

TRB 6:6 - Activity 6 - Sound Vibrations

Summary

This lesson has students conduct demonstrations that allows them to "see" sound waves.

Materials

two #10 cans from the cafeteria (label them can #1 and can # 2)
plastic food wrap to cover one can
large rubber band
salt
spoon
journal

Background for Teachers

Whenever something vibrates it is creating sound. The sound travels in the form of a wave through a medium. The medium is anything that has molecules touching each other. If there is no medium, there is no sound. In the following demonstration students will be able to see the sound waves as they cause the salt to dance on the plastic wrap. They will also hear the tapping as the sound wave reaches their eardrums. Sound waves travel through air and cause plastic wrap to wiggle.

Intended Learning Outcomes

- 1-Use science process and thinking skills
- 3-Understand science concepts and principles
- 4-Communicate effectively using science language and reasoning

Instructional Procedures

Invitation to Learn:

You have all heard a siren, a blast from a firework, a dog bark and the song of a bird. But have you ever wondered how the sound got to you? Or how about an echo? How do you hear the same word more than one time? The following activity should help you answer these questions.

Instructional Procedures:

Stretch the plastic wrap over the top of one can #1. Pull it tightly so it is smooth like a drum. Use the rubber band to help hold it in place. (You can seal the plastic wrap to a glass container in place of the can and rubber band.)

Sprinkle salt on the plastic wrap.

With opened end down of can #2, hold can #2 about 3" above can #1. (The closed end is now up.)

While you are holding can #2, tap the closed end with a spoon, like you would a drum.

Have students describe in their journals what happened.

Extensions

Move the can you tapped to different angles and record what happens.

Will the salt dance using objects that do not focus the sound as the can does?

Have students design an experiment that creates an echo (Sound waves bouncing back to the same point).

Assessment Plan

The following rubric could be used or adapted for grading this activity.

Description						Total
Student set up demonstration correctly.	5	4	3	2	1	
Student's journal showed understanding in writing.	5	4	3	2	1	
Student's journal showed understanding with pictures/drawings.	5	4	3	2	1	
Student's journal showed evidence of self-learning.	5	4	3	2	1	
Oral report activity.	5	4	3	2	1	

Bibliography

This lesson is part of the Sixth Grade Science Teacher Resource Book (TRB3) <http://www.usoe.org/curr/science/core/6th/TRB6/>. The TRB3 is designed to be your textbook in teaching science curriculum to your students. This book covers all the objectives of each standard and benchmark. If taught efficiently, a student should do well on the End-of-Level (CRT) tests. The TRB3 is designed for teachers who know very little about science, as well as for teachers who have a broad understanding of science.

Authors

[Utah LessonPlans](#)