

# 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 3<sup>rd</sup> to 4<sup>th</sup>, 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: THINKING ABOUT THUNDERSTORMS**

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

**Subject Areas:** The following information about thunderstorms will be discussed:

- Storm facts
- Why do clouds float?
- Types of lightning

**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. How much rain can come out of a thunderstorm?
2. How does a storm turn into a tornado?

## **Activity Ideas**

- If thunder clouds can hold a lot of water, why do they float in the sky? Research how clouds float, and report on your findings.
- Thunderstorms produce lightning. There are many types of lightning. Research and present your lightning information to the class. You could make a poster, webpage, video, report, newscast, etc.

### **Use the News**

- Pretend you are writing a weather news report about a severe thunderstorm. Where was it? What happened? How much rain fell? Did lightning strike anything? How big was it? This could be a news article or you could film a weather report.

## **Answers to the Quiz**

1.) a, 2.) a, 3.) a, 4.) c, 5.) a, 6.) a , 7.) anvil, 8.) downburst 9.) 4 miles , 10.) 50 seconds

## **Quick Quiz — Thunderstorms**

1. A cloud is formed when warm, moist air rises and cools.  
a. True b. False
2. The towering clouds that make up a thunderstorm are called \_\_\_\_\_.  
a. cumulonimbus b. stratus c. cirrus d. altostratus

3. There are more than 1,500 thunderstorms on our planet every day.  
a. True b. False
4. Lightning begins in the clouds as a stream of \_\_\_\_\_ called a "leader."  
a. water b. air c. energy d. sound
5. Most thunderstorms exist for less than 45 minutes.  
a. True b. False
6. Lightning strikes our planet more than 50 times every \_\_\_\_\_.  
a. second b. minute c. hour d. day

## **Vocabulary Comprehension**

7. An \_\_\_\_\_ is a long, flat cloud that occurs at the top of a large thunderstorm.
8. The powerful winds of a \_\_\_\_\_ are created by a rapid vertical drop of cold air from the storm.

### **Math Comprehension (subtraction, division, addition, fractions)**

9. If you count 20 seconds between a lightning flash and a thunderclap, how many miles away in the storm?
10. If a storm is 10 miles away, how many seconds should you be able to count between the flash and the clap?