

Spot the Jaguar

INTRODUCTION

Basic observation and visual discrimination skills are easily taught when the object(s) of observation are interesting to the student. Building skills as naturalists is part of this exercise at the same time. When students find that they can tell what an animal does for a living just by looking at its body, they gain a new appreciation for the wonders of nature. Without consciously realizing it, students also learn to classify the objects in their environment in a useful way.

Predatory animals tend to have eyes placed forward (with overlapping fields of vision) to improve depth perception. Their feet frequently have sharp claws at the ends of the digits for seizing and grasping prey. These are traits that make it fairly easy to identify them as predators.

On the other hand, the eyes of prey species are usually located on the side of the head where each eye can cover a wide field of view. This allows many prey species to view a nearly 360° field. The feet of prey species are frequently at the end of long, slender legs and adapted to make running easier. Their nails or claws are not curved or sharp in most cases.

Coat color also tells the observer a lot about an animal's lifestyle. Many prey species have disruptive or camouflage coloration to confuse potential predators. Coloration helps many other species stand out to be recognized by potential mates (such as a tom turkey's plumage) or as a warning (in the case of bees and wasps). Many predators, like big cats, depend on staying concealed until the last second before ambushing prey. In all cases, color and pattern help us identify one species from another.

OBJECTIVES

- 1) Learn to distinguish predator and prey species by observing eye placement on the head and the adaptations of their legs and feet.
- 2) Learn to distinguish a jaguar from a lion, tiger or cheetah by comparing their coat patterns.

MATERIALS

Flash card photographs of a deer, eagle, flamingo, hawk, jaguar, kangaroo, cheetah, lion, owl, sparrow, spoonbill, tiger and zebra. Close-up face pictures and close-up feet of each animal in the list. Written identification of each species and the trait being illustrated is printed on the photo or flash card.

ACTIVITY

1. Using the flash cards and close-ups, point out and discuss the vision and locomotion adaptations of each animal species. When the trait under discussion is not readily visible in the picture, encourage students to use what they already know about that animal to make the decision. For example, they probably know that horses and zebras have hooves. This is an adaptation for speed, not for seizing prey. Are they sharp or blunt? Why is that?
2. When students are familiar with the animals and their adaptations, use the flash cards again by showing a single picture and having students call out "Predator," or "Prey" as appropriate. To extend the activity and increase its complexity, collect magazines and cut out animal photographs. Incorporate them into the flash card activity, continuing to classify the species as predator or prey, being certain to use animals that accurately represent the categories.
3. Separate the jaguar, tiger, lion and cheetah cards from the deck. Ask students to observe the cats and tell what traits distinguish them. The easy and most obvious answers are differences in coat pattern:

A) Tigers have stripes. This is an example of disruptive coloration. Tigers most often hunt in tall grass or brush. Vertical black stripes not only break up the body silhouette, but also confuse the observer's eye with an illusion of movement. (To demonstrate, hold both hands in front of your face – one in front of the other. Now move them from side to side in opposite directions. Your eye has difficulty tracking all your fingers and the result is a blurred image.) In a grassy zoo exhibit, or in the wild, this is one reason a tiger can hide in plain sight.

B) Cheetahs have solid round spots. This, too, is disruptive coloration. The spots break up the silhouette and make it difficult to distinguish between the animal and the background. Cheetahs hunt on open plains where there is little vegetation in which to hide. This coat pattern makes it easy to overlook an animal that is in plain view.

C) Lions are tawny, or brown, with males possessing a mane. Living on open plains and savannahs where the grass is brown a good portion of the year, lions are best camouflaged by a solid color that matches the general background. They make use of trees, rocks and other vegetation to wait in ambush for prey animals.

D) Jaguars have large rosettes containing smaller spots (spots within spots). In the shadow and dappled sunlight of the forests where jaguars usually hunt, patterns of light and darkness effectively break up the outline of the predator. Some jaguars are almost solid black in color. For a forest cat, this also helps it remain unseen.

4. Use the flash cards as above, but this time ask students to identify the species as quickly as they can instead of classifying predator versus prey. As they become more proficient, they should also begin to recognize other physical differences among the big cats.