

# SKELETONS: Museum of Osteology

## To Tell the Tooth

*Teacher Resource*

**Grade Levels: 1<sup>st</sup> - 2<sup>nd</sup>**

### **1<sup>st</sup> Grade**

#### **Florida Next Generation Sunshine State Science Standards:**

*SC.1.N.1.1* - Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

*SC.1.N.1.2* - Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

*SC.1.N.1.3* -- Keep records as appropriate - such as pictorial and written records - of investigations conducted.

*SC.1.N.1.4* - Ask "how do you know?" in appropriate situations.

*SC.1.L.14.1* --Make observations of living things and their environment using the five senses.

*SC.1.L.17.1* -- Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.

### **2<sup>nd</sup> Grade**

#### **Florida Next Generation Sunshine State Science Standards:**

*SC.2.N.1.1* -- Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.

*SC.2.N.1.2* -- Compare the observations made by different groups using the same tools.

*SC.2.N.1.3* - Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

*SC.2.L.14.1*--Distinguish human body parts (brain, heart, lungs, stomach, muscles, and skeleton) and their basic functions.

*SC.2.L.17.1* - Compare and contrast the basic needs that all living things, including humans, have for survival.

*SC.2.L.17.2* -- Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.

### **Program Overview**

*To Tell the Tooth* enables students to discover tooth adaptations that allow mammals to survive in a variety of ecosystems. Through the hands-on investigation of specimens your students will study the teeth of herbivores, carnivores and omnivores.

## Learning Objectives:

- Participants will observe various animal skulls and examine their teeth.
- Participants will correctly determine if teeth indicate an herbivore or carnivore by matching the appropriate food with the corresponding skull.
- Participants will correctly use the terms herbivore and carnivore when describing different animals.
- Participants will effectively work with a team environment and communicate their findings within their group.

## Background

Mammals, as well as some reptiles, amphibians and fish, have teeth. The teeth of an animal can tell you a lot about that animal's life. The type, shape and number of teeth an animal has can help determine its diet. If a mammal has long, sharp canines, it was most likely a predator. Canines are used for grabbing, holding and killing prey. Some meat eating mammals (carnivores) have sharp shearing cheek-teeth called carnassials. These teeth act like a scissor to cut through tough flesh and to break it into smaller pieces for swallowing and digestion. Examples of carnivores include cats, dogs and weasels.

Plant eating animals tend to have flat teeth specialized in chewing various parts of plants. Some plant eaters eat a variety of grasses (grazers), some eat twigs, leaves and berries (browsers) while others eat only specific plant parts (I.e. roots, fruit, etc.). In order to properly digest vegetation, an animal must chew its food to help break down the plant. Most herbivores have cheek teeth called molars. These molars help grind leaves, stems, grasses, fruit and even seeds before the animal swallows them. Examples of herbivores include deer, rabbits and cattle.

Some animals eat both plants and animals (omnivores) and have both types of teeth. Examples of omnivores include pigs, bears and humans.

## Vocabulary

**Adaptation:** Changes in behavior and/or physiology of an animal to better suit it to its environment

**Browser:** Herbivores that primarily eat twigs, leaves and berries

**Carnassial:** A carnivore's cheek teeth specialized for shearing meat

**Canine teeth:** Teeth that are pointed and conical, located between the incisors and premolars

**Carnivore:** Animals that primarily eat meat

**Dentition:** An animal's teeth used to acquire food, for defense, grooming and display

**Food Chain:** The transfer of energy from one type of plant or animal to another

**Grazer:** Herbivores that primarily eat grasses

**Habitat:** The soil, water, climate, plants and animals of a particular ecosystem

**Herbivore:** Animals that primarily eat plants

**Incisors:** The front cutting teeth located anterior to the canine teeth

**Molars:** The rear grinding/shearing teeth located posterior to the premolars

**Omnivore:** Animals that eat both plants and meat

**Predator:** Animals that attack and eat other animals

**Premolars:** Teeth located between the canines and molars used to hold prey, assist in cutting and/or grinding

**Prey:** Animals that are attacked and eaten by other animals

**Shelter:** Somewhere for animals to hide, sleep, raise young, etc.

**Reference:** visit the SKELETONS: Museum of Osteology Education web page at:  
<http://skeletonmuseum.com/education>

**Recommended Reading:**

Gilbert, B. Miles

1990 *Mammalian Osteology*. Missouri Archaeological Society, Columbia, MO.

Roest, Aryan I.

1991 *A Key Guide to Mammal Skulls and Lower Jaws*. Mad River Press, Inc., Eureka, CA.

Searfoss, Glen

1995 *Skulls and Bones*. Stackpole Books, Mechanicsburg, PA.

**While at SKELETONS:**

- Have students visit the exhibits to identify whether the animal is a carnivore, herbivore, or omnivore.
- Have students discuss tooth characteristics and what they tell about the animal's diet.
- Visit the Touch Table to hold and examine the teeth of many animals including a Black Bear, Coyote, Beaver, Bobcat, Deer, and Opossum.
- Have students look for the Tiger chasing the Blackbuck Antelope to see their predator-prey relationship in motion.
- Look at the Hoofed Animals Exhibit and discuss why eye placement is significant for Herbivores.