

# 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, to 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: A VISIT TO VENUS**

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

**Subject Areas:** The following information regarding Venus will be discussed:

- Space probes on Venus
- Mythology of planets' names
- Rotation and revolution of Venus

**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. If Venus is so hot, how did the Russian space probe, Venera 9 manage to take pictures on the planet and not burn up?
2. Why is Venus so hot?

## **Activity Ideas**

- Our solar system's planets are named after Greek and Roman gods, such as Venus. Do each of the names seem appropriate for the planet? Why was each name chosen? Research the planets and the gods they were named after to figure out what characteristics they have in common. Write a brief explanation.
- One day on Venus lasts longer than a whole Venusian year. How can this be? Look up the facts and write a brief explanation along with a diagram to show how this phenomenon occurs.

### Use the News

What is the latest news from NASA or other countries' space agencies? Look for space exploration and technology reports in the newspaper and share them with the class. Is the International Space Station in the news? A new moon mission? Mars?

## Answers to the Quiz

1.) a, 2.) c, 3.) a, 4.) a, 5.) b, 6.) d, 7.) pressure, 8.) volcanoes, 9.) 140, 10.) 216 million km

## Quick Quiz — Venus

- On Venus, the sun rises in the west.  
a. True b. False
- The atmosphere of Venus is composed mainly of \_\_\_\_\_.  
a. nitrogen b. oxygen c. carbon dioxide d. sulfur
- An Earth day is shorter than a day on Venus.  
a. True b. False
- The first unmanned space probe to land on Venus was the \_\_\_\_\_.  
a. Venera b. Apollo c. Mariner d. Voyager
- Venus is the brightest object in our sky.  
a. True b. False
- Venus was named after the Roman goddess of \_\_\_\_\_.  
a. fire b. war c. night d. love

## Vocabulary Comprehension

7. Venus has enough atmospheric \_\_\_\_\_ to crush a submarine.
8. The surface of Venus is covered with thousands of \_\_\_\_\_.

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

9. What's the difference in Earth days between a 365-day Earth year and a 225-day Venus year?
10. If the radius of the orbit of Venus is about 108 million kilometers, how big is the diameter?