

Age Group	Percentage
18-24	45%
25-34	35%
35-44	25%
45-54	15%
55-64	10%
65-74	8%
75-84	6%
85+	5%



Specific Curriculum Outcomes

- 23.0 investigate ways that materials can be changed to alter the sounds they make [GCO 1/3]
- 24.0 select and use materials to carry out their own explorations and investigations [GCO 2]
- 8.0 communicate while exploring and investigating [GCO 2]
- 18.0 communicate procedures and results [GCO 2]

Students who achieve this outcome will be able to:

- ## NOTES:

Attitude Outcome Statements

Encourage students to:

- willingly observe, question, and explore [GCO 4]
- be open-minded in their explorations [GCO 4]
- work with others in exploring and investigating [GCO 4]

Cross-Curricular Connections

English Language Arts

Students will be expected to:

- communicate information and ideas effectively and clearly, and to respond personally and critically [GCO 2]
- create texts collaboratively and independently, using a variety of forms for a range of audiences and purposes [GCO 9]

Getting Organized

Program Components	Materials	Before You Begin	Vocabulary
• Science Card 9 • IWB Activity 9 • Science Card 10	• digital recorders • variety of materials that can be used to make sounds (alone or in combination)		• hear • sound

Science Background

- Sound can be categorized according to pitch (high or low) and volume, or loudness. Students will readily identify loud and soft sounds but they may need experience with contrasting high and low sounds to recognize differences in pitch.

Possible Misconceptions

- Students may believe that we can hear all sounds from very high to very low. Explain that while humans with normal hearing can tell the difference between 1500 sounds, some very high-pitched or very low-pitched sounds can't be heard by humans. This is why we can't hear the sound of a dog whistle.

ACTIVATE

Describe Sounds:

Ask students to describe sounds they've heard. If necessary, suggest some sounds for the students to mimic by asking:

- **What sound does a bird make?** (chirp, chirp)
- **What sound does a dog make?** (woof, woof)
- **What sound does car horn make?** (honk, honk)
- **What sound does a small boat motor make?** (putt, putt)

Identify Sounds

Display Science Card 9 and have students examine the illustration. Ask students to identify what sounds they would hear and what makes the sounds. Provide prompts such as:

- **What sounds would you hear?**
- **What do the lines coming from the gull's mouth show?**
- **Are there other lines like this in the illustration? What do they show?**
- **Which sounds are loud?**
- **Which sounds are soft?**
- **Which sounds are high-pitched?**
- **Which sounds are low-pitched?**



CONNECT

IWB Activity:

- Students can use Activity 9:
- *What sounds do instruments make?* to match each sound to the instrument which makes it (see the Teacher's Website).



Sound Scavenger Hunt

Organize the students into small groups. Each group chooses a location in the school and uses a digital recorder to collect sounds in that location. When groups have recorded their sounds, they can challenge other groups to listen to the sounds and identify the location.

Note: This activity may require a volunteer to accompany students and provide supervision and assistance as needed.

Making Sounds

Display Science Card 10 and have students look at the various materials shown. Ask:

- **How can these materials be used to make sounds?**
- **Would any tools help you to make sounds with the materials?**
- **Can you think of other materials that could make sounds?**

Choose one or more materials and model different ways to use the materials to make sounds. Ask:

- **How did I make sounds with this material? What was my procedure?**
- **What else could I do to make sounds?**
- **Would a tool help me to make sounds with the material?**

Provide small groups with a variety of items (e.g., elastics, plastic bottles, aluminum pie plates, etc.) and have students explore ways to use the materials to make sounds. Encourage students to share their questions, ideas, and intentions with their group as they explore. Provide prompts such as:

- **Are you wondering about anything?**
- **What question are you trying to answer?**
- **Do you have any ideas about how to use the materials to make a sound?**
- **What will you do to make sounds?**

CONSOLIDATE

Changing Sounds

Once the students have had ample time to explore ways to make sounds with the materials, tell the students that you want them to be engineers and find ways to change the sounds. Ask:

- **How could you alter the material to change the sound it makes?**
- **Would any tools help you to change the sounds?**
- **Do you have any new questions?**



Invite students to present their findings to the class by explaining how they made sounds with the materials and how they altered the materials to make new sounds. Ask several students to demonstrate their procedure. Add any new questions to the I Wonder Wall.

EXPLORE MORE

Sound Effects

Invite students to use a variety of materials to create sound effects for a story, book, or movie clip.

WRAPPING UP THE UNIT



Revisit any remaining questions posted on the I Wonder Wall and have students discuss answers in small groups or with a partner. If there are questions which cannot be answered at the time, these can remain on the I Wonder Wall for students to research independently. Discuss what the students have learned about our five senses; how they help to keep us safe; and how we can use them to describe materials and learn about the world around us.