

ANIMAL OLYMPICS

Students will compare their abilities with those of animals.

Arizona Science

Standards

SC-S1C1-01, 02, 03, 04

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OBJECTIVES

Students will:

- * Compare and contrast differences between animals, themselves and others.
- * Mimic adaptations of various species.
- * Understand that different species have adapted different abilities or behaviors that help them succeed in their respective environments.

SUPPLIES NEEDED

- * Measuring tape
- * Paper and pencils for recording information
- * Stopwatch or watch with secondhand
- * Outdoor area with enough space for running
- * Scale
- * Film canisters
- * Various ingredients for smelling activity

OLYMPIC GAMES

Animals have adaptations that help them to find food, keep from becoming food, find shelter, stay warm or cool, reproduce, and generally survive in their habitat. Using the activities below, have an Olympic competition to see if your students have the adaptations of animals to survive. These activities require students to work in pairs to help record information.

- * When escaping predators, deer can reach speeds of up to 30 mph. That equals 100 yards in 7 seconds. How long does it take you to run 100 yards?
- * Hummingbirds can stick their tongue out 13 times per second in order to get their nectar. How long does it take you to stick your tongue out 13 times?
- * A hummingbird beats its wings about 80 times per second. How long does it take you to beat (flap) your arms 80 times?
- * Kangaroo rats avoid predators by jumping long distances. They can jump up to 9 feet in one single bound. How far can you jump?
- * Mountain lions can jump 18 feet from the ground into a tree. How high can you jump from a standstill?
- * The rhinoceros beetle is the largest beetle in North America. A male can lift 850 times its body weight. Leafcutter ants can lift about 50 times their body weight. Weigh yourself and figure out how much you would have to lift in order to match the beetle or ant.
- * Eagles have a wingspan of over 7 feet. Large wings allow them to soar in the air and look for prey. Measure your wingspan from fingertip to fingertip.

- * Great Blue Herons can stand on one leg, with their eyes closed, for over an hour. How long can you stand on one leg with your eyes closed?
- * Jackrabbits have ears that are 1/3 the length of their body. How long would your ears be if they were 1/3 your body length? (Measure your body length and divide by 3.) Why do you think jackrabbits have such long ears?

THE NOSE KNOWS

A dog's sense of smell is said to be a thousand times more sensitive than that of humans. Dogs have more surface area within their nasal cavities and this area is well supplied with sensory cells. Some estimates are that dogs have over 220 million cells (humans have between 5-10 million.) Because of this amazing ability dogs are often used as scent dogs and are involved in search and rescue efforts, detecting explosives, firearms and drugs, and even scenting tumors in human patients. Let's test our sense of smell!

In this version of the "smell Olympics" take 6-8 film canisters or other containers that are the same size. In each container, place a small amount of common ingredients such as cinnamon, hot sauce, orange or lemon juice or rind, peppermint or vanilla extract, dried spices etc. Without looking have the students open the containers and write down what they smell.

Have the students write at least 3 sentences explaining why having a good sense of smell would be an important adaptation for animals to have. List 3 animals other than canines that rely on a good sense of smell in their daily lives.