

# Amherst College

## Herbivores & Carnivores

### *Hints for Teachers*



#### **MUSEUM INFORMATION:**

*This worksheet is designed to help students practice scientific observation skills in the Beneski Museum of Natural History in conjunction with the classroom curriculum*

- The Museum does NOT provide copies of *Fossil Herbivores and Carnivores*. Please prepare copies for your students.
- While exploring the exhibitions, encourage your students to look above their heads to see specimens displayed at different levels of the Museum.
- The Beneski Museum of Natural History can accommodate up to 45 children and chaperones at a time. Please consider splitting into smaller groups when completing the *Evolution, Speciation & Extinction* activity.
- When your students arrive at the Museum, they will be given a brief greeting by a museum staff member. After this greeting is a good time for you to introduce the activity.

#### **PREPARING AN ACTIVITY:**

- *Herbivores & Carnivores* asks students to look critically at specimens and use their skills in scientific inquiry to think about the habitats and eating habits of animals.
- The Museum asks that students refrain from leaning on any of the glass cases while working. We recommend providing students with clipboards or notebooks.

#### **IN THE CLASSROOM:**

- Discuss different animal eating habits in class before your visit to the Museum. Students should have an understanding of the words “carnivore” and “herbivore.”
- This activity focuses mainly on teeth, but you should go over some other ways animals can be identified and carnivores and herbivores.

# Amherst College

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### *Information for Chaperones*

#### COMPLETING THIS ACTIVITY IN THE BENESKI MUSEUM OF NATURAL HISTORY:

- Please allow your students a few minutes to explore the main and bottom floor before beginning the *Herbivores & Carnivores* activity.
- Divide into groups and have each group begin with a different question. This way, not all the students are looking at the same specimen at the same time.
- Encourage students to discuss the answers. (The part of the question stating, “How do you know I am carnivore/herbivore?” is a good occasion).
- All specimens can be found on the main and bottom floor. Please have students refrain from wandering.
- While in reach of students, remind them that the exhibits in the Museum are fragile. Please do not allow them to touch any of the exhibits.

# Amherst College

## Tenets of the Nature of Science

### **Creativity**

The sciences and humanities interact more than most people think. Science is not possible without imagination. In every stage of the process, from idea to experiment, creativity drives inspiration and innovation. Science is also often abstract and thinking outside the box helps us wrap our heads around complex concepts. When science and arts intersect, we achieve the most progress.

### **Curiosity**

Derived from the concept “tentativeness,” curiosity describes both the drive for and inherent skepticism of scientific discovery. Scientists are constantly building upon each other’s work, using solutions derived by peers to ask new questions. Some generally accepted ideas have lasted for hundreds of years, so it is reasonable to have confidence in their validity, but new innovations are always approached with some apprehension. We are always learning, and there is always more out there. Curiosity keeps us going.

### **Observation and Inference**

Observations involve the five senses. Using physical information, we draw conclusions we can all agree on. Inferences often rely on information not directly available to the senses; we find explanations for what we observe. Science is much more than just a collection of observations; it also requires inferred interpretations.

### **Scientific Laws and Theories**

In science, laws are descriptions of observable phenomena. They are often expressed in empirical terms. Theories, conversely, refer to inferred explanations that have been widely accepted by the scientific community. Laws and theories are importantly distinct from one another and are not interchangeable. They both require substantial supporting evidence but can be adapted in light of new information or discoveries.

### **Objectivity and Subjectivity**

There are infinite factors that can affect a scientist's biases. From institutional affiliation to religious belief, from race to gender, from societal values to personal ones, scientists must always be aware of external influences affecting their practices and conclusions. Though scientists are tentative of new developments and employ measures to hold themselves accountable and improve objectivity (like peer-review), subjectivity can never be fully disregarded.

### **Empirical Evidence**

Empirical Evidence is evidence that can be directly observed and obtained using our senses or through experimental procedure. Some scientific concepts lean toward the theoretical, but they must be rooted in observational or experimental data to be accepted. Challenging existing conceptions is only possible when supported by qualitative or quantitative empirical evidence.

### **Scientific Methods**

Though there are many ways scientists practice their work and develop bodies of information, observations and experiments must be replicable. Scientists must outline their methods so that another scientist could try the same thing and draw the same conclusions. This way, we check each other's work and have more faith in new developments. The scientific method is often viewed as an independent practice, but it is intrinsically collaborative.

# Amherst College

## Herbivores & Carnivores

Name: \_\_\_\_\_

What is a carnivore?

What is an herbivore?

Look around the Museum to find animals that match the description and picture. To find these animals, you will have to look critically at all the exhibits.

1. I am a carnivore. I have similar K9 teeth to the Sabered-tooth Cat. I lived millions of years before the great Cat. You can find me on the main floor.

What am I? \_\_\_\_\_

When did I live? \_\_\_\_\_

How do you know I am a carnivore?



# Amherst College

2. I am an herbivore. I lived until the end of the Last Ice Age. I spent much of my time in caves and enjoyed eating fruit and berries. You can find me on the main floor.

What am I? \_\_\_\_\_

When did I live? \_\_\_\_\_

How do you know I am a carnivore?



3. I am a carnivore. I am a dinosaur, not a mammal. People often think of me as a fierce hunter, but I was also a scavenger. You can find me on the bottom floor.

What am I? \_\_\_\_\_

When did I live? \_\_\_\_\_

How do you know I am a carnivore?



# Amherst College

4. I am an herbivore. I am a dinosaur as well. A pointed, toothless bone at the front of my face is a beak to help me snip plants. I am located on the bottom floor.

What am I? \_\_\_\_\_

When did I live? \_\_\_\_\_

How do you know I am a carnivore?



5. I am an herbivore. I am a part of a long line of evolution. I use my front teeth to snip up vegetation while my back molars grind up my meal. I am located on the Main floor.

What am I? \_\_\_\_\_

When did I live? \_\_\_\_\_

How do you know I am a carnivore?

