

Sound

Unit Organizer

Third Grade

Core Knowledge Objectives: The students will be able to

- Explain that sound is caused by an object vibrating rapidly.
- Explain that sound travels through the 3 forms of matter (solids, liquids, and gases).
- Tell that sound waves are much slower than light waves.
- Identify qualities of sound
 - ❖ Pitch: high or low; faster vibrations = higher pitch, slower vibrations = lower pitch
 - ❖ Intensity: loudness and quietness
- Explain how the vocal chord vibrate and impact sound

Colorado State Standards

Reading and Writing

Standard 2: Students write and speak for a variety of purposes and audiences.

- write letters, expository paragraphs, and summaries
- organize their speaking and writing
- choosing vocabulary that communicates their messages clearly and precisely
- revising and editing writing
- creating readable documents with legible handwriting or word processing at the appropriate time.

Standard 3: Students write and speak using conventional grammar, usage, sentence structure, punctuation, capitalization, and spelling.

- know and use correct grammar in speaking and writing
- apply correct usage in speaking and writing
- use correct sentence structure in writing
- use correct punctuation, capitalization, and spelling

Science

Standard 1: Students apply the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.

- design, plan and conduct a variety of simple investigations
- select and use appropriate tools to gather and display quantitative data related to the investigation
- make predictions

Habits of Mind

- Offer reasons for their findings and consider reasons suggested by others.
- Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.

Thinking Framework

- Knowledge: Speed of sound
- Patterning: How sound travels compare with light
- Patterning: Qualities of sound and causes

Possible Activities

- Observe how sound travels in waves by hitting a tuning fork and then placing it in a pie tin of water; observe what happens and discuss what that tells us about how sound travels.
- Discuss how sounds travel through solids, liquids, and gases. Have students listen to sounds in the building. Ask the students to give examples from their experiences of how sound they know sound travels through each of these forms of matter. (Ex. They can hear under water in a swimming pool.)
- Use space phones to help reinforce the concept of sound traveling in waves and through solids.
- Use a guitar to demonstrate pitch. Discuss what happens when we shorten the length of the string by putting our finger on different frets.
- Apply what we've learned to the Larynx.

Possible Assessments

- worksheets on sound
- quiz
- demonstrations by students