

Sound

The Singing Ringing Tree, located in rural England, enchants visitors with an eerie hum. The sound is created by the wind passing through the galvanized steel pipes.

Big Idea

Sound waves transfer energy through vibrations.

What do you think?

Music is just one example of sound. Describe some sounds you heard today. Are these sounds produced by human activity or by nature?

The clarinetist uses
"wind" to make music.



InCopy Notes

~~DSN: Please add two more lines of space to upper caption. JMc 2/18/11~~

1. File CED by BPN 2/22/11.

InDesign Notes

1. ED: Oversight text in UO_DirectionText on page 33.
2. EDIT/DSN- The caption for the sculpture seems to have similar information as the “What do you know?” Can the “What do you know?” oversight be addressed by eliminating some of the redundancy? -PR 1/14
3. DSN- I have changed the layout to better reveal the main image -PR 1/14

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Sound

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CITIZEN SCIENCE

Sound It Out!

Have you ever felt a vibrating sensation during a really loud sound? That happens because sound waves transfer energy in the form of vibrations. You can learn how to make sounds louder and quieter by investigating musical instruments.

1 Do Additional Research

Investigate the Singing Ringing Tree by finding a book about it in the library or doing an Internet search. How does the sculpture produce sound?



2 Think about It

What would make the sound louder?
What would make the sound quieter?
Write your ideas below.

Louder	Quieter



3 Make A Plan

A You can make your own sound sculpture or musical instrument with everyday objects. Think about how you would make an instrument with some of the following items: spoons, drinking straws, plastic bottles, pencils, paper clips, sheets of paper, cellophane, rubber bands, or plastic cups. Write a prediction about how it will sound.

B Sketch your instrument in the space below.



Take It Home

With an adult, research devices used by people who were hard of hearing in 1900, in 1960, and today. Over the years, how have these devices changed or stayed the same?

InCopy Notes
DSN: Please add two more lines of space for intro paragraph. JMc 2/18/11
DSN: Please allow space for full head on 1 Do Additional Research. JMC 2/18/11

InDesign Notes
1. Please provide the text for detailed content on page 34
2. DSN: This is a really well done spread -PR 1/14

InCopy Notes
DSN: In t-chart above, replace "Softer" with "Quieter" JMc 2/18/11
DSN: add period to end of sentence for B. JMc 2/18/11
DSN: In the stakeholder meeting, there was discussion about the ear trumpet picture. I thought it was decided to leave it in and make the label and arrow point directly at the device, as is shown here. -EBR 2/18/11 That was my understanding, as well [pjm-3/1/11].
1. DSN: Please change the sentence in 3B to the following: Sketch your instrument design in the space below. -[pjm-3/1/11]

InDesign Notes
1. DSN: 6-8-J_CNLAESE589435_148P In this art "Earring device" not removed in art correction please update PMG 2/11 PMG: Not sure what this means.The image is fine here. Thanks.. MW 3.7

Answers

- Sample answer: The Singing Ringing Tree is designed so that wind enters the pipes. As the wind moves through the pipes, the sculpture produces sound.
- Sample answer: Louder: use a cone-shaped device or stand closer to the source of the sound; Quieter: use something to mute the sound or stand farther away
- 3A. Answers will vary. Students may use a plastic cup with cellophane stretched over it for a drum, a straw with bends in it for a pipe, or a bottle with water in it to blow into and make sounds.
3B. Accept any reasonable sketch.

Take It Home
Answers will vary. 1900: Metal, cone-shaped devices called ear trumpets that had to be held against the ear were used to capture sound and direct it towards the ear. 1960: A small device called a hearing aid fit behind the ear. This device contained a transistor, a microphone, and batteries. Current: Cochlear implants are surgically implanted in a patient's cranium.