

Teacher Guide for ASK

November/December 2013: Animal Smarts

This guide was prepared by Betty Lou Askin, a retired educator who lives in Toronto, Ontario.

Objectives:

- To appreciate that animals can show their smarts in a variety of different ways.
- To learn how scientists construct experiments for the animals.
- To learn about some animal self-defense.

Pre-reading:

- Let the students suggest what they think might be included in this issue of **ASK** based on the title.
- Ask them what they think is happening on the cover.
- View the Contents pages and discuss the illustrations and the article titles.
- Ask the students to develop a **KWL Chart** – What I Know, What I Want to Know, What I Learned. Begin by recording in the first two columns.

Scoops:

What the Hares Wear

- Explain why the snowshoe hare changes the colour of its fur.
- Tell what makes them change their coats.
- Describe what has been happening to them over the last few years.
- What do the scientists hope will happen?

By the Teeth of Their Skin

- How do most fish feel movement in the water?
- Why have cave-dwelling catfish adapted their sense of movement?
- Describe how they have adapted.

Twice Around

- Describe what happened in February last year in Russia.
- Define infrasound?
- Tell what happened with this airburst.

Recycle, Cycle, Recycle

- Describe this invention.

Nestor's Dock

- Write a paragraph explaining what is happening in this cartoon.

Testing Animal Smarts

Reading for information:

- Why are animals naturally smart?
- Describe what humans want to know about animal smarts.
- Why is it tricky to answer these questions about animals?
- Why do sow bugs run and stop?

- What are automatic responses?
- Explain how rats showed their smarts.
- Tell why scrub rats are champions.
- Describe the experiment set up to test the jay's memory.
- Describe the second experiment for the jays.
- Why were the results of this test important?
- Make a list of the tools used by animals.
- Why are gray squirrels tricky?
- Explain why it is important to be able to generalize.
- Describe how pigeons are able to generalize.
- Complete this sentence "Animals learn better if...."
- Describe the puzzle box experiment.
- Explain the results of this experiment.
- Which animals recognized their own image?
- Why do you think that some animals do not respond to their image?
- What is important when scientists are testing various animals?

Griffin Goes to School

Questions to consider:

- What information was important to Irene Pepperberg?
- Why was Alex important?
- Write a paragraph explaining the three parts of the experiment.
- Explain the "model-rival" method.

The Escape Artists

Ideas to use with this article:

- Tell about Juan's escape.
- How was a kangaroo assisted in its escape?
- Tell about the octopus thief.
- Why did Fu Manchu baffle the zookeepers?
- Describe how he made his escapes.
- Why did the Fu Manchu become famous?
- Why are rats good buddies?
- Creative Writing:
 1. Ask the students to write a newspaper/magazine article or a verbal news report. Let them choose one of the escape stories from this magazine article. Have them share their work with their classmates. Art pictures could accompany their report.
 2. With a reading buddy, write a fictional story or a play about an animal escaping from the zoo using some ideas from this article. Read or act out your work for your classmates.

How Smart Are Humans?

- Use the Read-Aloud Method with this article. Allow the students to take turns reading the material.
- Ask the students if they can think of similar captions to add to this article.

Clever Cuttlefish

Questions to assist with a discussion:

- Describe the cuttlefish.
- A cuttlefish belongs to which family?
- Why do cuttlefish need to use their brains?
- Why are they different from other invertebrates?
- Describe some of the work that Jean Boal has done with cuttlefish.
- Explain how **cephalopods** shape-shift.
- What do most animals do for self- defense?
- Why is the cuttlefish very smart regarding self-defense?
- Use your own words to answer the question – “Why Do Species Get Smart?”
- Tell what Ludovic Dickel discovered about cuttlefish in tanks.
- Explain how young children and young cuttlefish have a similar pattern of learning.
- Explain the information about cuttlefish eggs.
- Creative Work:
Using the information about the clever camouflage cuttlefish use, write a story about a day in the life of a cuttlefish. Prepare pictures as well. Your work might take the form of a cartoon.

Changing Dog’s Minds

Questions to be used while reading the article or as follow-up seatwork:

- Why does Riley need to figure out how to play alone?
- Describe Riley’s plan with sticks and stones.
- Tell what types of jobs that working dogs perform.
- Explain why dogs can do some things that chimpanzees and wolves can not perform.
- Describe the experiment regarding food between dogs and wolves.
- Tell why wolves are better at finding food.
- Why have dogs lost some skills?
- Explain how dogs evolved from wolves and wild animals.
- How did Chaser show her smarts?

Best Pet Yet

Activity:

Follow the instructions and create your own pet. Share your work with your classmates. Create a bulletin board display with your artwork.

Marvin and Friends

- Tell why you think that the friends were trying to out-do each other.

Culminating Activities

- Complete the **KWL Chart** if it was used during the reading of this magazine. The final section of the chart could also be completed after reading each article.
- Choose 5 things from this magazine that you have learned about. Write a short paragraph about each of your chosen topics using the information found in the articles.
- Write a paragraph to explain why you are smart.

