

Teaching Guide to *Shortcuts* by Jeff Harris

Introduction

Shortcuts by Jeff Harris is a beautifully illustrated, fact-packed page that makes learning fun. Each week, *Shortcuts'* multicultural cast (Juanita, K., Roland, Junior and James) offers facts, riddles, jokes and puzzles to help kids learn about science, geography, animals, food, history and holidays.

Each teaching guide provides ideas for expanding the lesson and creating discussion and learning activities for your students. The grade level for the guides is usually 3rd to 4th, but they can be adapted for use at other levels. The guides are broken down into four areas:

1. Questions for Discussion and Further Study

Designed to help students think and research, not just give one-word answers

2. Activity Ideas

Designed to allow students to be creative and teach themselves

3. Use the Newspaper

Designed to have students use the newspaper in studying each topic

4. Quick Quiz

Designed to be adaptable to several grade levels, evaluate students' comprehension and build vocabulary and math skills

You might use the teaching guides in the following ways:

Questions for Discussion and Further Study: Engage the entire class by asking each question aloud and listing the students' answers on the board. Or have them use reference resources to give their own answers to the questions. Allow them to discuss other students' answers after they've researched the topics. Key words or phrases that can help students search for more information are italicized.

Activity Ideas: Give the students a time limit to research their projects, using library or study time. By having the students cite their resources you can check their work; or, alternatively, tell them which resource(s) you prefer them to use.

Use the Newspaper: These can be worked on individually but we suggest they work in groups to learn teamwork skills.

Quick Quiz: We suggest you review the quizzes ahead of time and change the phrasing or difficulty level based on the students' abilities.

Shortcuts: GETTING A SENSE OF HEARING

For release the week of: September 9, 2013

Objective: After completing the exercises, students should have a better understanding of hearing.

Subject Areas: The following information about hearing will be discussed:

- Earaches and “popping” eardrums
- Comparison of the human ear and a microphone
- What is sound frequency?

Evaluation: Students may be evaluated using the following point scale:

Four points: Information is accurate, organized, shows creative thought/use of materials

Three points: Information is accurate and organized

Two points: Information is mostly accurate; organization needs some work

One point: Significant inaccuracies; lacks organization

Topics for Discussion and Further Study

1. What is an earache? What causes an earache?
2. Why do your ears “pop” when you fly in a plane? Why do they hurt when you dive to the bottom of a deep pool?

Activity Ideas

- A simple microphone works in a similar way as an ear. Research how a microphone works and then compare its operation to the human ear. How are they similar? How are they different?
- The ability to hear high-frequency sounds decreases as you grow older. What is “frequency” in sound? Is there a way to observe the effects of frequency on a material such as water? Can you think of an experiment you could create to explore this concept?

Use the Newspaper

- ❖ As you read the newspaper, look for examples of “hearing” and “sounds.” Does a sports report mention how the game sounded? Which news articles report how people listened to each other? Read the paper and share any examples you find.

Answers to the Quiz

1.) a, 2.) c, 3.) b, 4.) d, 5.) b, 6.) b, 7.) Eustachian, 8.) middle, 9.) 12, 10.) 21

Quick Quiz — Hearing

1. Your earlobe is made mostly of fat.
a. True b. False
2. The cochlea is part of the _____.
a. earlobe b. outer ear
c. inner ear d. middle ear
3. The ability to hear low-frequency sounds decreases as you grow older.
a. True b. False
4. The _____ is the smallest bone in the body.
a. vestibule b. cochlea
c. pinna d. stapes
5. Motion sickness occurs when the eardrum is infected.
a. True b. False
6. The cochlea is a _____ - shaped organ.
a. heart b. snail
c. star d. moon

Vocabulary Comprehension

7. The _____ tube connects the throat with the middle ear.
8. The anvil, stirrup, and hammer bones are located in the _____ ear.

Math Comprehension (subtraction, division, addition, fractions)

9. If a 24-decibel sound was decreased 50%, how many decibels would that be?
10. If a volume control goes from 13 to 34, how many numbers did it increase by?