

# 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: SCRATCHING THE SURFACE OF MOLD**

For release the week of: July 29, 2013

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

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

- Appearance
- Reproduction
- Penicillin

**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 does mold look like under a microscope?
2. Could mold survive in Antarctica?

## **Activity Ideas**

- How do mold reproduce? What does it look like? Here's a diagram:  
[http://www.powervacamerica.com/Newsletter/vol4issue2/vol4issue2\\_article1.htm](http://www.powervacamerica.com/Newsletter/vol4issue2/vol4issue2_article1.htm)  
Read about it here: <http://en.wikipedia.org/wiki/Molds> Another kind of mold is not a fungi like regular mold, it is called "slime mold." Here's an animation to show how they reproduce:  
[http://lcmrschooldistrict.com/roth/PowerPoint\\_Lectures/chapter21/videos\\_animations/slime\\_mold.html](http://lcmrschooldistrict.com/roth/PowerPoint_Lectures/chapter21/videos_animations/slime_mold.html) Read about it here: [http://en.wikipedia.org/wiki/Slime\\_mold](http://en.wikipedia.org/wiki/Slime_mold)
- Penicillin is a chemical made from mold that works as an antibiotic to kill bad bacteria in our body. How does it work? Check out this brief video to see the bad bacteria being "taken out" by penicillin: <http://www.cellsalive.com/pen.htm> Be sure to read the text at the beginning of the video. You may want to pause it long enough to read it and discuss it.

## **Use the News**

- Mold is very common in warm wet places, and may occur in your home. How should we deal with it if we find it? Research and write a brief news article informing people how to prevent or remove mold in our home.

## **Answers to the Quiz**

1.) b, 2.) d, 3.) b, 4.) c, 5.) a, 6.) a, 7.) spores, 8.) penicillin, 9.) 200,000 , 10.) 12

## Quick Quiz — Mold

- Mold spores live for only a few days.  
a. True b. False
- Mold needs three things to grow: air, a food source and \_\_\_\_\_.  
a. warmth b. light c. dirt d. moisture
- Mold is considered a plant.  
a. True b. False
- Mold is a \_\_\_\_\_.  
a. plant b. bacteria c. fungus d. animal
- Ringworm is a mold.  
a. True b. False
- The main body of mold is a tangled mass called \_\_\_\_\_.  
a. mycelium b. fungi c. hair d. penicillin

## Vocabulary Comprehension

- Molds reproduce using specialized cells called \_\_\_\_\_.
- In 1928, Alexander Fleming of England discovered \_\_\_\_\_.

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

- If mold spores floated 2 kilometers, how many centimeters would that be?
- How many quarter-pounds of blue cheese are there in 3 lbs ?