Outreach/Encounter – SENSATIONAL ZOO

Objectives: List the five senses and identify the proper organ for each; identify prey and predator animals based on placement of eyes and ears and be able to explain how this positioning enables them to survive; list those senses most birds use to locate food, and tell what sense vultures use that other birds do not use; describe why a snake or lizard sticks out its tongue; describe how an owl is able to hunt at night using its eyes and ears.

Note: For young audiences, review the 5 senses and what part of their body is used (hearing/ears, eyes/sight, etc). Throughout the program relate the animal senses to the children's senses to help them make the connection.

Key Terms: **Prey, Predator, Senses, Jacobsen's Organ, Carnivore, Herbivore, Omnivore**

Suggested Animals:

Ring-neck dove – Birds have exceptional **SENSES** of color vision and hearing. Color vision is important to birds –in some species, male birds use bright colors to attract females and defend territories and color vision is also useful for spotting food such as ripening fruit and flying through trees, shrubs, etc. Like most birds, doves have a very poorly developed sense of smell and depend primarily on sight not smell to locate food. The exception to this would be some species of vultures (turkey vulture), who locate their primary food source (carrion) by the smell of rotting meat. Note eye placement on the side to keep an eye out for predators.

Ferret – Ferrets have scent glands that produce strong odors to mark its territory. They have a strong sense of **smell** as well to help them identify scent markings in addition to finding food. They are burrow dwellers, and their whiskers help them **feel** along the sides of the tunnel where there is very little light. Note eye and ear placement. They are facing forward indicating that they are predators. The eyes and ears are also a bit on the small side, which helps keep dirt from getting in while burrowing.

Rabbit—Rabbits have very large ears that are able to swivel to help them listen for danger. Note eye placement on the side of the head to keep a look out for predators. They are crepuscular (dawn/dusk) as well as burrow dwellers and have whiskers for navigating in low light conditions. Note the nose. It wiggles like crazy, indicating a good sense of smell. A rabbit's senses help it to avoid becoming prey.

Snakes, lizards. Can you see any of them blink their eyes? Can you spot any ears? Lizards have external ear openings and eyelids, snakes don't. Watch to see if any stick out their tongue – explain the **JACOBSEN'S ORGAN** at work. Note the forward facing eyes for depth perception (necessary for catching prey).

Cockroach- Note the antennae, which are extremely sensitive and can detect changes in temperature, moisture, vibrations, and give them more information about their environment. Antennae are unique to arthropods.

Eagle Owl - Huge eyes enable these nocturnal creatures to see exceptionally well at night. If the owl were the size of a human, its eyes would be as big as cantaloupes. Because owl eyes are so big, there are no muscles attached to the eyes to move them from side to side. To be on the lookout for **PREY**, owls have flexible necks that allow them to see behind them by turning their heads. They have excellent hearing, which can detect direction. Ears are offset and one is higher than the other. Sounds reach each ear at different times, which helps them to determine from which direction the sound came.

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