

Mammals

Definition: A mammal is a warm-blooded, vertebrate (spine) animal with hair or fur covering its body. They have a 4 chambered heart and their jaw is hinged to their skull. They give birth to live young*, who are nursed by their mothers.

Mammals come in many shapes and sizes. There are tiny mammals, such as the shrew, and enormous mammals, like the blue whale. Humans are mammals too.

Mammals can be carnivores (meat-eaters), herbivores (plant-eaters), insectivores (insect eaters) or omnivores (meat and plant eaters).



Mammals can live in hot or cold climates. Some live in the wilderness, while others have adapted to urban life. They can be predators (hunters) or prey (hunted).



*Some mammals lay eggs, such as the platypus.

Others keep their immature offspring in a pouch, like the kangaroo. They all nurse their young.

Vocabulary:

Mammal	Carnivore	Scavenger
Warm-blooded	Herbivore	Predator
Vertebrate	Omnivore	Prey
Shrew	Wilderness	Invertebrate
Blue whale	Adapted	Insectivore
Human	Rodent	Jaw

Answer the questions based on what you've learned about mammals.

1. What does warm-blooded mean?

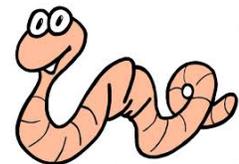
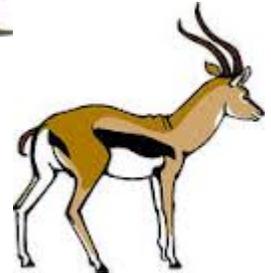
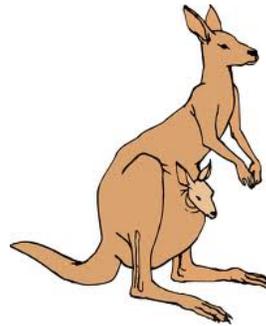
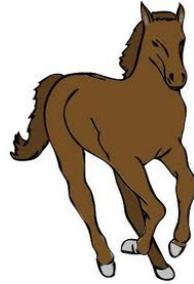
2. Can an herbivore be a mammal?

3. How big can a mammal be?

4. Is a kangaroo a mammal? Why or why not?

5. Is a giraffe a mammal? Why or why not?

Circle the mammals. Put an X on the animals which are not mammals.



Choose 1 of the animals that you put an X on, and explain why it cannot be a mammal:

Answer key for 'circle the mammals'

Mammals:

Bat

Kangaroo

Dolphin

Wolf

Seal

Horse

Gazelle

Platypus

Non mammals:

Bird

Snake

Lizard

Bullfrog

Worm



What is a Mammal?

Duration

Pre-Visit: 40 minutes

Museum Visit: 30 minutes

Post Visit: 40 minutes

Location

Age of Mammals Hall

Supplies

- Worksheet
- Pencils
- Drawing Paper
- Drawing tools
- Pictures of different animals

Standards

NGSS

K-LS1-1, K-2-ETS1-1, K-ESS3-1, K-ESS2-1

S+E Standards

1,2,3,4,6,7,8

CCSS ELA

W.8, SL.1.a.b, SL.4, SL.5, SL.6, L.1.f, L.2.d, L.5.a.c., L.6

CA State

ELA Vocabulary and Concept Development 1.17, 1.18

PS.1.a, LS.1.c

Vocabulary

Mammal · Characteristics · Fur · Jaw · Neck Bones (vertebrae) · Sweat Glands



Concepts

- Animals are grouped by a set of common characteristics.

Objectives

- Students will be able to identify mammals from other kinds of animals.
- Students will describe mammals using both general and specific language.

Outline

1. In one classroom session before visiting the Museum, introduce the characteristics of a mammal. Have students categorize animals as mammals or non-mammals.
2. During a trip to the Museum, explore and practice identifying mammals by describing them and acting them out.
3. Back in the classroom, students will review with they learned at the Museum by sorting pictures of animals again, and drawing a picture and writing a poem to demonstrate what they have learned.

Pre-Visit

In your classroom, distribute the *Mammals!* worksheet and have students observe the pictures of the Cheetah and its skeleton. Ask students, “what do you notice about this animal?” Have them share responses and make sure they use descriptive words as they do.

Introduce the essential question: What is a mammal? Go through the mammal characteristics below, having the student’s circle each characteristic as you talk about it (white crayons may work best for this).

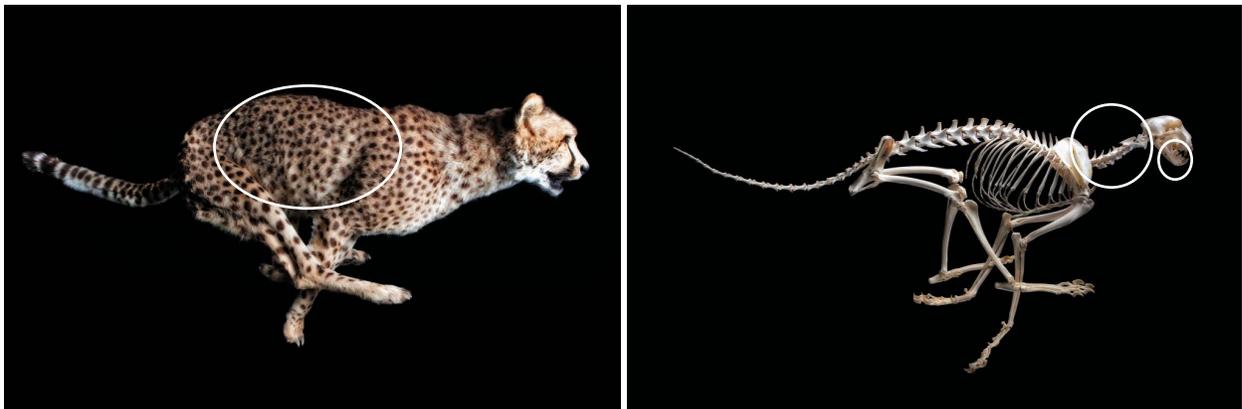
Visible mammal characteristics (see teacher cheat sheet below)

- Fur or hair
- Seven bones in their neck
- A single lower jaw bone

Briefly, talk about mammal characteristics we can’t see on the outside or a skeleton, but can be noticed or observed by watching an animal:

- Mammals make their own body heat
- They all have sweat glands (modified sweat glands, called mammary glands, make milk for young)

Teachers note: there are other characteristics that identify animals as mammals, however they may not be an appropriate level of content for your students. If you choose to include them, they are the presence of specialized teeth, a 4-chambered heart, 3 ear bones and they are the only vertebrate with a diaphragm.



Have students flip the worksheet over to *Am I a Mammal?* Students should circle whether they think the animal is a mammal or not a mammal. Go through the answers as a class and discuss what the students see that helped them decide why each animal is categorized as a mammal or not.

Teacher note: The challenge animal is mammal, you can count seven neck bones from its head to its shoulder, and it has a single lower jaw.

Ask students, “What are some mammals you know?” and make list on the board (save this for later) Next, pass out drawing paper and tools, and have them pick a mammals they know to draw pictures of.

Museum Visit

At the Museum, gather students in front of the Cheetah in the Age of Mammals Hall (first display to the left as you enter). Remind students why this animal is a mammal (have fur or hair, seven neck bones, single bone in the lower jaw, etc.).

2 What is a Mammal?

Ask students to think about what they notice about the cheetah they are observing. They can talk about the size, color, texture and shape of the cheetah. Model a response for students, such as: “The cheetah is a mammal because it has _____.”

Next, have students explore the Age of Mammals Hall in pairs and look around at all the different display cases. In order to describe the mammals they will be observing, the students can practice describing out-loud using the model provided earlier – “This _____ is a mammal because it has _____” (*teacher provides name of animal*).

Gather students and tell them they will act out one of the mammals they observed while the rest of the class guesses what kind of mammal they are (you may choose to closely model this after Charades or more loosely structure it and have students pick specimens on the fly. This is also a great activity for group play). Ask for volunteers to begin the game. Once each animal is guessed, review have the students name one reason why that animal is a mammal.

Post-Visit

Once you’re back in the classroom, review the Museum visit. Add to the list you started pre-visit by asking students, what kinds of mammals did you see?

Next ask, what did you learn about mammals? Use this as an opportunity to review and clarify mammal characteristics. Then, show the pictures of different kinds of animals as a class and have them sort the animals into two different groups like they did on the *Am I a Mammal?* worksheet. As you go, review why they think each animal belongs in each category.

Next, using the list of mammals generated above, model the next worksheet activity. Pick one or two mammals from the list and write a poem about it with the whole class. Structure the poem as follows:

_____ are mammals!

They have _____ (*adjective*) _____ (*noun*).

_____ (*sound of the animal*)!

Use descriptive words and sounds. An example of the poem could be:

Lions are mammals!
They have a bushy mane of fur.
Roar!

Hand out the *My Mammal!* worksheet and have students pick a mammal and draw a picture of it and label at least two things that tell them it is a mammal. Next, help them fill out the poem on the back page (*My Mammal Poem*) with their own descriptive words. On the board, you may want to write out the blank structure of the poem next to the classroom example for student reference.

The students’ worksheets can be compiled to create a class book or classroom display about mammals.

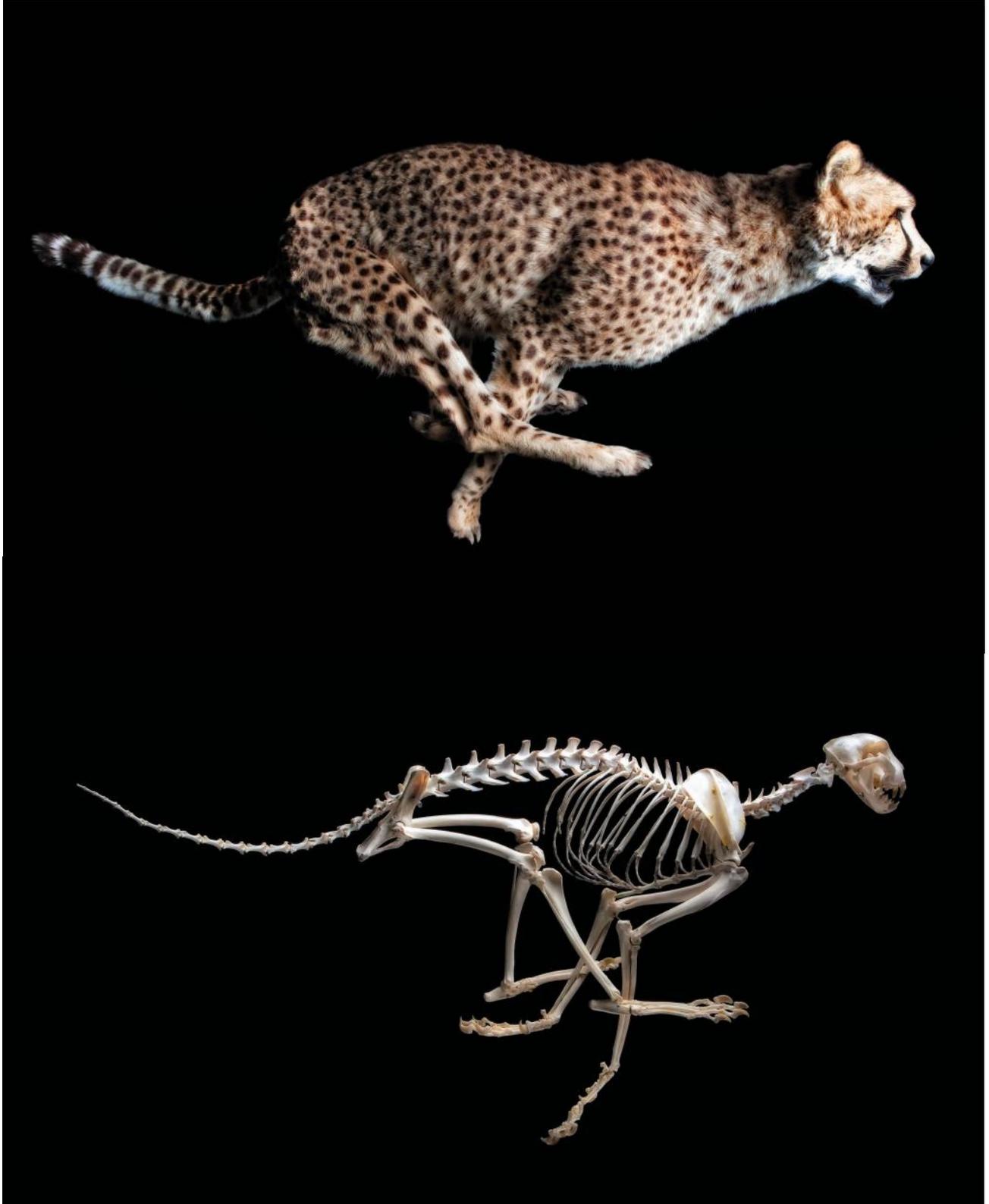
Variations & Extensions

- Students can do a comparison drawings showing a mammal and a non-mammal.
- Have students make imaginary mammals, either as a craft activity or drawing/painting activity. Students can present (show and tell style) their animals and describe why their imaginary animal is a mammal.

What is a Mammal?

Mammals!

Observe the Cheetah and it's skeleton below. What do you notice?





What is a Mammal?

Am I a Mammal?

Observe each animal, then below it's picture circle whether you think it is a *mammal* or *not a mammal*.

Squirrel



Mammal *Not a Mammal*

Hawk



Mammal *Not a Mammal*

Butterfly



Mammal *Not a Mammal*

Opossum



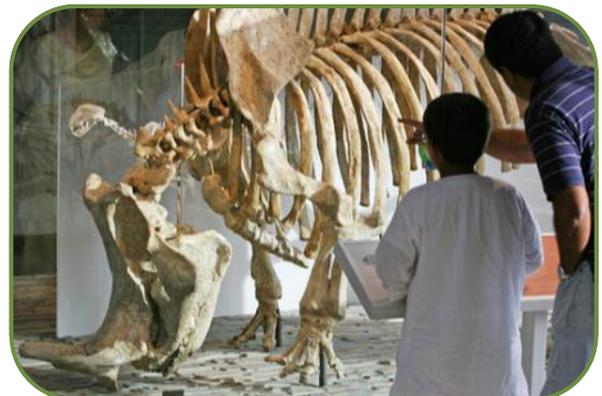
Mammal *Not a Mammal*

Turtle



Mammal *Not a Mammal*

Challenge Animal! Brontothere



Mammal *Not a Mammal*



What is a Mammal?

My Mammal!

Pick a mammal and draw a picture of it below! Label it with 2 things that tell you it's a mammal.

A large, empty rounded rectangular box with a green border, intended for drawing a mammal and labeling it with two identifying features.



My Mammal Poem

Use the space below to write a poem about your mammal!

_____ are mammals!

They have...

and go...

!