

What Do These Animals Eat?

Estimated Time:

Prep: 10 min.

Activity: 30 min.

Introduction

Overview

Experiment: Students determine what a hippopotamus and a crocodile eat based on their teeth.

Key Concepts: Students will deepen their understanding of animal **adaptations**, specifically being able to identify an animal's **diet** based on its tooth structure.

Lead-In

Birds aren't the only animals that have adaptations related to how they eat. Ask students to think about how they eat their own food. We use our teeth to chew, just as many animals do. Do all our teeth look the same? Allow students to look at their teeth in a mirror. Explain that the teeth in the front are sharper and thinner and are used for biting (**canines** and **incisors**), while the teeth in the back (**molars**) are flatter and wider and are used for crushing up the bites of food. The sharp teeth act like knives, tearing meat and cutting food into pieces, and the molars act like hammers that smash up foods like vegetables.

Hold up various foods (or pictures of food), such as steak, a cooked turkey, a ham, a salad, a strawberry, and mashed potatoes. As you hold up each item, ask students whether they would use the "knife" or the "hammer" to eat it.

Explain that animals that eat only meat (other animals) are called **carnivores**, while animals that eat only vegetables (plants) are called **herbivores**. Animals that eat both plants and animals are called **omnivores**. Ask students what kind of teeth a carnivore might need. What about an herbivore?

Teacher Preparation

Lead-In Materials:

- Various foods (or pictures of food)
- Picture of a sharp knife
- Hammer (or a picture of a hammer)
- Mirror*

Try This! Materials:

- Jaw or skull specimens (or pictures of animal jaws or skulls)

Prepare:

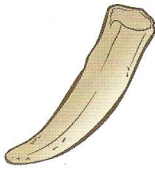
- Make copies of the Experiment Sheet.

**included in kit*

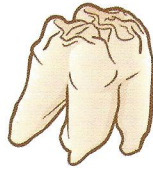
Vocabulary

- ◆ **adaptation** a change that helps an animal survive in its particular habitat
- ◆ **canine** one of the pointed teeth between the incisors and molars
- ◆ **carnivore** an animal that eats meat
- ◆ **diet** the food an animal usually consumes
- ◆ **herbivore** an animal that eats only plants
- ◆ **incisor** one of the four sharp teeth between the canines at the front of the mouth
- ◆ **molar** a large, wide tooth found in the back of the mouth
- ◆ **omnivore** an animal that eats both plants and meat

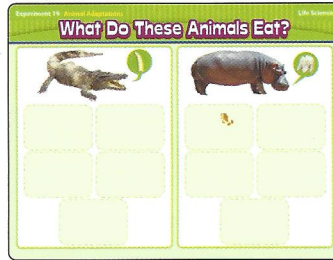
You Will Need



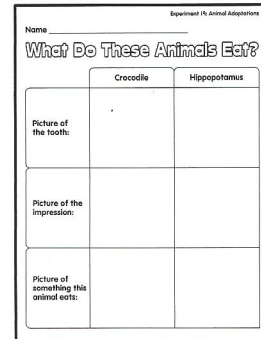
crocodile tooth



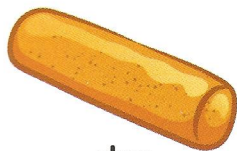
hippopotamus tooth



sorting mat



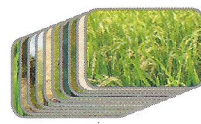
Experiment Sheet



clay



magnifier

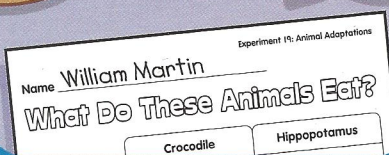
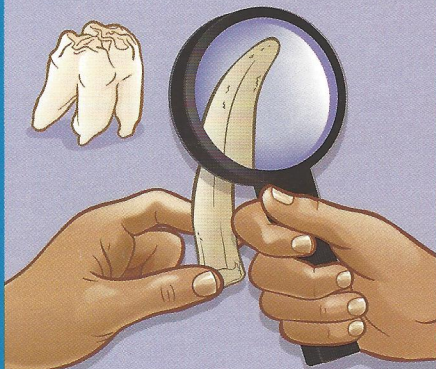


animal diet cards

Procedure

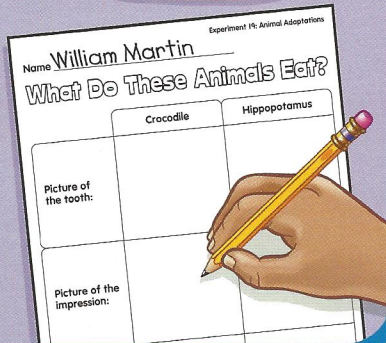
1

Use the magnifier to observe each tooth.
Draw a picture of each tooth.



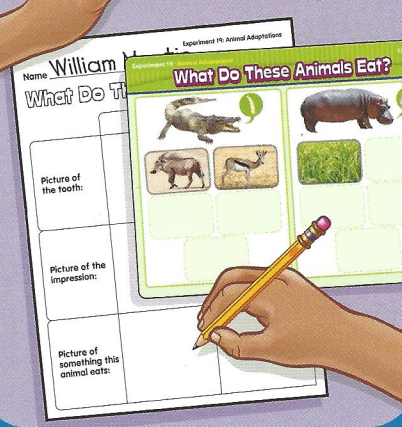
2

Press each tooth into the clay like the animal is biting down.
Observe the impressions.
Draw a picture of each impression.



3

Sort the animal diet cards onto the sorting mat, identifying which foods each animal might eat.
Record your results.



Name _____

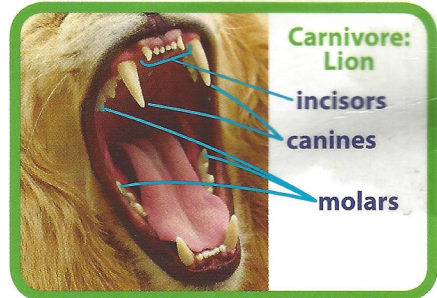
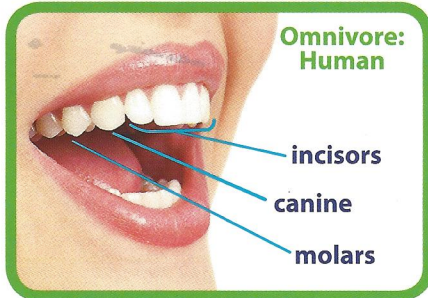
What Do These Animals Eat?

| | Crocodile | Hippopotamus |
|--|-----------|--------------|
| Picture of the tooth: | | |
| Picture of the impression: | | |
| Picture of something this animal eats: | | |



Why?

Animals' teeth are adapted to their diets. Incisors (front teeth) are shaped like chisels and are effective for cutting grass or meat. Molars (back teeth) are flatter and wider for chewing up food. Herbivores and omnivores have very strong molars for grinding foods. Carnivores' canine teeth are sharper—the better to tear flesh and bones. Long, pointed canines are essential for carnivores, but unnecessary (and often missing) for herbivores. Omnivores (like humans) generally have all three kinds of teeth, though the canines are not as long or as sharp.



Discussion Prompts & Questions

- How are the teeth similar? How are they different?
- How does the shape of each tooth help the animal to eat?
- What techniques did you use to get clear impressions of the teeth?
- Would this tooth be good for biting meat? Would it be good for chewing leaves?
- When you eat, do you notice how you use your molars? Canines? Incisors?



Sentence Frames

- I observed that a hippopotamus tooth is _____. It feels _____.
- A crocodile tooth looks _____. It feels _____.
- I think a hippopotamus eats mostly _____, because _____.
- I think a crocodile eats mostly _____, because _____.



Try This!

Bring in models or pictures of animal jaws and teeth. Include a human specimen. Help students identify the incisors, canines, and molars. Discuss why the incisors and canines are at the front of the mouth and the molars are at the back. Ask children to observe the specimens and determine whether the animal is a carnivore, an herbivore, or an omnivore.