# Ranger Rick® Educator's Guide

**Educational extensions for the January 2008 issue of *Ranger Rick*® magazine**

## *SNOW SURVEY*

In "Dear Ranger Rick" on page 4, readers tell about some of their favorite snow activities. What winter activities are most popular in your community? Have students create and conduct a survey to find out. Then put their math skills to work by having them tally the responses and display the results on a bar or pie graph.

## *KNOW YOUR NOSE*

After reading "Noses: They're Not Just for Smelling" on pages 6-13, make animal masks. Each student's mask can feature one of the noses pictured in the story or another interesting animal nose. When the masks are complete, invite students to mingle and discuss characteristics that make their noses special and advantages the noses provide.

## *STARGAZERS*

Challenge students to follow the instructions in "Star Search" on page 15. Can they spot the North Star? Suggest that they look for it on different nights and at different times to verify that it is always in the same place. Show students a time lapse photo that reveals the circular path other stars travel around the North Star (such as the one at **www.physlink.com/Education/AskExperts/ae492.cfm**). Extend the investigation by having students research a variety of methods for finding north and compare them to see which produces the most accurate results.

## *BIG BLUE (AND MOO)*

Read "Go, Big Blue" on pages 19-25. Divide students into small groups to discuss what makes the hyacinth macaw special. Ask them to answer the following questions: What are three things that make hyacinth macaws different from other parrots? How do cows help these birds? Why do hyacinth macaws need help from people?

## *GO BELOW*

In "Below the Snow" on pages 26-30, students get a glimpse of a world that is usually hidden from view. Ask them to think of some other "hidden habitats." As a class, choose one of these habitats (preferably a local one) and make a mural depicting what goes on there. For instance, you might create a cross-section of life beneath the ice of a frozen lake or a cutaway view underground or inside a tree trunk.

## *TRASH TALK*

Have students take a look at the trash graph in "The Buzz" on page 33. Which types of waste contribute most to the average American's total trash output? Do students think their own output is more or less than the average? Sort and weigh your classroom trash (or have students do it at home) for a day or a week and see how your percentages compare with the average. Then ask students to brainstorm ways to reduce the amount of waste they generate in each category.

# NEW NOSE

Read "Noses: They're Not Just for Smelling" in *Ranger Rick*. Imagine you could try out one of the noses in the story for a day. Which one would you choose? What would you do with it? Write a diary entry about your day with this unusual new nose.

***My Day with a(n) _____ Nose . . .***

# DISCOVERY!

Scientists discover new kinds of living things every year. Read "What's New?" in *Ranger Rick*. Then answer the following questions.

***1. What is a species?*** _____

_____

***2. How many different species have scientists discovered and named so far?*** _____

_____

***3. Do scientists think there are more or less than that number still undiscovered?*** _____

_____

***4. What group of living things contains the largest number of named species?*** _____

_____

***5. Among what groups of animals are many more species likely to be found?*** _____

_____

***6. New species are more likely to be found in some places than in others. Describe some of these places.*** _____

_____

***7. The author of this story has discovered a number of new species. Two of his discoveries are mentioned in this article. Which ones?*** _____

_____

***8. When scientists find a new species, how do they tell others about it?*** _____

_____

_____

***9. Why does the author of this story think it is important to discover new species?***

_____

_____

_____

_____

# BE A SNOW SCIENTIST

*Snow on the ground? If so, you're all set to start studying it!*

***Date*** _____ ***Time*** _____

***Location*** _____

***Weather*** _____

***Helpful Things to Take Along:***
- ✓ ***Snow shovel***
- ✓ ***Ruler***
- ✓ ***Thermometer***
- ✓ ***Magnifying glass***

**1.** Use a snow shovel to slice straight down into the snow. (Imagine cutting a piece of cake.) Clear the snow in front of the "snow cake" so you can see it from top to bottom.

Use a ruler and thermometer to take the following measurements:

Snow depth _____ Air temperature _____

Temperature at snow surface _____

Temperature where snow meets ground _____

**2.** Draw your slice of "snow cake" below. Are there different layers? For instance, does it change from hard and icy to soft and fluffy? Can you see separate crystals or just a solid mass? (Use a magnifying glass to check.) Add notes to describe each layer you see.

**3.** List or draw any signs you see of animals moving around above or below the snow.