

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 News

Designed to have students use the news 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 News: 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: FALLING FOR RAIN

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

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

- Evaporation
- The “rain shadow effect”
- Condensation

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. Why do droplets form ice crystals in a thunder cloud?
2. Are clouds over the ocean salty like the ocean water? Why or why not?

Activity Ideas

- The Atacama Desert in Chile is one of the driest places on earth. Why is this desert so dry? Research the term “rain shadow.” Then locate the Atacama Desert on a map and see if the “rain shadow effect” applies to this region. Can you now explain why this desert is extremely dry?
- Why do water droplets form on the inside of windows when it is cold outside? Discuss this phenomenon in a small group and decide on a reasonable explanation to share with the class. How is this similar to what happens with rain and the water cycle?

Use the News

- A “cycle” is something that happens over and over, like the “water cycle.” What cycles happen in our everyday lives? ex. Go to school, come home, repeat. Read the newspaper to identify other cycles in our lives. Write them down or share as you find them.

Answers to the Quiz

1.) a, 2.) d, 3.) a, 4.) c, 5.) a, 6.) a , 7.) water cycle, 8.) evaporated, 9.) 6 mm., 10.) 15 in.

Quick Quiz — Rain

1. Not all raindrops are the same size.
a. True b. False

2. In cooler climates, cloud droplets form into ice _____ that grow as they freeze.
a. drops b. sheets c. icicles d. crystals
3. Small raindrops are usually round.
a. True b. False
4. “Ghost rain” is rain that falls in a _____, but dries up before it hits the ground.
a. graveyard b. lake c. desert d. dessert
5. A single raindrop may contain more than one million droplets.
a. True b. False
6. The Atacama Desert in _____, is one of the driest places on Earth.
a. Chile b. Nevada c. Africa d. India

Vocabulary Comprehension

7. The water on our planet moves in a continuous cycle called the “_____.”
8. Surface water is _____ by the sun and rises into the air.

Math Comprehension (subtraction, division, addition, fractions)

9. If a 2-mm. droplet triples in size, how big will it be?
10. If 30 inches of fallen rain evaporates by 50%, how many inches are left?