Learning New Tricks

**main Ideas**

- Some animals, particularly mammals, can be trained to do things.
- To train an animal to do a complex task, the task must be broken down into a series of steps.

**background information**

In the animal kingdom, of which we are a part, mammals are best suited for learning new behaviors. People call upon this ability when they train animals. Sometimes animals are trained just for the fun of it; sometimes they are trained to help humans. For example, elephants have been trained to move huge logs that humans can't lift; dogs have been trained to lead the blind or hear for the deaf; small monkeys have been trained to be the “hands and feet” of quadriplegics; dogs have been trained to sniff out illegal drugs.

When training an animal, a trainer breaks the task down into steps that he/she teaches one at a time, in reverse order. The trainer rewards the animal with praise, a pat, and/or food for work well done.

**PROGRAM SYNOPSIS**

**SCENE 1**  The Royal Treatment  1:00
It’s not every kid who gets the royal treatment—from a pig! Cast member Stephanie is greeted by Stanley, a very well-trained pig who comes when he’s called, picks up the phone, and even puts trash in the wastebasket.

**SCENE 2**  Talk to the Animals  6:00
At Sea World, trainer Chuck Tompkins teaches cast member Mary hand signals that he uses to communicate with killer whales. In working with the whales, Tompkins breaks tasks into a series of small steps—each with its own hand signal.

**SCENE 3**  Teaching Tricks  1:15
Stephanie demonstrates how Stanley the pig learned to climb a ramp and go down a slide. The trick was broken into a series of steps taught one at a time.

**SCENE 4**  Helping Hands  4:00
Cast member Robin learns how capuchin monkeys are trained to help quadriplegics by doing simple tasks around the house. By opening doors, picking things off the floor, and opening food containers, the monkeys function as the hands and feet of quadriplegics. Trainers teach the monkeys one step at a time, and reward them each time something is done correctly.

**vocabulary:** behavior, quadriplegic, capuchin monkey, conditioning

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**BEFORE-VIEWING DISCUSSION**

Get students thinking about training by discussing which animals kids think can be trained and which can’t. What about dogs? cats? dolphins? fish? worms? spiders? birds? horses? snails? What kinds of things can dogs be trained to do? to fly? to speak English? to speak Spanish? to walk a tightrope? to do arithmetic? What other animals do kids think can be trained? Have kids ever seen a trained animal? How did the trainer get the animal to do things?

**TUNING IN**

Ask students how many have ever tried to train their own pets to do tricks. Of those who have, how long did it take their pets to learn what to do? How did they reward their pets? Have kids watch the video to discover some special ways animals are trained to do complex tasks.

**AFTER-VIEWING ACTIVITY**

Review with kids how animals in the video were trained and how complex behavior was broken into simple steps that were then assembled. What did the trainer do to communicate with the killer whales? (used signs/signals)

Follow up by asking kids to write directions for teaching a dog to fetch the newspaper and bring it to its owner. Explain that students will teach the trick in reverse order—the same way the capuchin monkey in the video was trained. Some kids may find it easier to write down all the instructions they can think of, then number them in logical reverse sequence; others may think easily in reverse and be able to list instructions that way. Kids’ lists will vary. One possible scenario might be.

1. Take paper from dog and say, “Thank you, good dog.”
2. Say, “Bring paper!”
3. Put paper in dog’s mouth, say, “Hold it!” and walk away.
4. Walk dog over to paper lying on porch.
5. Say, “Go get the paper!”
PURPOSE
For kids to have firsthand experience with trial-and-error learning.

MATERIALS:
(per 2 students)
• watch with a second hand
• paper and pencil

WHAT TO DO:
1. Explain that the video showed animals that learned through conditioning--as they were trained, the animals were rewarded with food whenever they obeyed a command. Another way animals can learn is through trial-and-error: the behavior to be learned is attempted over and over again until, by accident, the right approach is found. Tell students they are going to learn something by trial-and-error.

2. Divide the class into pairs, distribute materials and copies of the activity sheet, “A-MAZE-ing Activity,” and ask each student to make a time chart similar to the one shown (left).

3. Let one partner be the maze-runner who uses a finger to find the path through the maze. Have the other partner be the timer who faces away from the maze, says “Go,” then times the maze-runner until he/she says “Stop” when finished.

4. Ask the timer to write the time on the maze-runner’s chart and then say “Go” so he/she can run the maze several more times. Remind the timer to record each time on the chart.

5. Have partners reverse roles when the maze-runner shows no further improvement and let the timer run the maze.

Discuss the activity. Is there a pattern to times on kids’ charts? (At first times improve rapidly, but once the maze is learned, the times level off.) Why? (Kids eventually find and remember the correct route.) What other tasks might be suitable for trial-and-error learning? (Answers will vary. Some possible answers are finding the fastest route to the store or the best way to swing a bat to hit the ball to right field.) How does trial-and-error learning differ from the kind of learning students saw in the video?

CURRICULUM CONNECTIONS

LANGUAGE ARTS

Have kids write journal entries about teaching a pet a behavior--from the pet’s point of view. What would the animal write, if it could? How does it feel about the trainer? about the task? about a reward given? Here’s a starter-upper.

Day 1: My friend’s trying to teach me a trick. She waves at me, and boy, does she look silly flapping like that. Then she takes my paw and jerks it up and down! I meow my most threatening meow, then scratch her. Oh, not very badly, just a little scratch. But I let her know I’m not happy. Then she says, “Bad kitty!” Me, bad? Hey—I didn’t disturb her afternoon nap!

Day 2: She’s wavin again. I stretch my paws out, then up and down, and she goes crazy! “Good kitty,” she shouts and gives me a cheese treat. I don’t know what I did ... but she gave me cheese! For an hour I stretch, but no more treats. I don’t get it!

LIBRARY SKILLS

Encourage students to find out about Ivan Pavlov (1849-1936), the Russian physiologist who conducted pioneering conditioning experiments with dogs. List steps Pavlov used to condition an animal. Could students use this kind of conditioning to train other people? Could you train a sibling to clean your room? your parents to feed you only junk food? Why or why not?