). Make picture cards to match. Play the recording, and have students match the sound to the picture card.
- Have a guest come to the class to talk about and demonstrate sign language.

Strategies for Differentiation

- Use a software program that creates visual picture symbols to label the descriptive words loud/soft, high/low and that provide pictures of objects to be used in assessment.
- Have an adult/peer shake sound containers near a student's ear.
- Have an adult/peer provide picture symbols and/or photos to support identification of sound sources/locations.
- Take a "sound walk" around the school campus, and have students identify sounds, label them as loud /soft, high/low, and identify the source. During the walk, ask, "What do you hear?" "Is it loud/soft; high/low?"
- Play a sound lotto/bingo game in small groups.
- Set up four sound containers labeled A–D and four labeled 1–4 at a station, and have student pairs match the numbered containers to the corresponding lettered containers.