

# 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: LOOKING FOR ASTEROIDS**

For release the week of: October 21, 2013

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

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

- Possibilities and consequences of an asteroid striking Earth
- The three types of asteroids
- Differences between various space objects

**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. When was the last time a large, destructive asteroid hit the Earth? What are the odds another will strike us soon? What damage might it cause?
2. Could a space probe or a manned spaceship land on an asteroid?

## **Activity Ideas**

- Research and report on the three types of asteroids. What kinds of rock are found in the C type? What kinds of metal are found in the S and M types? How do we know what's in these asteroids if they are still floating in space? Include pictures of asteroids that became meteorites, and are currently in a museum.
- What's the difference between an asteroid, meteoroid, meteor, and meteorite? Write a summary of the definitions you find.

### **Use the News**

- Does your newspaper have a section giving information about the night sky? If so, what is currently visible in your sky? What times and in what directions should a person look to find them? If no information is available in the newspaper, do some of your own Internet research and write a brief news article telling people what to look for in your night sky.

## **Answers to the Quiz**

1.) b, 2.) a, 3.) a, 4.) b, 5.) a, 6.) d, 7.) Near-earth, 8.) Main, 9.) 75, 10.) 1/3

## **Quick Quiz — Asteroids**

1. Most asteroids are ball-shaped.  
a. True b. False
2. \_\_\_\_\_ asteroids are made mostly of rock.  
a. C-type b. R-type c. S-type d. M-type
3. Rocky asteroids are very black in color.  
a. True b. False
4. Most asteroids are found between Mars and \_\_\_\_\_.  
a. Earth b. Jupiter c. Saturn d. Venus
5. Ceres is the largest asteroid.  
a. True b. False
6. Nearly \_\_\_\_\_ of all asteroids are C-type.  
a.  $\frac{1}{2}$  b.  $\frac{1}{3}$  c.  $\frac{1}{4}$  d.  $\frac{3}{4}$

## **Vocabulary Comprehension**

7. “\_\_\_\_\_ - \_\_\_\_\_” asteroids are in a path that crosses the Earth's orbit.
8. Most asteroids in our solar system are located in a band called the “\_\_\_\_\_ Belt.”

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

9. If a group of 100 asteroids is  $\frac{3}{4}$  C-type, how many would be C-type?
10. If 4 out of 12 asteroids were M-type, what fraction would be M-type?