

# 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: TAKING TO THE SKIES WITH DRAGONFLIES**

For release the week of: August 5, 2013

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

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

- Dragonfly anatomy
- Dragonfly behavior
- Flight characteristics

**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. Insects' compound eyes have many tiny facets. What is a facet? How can rock crystals have facets?
2. Do you think dragonflies are pests, or are they helpful insects? Explain your opinion.

## **Activity Ideas**

- Discover dragonfly anatomy using this website. Define these words and draw a copy of the diagram you will find. Be sure to color it using the instructions on the webpage diagram. Define: insect, larva, nymph, molt.  
<http://www.enchantedlearning.com/subjects/insects/dragonfly/Dragonflyprintout.shtml>
- Here's a dragonfly online game to play just for fun. You must fly around in all directions to avoid objects: <http://www.gameslist.com/playonline/Dragonfly-Game> Next, here's a 6-minute clip from a dragonfly documentary:  
<http://www.youtube.com/watch?v=jFQBsSF8ktw>

## **Use the News**

- What characteristics apply to a dragonfly? Fast, light, aggressive, colorful, hungry are possibilities. After making a list of your own, design a newspaper advertisement for a product that could use the dragonfly as its name or logo.

## **Answers to the Quiz**

1.) b, 2.) b, 3.) b, 4.) a, 5.) a, 6.) c, 7.) mosquitoes, 8.) compound, 9.) 60, 10.) 57 cm

# Quick Quiz — Dragonflies

1. Dragonflies are found on every continent in the world.  
a. True b. False
2. Dragonflies have \_\_\_\_\_ sets of wings.  
a. one b. two c. three d. four
3. Dragonflies can walk short distances on their small legs.  
a. True b. False
4. Dragonflies depend on their sense of \_\_\_\_\_ to locate their prey.  
a. sight b. smell c. hearing d. vibration
5. Dragonflies live for only a few weeks or months.  
a. True b. False
6. The lower \_\_\_\_\_ of a dragonfly nymph is about half as long as its body.  
a. wing b. leg c. lip d. antennae

## Vocabulary Comprehension

7. Dragonflies prey mainly on flying insects such as \_\_\_\_\_.
8. A dragonfly has a \_\_\_\_\_ eye that has more than 20,000 facets

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

9. If a dragonfly travels 30 km in 30 minutes, how many km per hr is it flying?
10. What is the difference in centimeters between a modern dragonfly (18 cm) and an ancient dragonfly (75 cm)?