

What's A Mammal?

Duration: One to two class periods

Students will understand the following:

1. Mammals are a class of animal.
2. Mammals have certain traits that distinguish them from animals in other classes, such as fish, reptiles, and amphibians.
3. There are many different types of mammals.
4. Mammals are classified by two shared characteristics. They all feed their young with mammary gland milk, and all have hair.

Materials:

Chalkboard or chart paper

Chalk or markers

Pictures of mammals

Resources about mammals (books, encyclopedia, Web sites)

Index cards

Procedures:

1. Show the class pictures of five very different mammals, such as a cat, kangaroo, horse, rabbit, and monkey. Explain that all these animals are mammals, and that mammals constitute one class of the animal kingdom, which also includes other classes, such as reptiles, birds, and fish. Ask students what these five mammals have in common and mark their responses on a sheet of chart paper. Spark the conversation by asking the following questions: How do these animals give birth? How do they stay warm? How do they move? Label the list of common characteristics with the title "Mammal Traits."
2. Review your list with the class. Point out traits common to all mammals and other animals. For example, note that reptiles and mammals have backbones and breathe air through lungs. Then highlight the traits that are unique to mammals. Explain that animals are only classified as mammals if they
 - nurse their babies with milk from mammary glands and
 - have hair, even if only very little.

Those are the only characteristics required of all mammals, but most mammals

- bear live young, maintain a constant body temperature despite changing climatic conditions (warm-blooded)

, •have differentiated teeth, and

- have four limbs (two legs and two arms, four legs, or a pair of flippers and fins).

3. Now that students understand how mammals are alike, point out some of differences among species. Describe how some mammals eat meat while others just eat insects. Some mammals spend most of their time in the ocean, while others rarely or never go in the water. Though most mammals give birth to live babies, a couple mammal species lay eggs. On the chalkboard, list 11 mammal groups:

- Egg-laying

- Flying

- Toothless

- Marsupials (pouched)

- Flesh-eating (note that many carnivores

- Insect-eating

- Rodents

- Ungulates (hoofed)

- Trunk-nosed

- Marine

- Primates

4. Challenge students to come up with one or more animals from each mammal group. Jot down their correct answers on the board next to that group's name. You can help them out by providing a few examples, if necessary:

- Egg-laying (duck-billed platypus, spiny anteater)

- Flying (bat)

- Toothless (sloth, armadillo, anteater)

- Pouched (kangaroo, koala, opossum, wallaby)

- Flesh-eating (dog, tiger, bear, wolf)

- Insect-eating (mole, shrew, hedgehog)

- Rodents (rat, mouse, squirrel, chipmunk, prairie dog, beaver)
- Hoofed (Ungulates) (cow, sheep, goat, pig, camel, giraffe, deer)
- Trunk-nosed (elephant)
- Marine (dolphin, whale)
- Primates (monkey, lemur, gorilla)

5. Play the Mystery Mammal Game. Invite students to choose a mammal they would like to learn more about. They should not share their choice with anyone but you. To encourage students to choose different animals, assign each child a mammal group (e.g., flesh-eating, hoofed, etc.) from which the individual can select. As only 11 mammal groups are listed, you will need to assign more than one child to the same group. Make sure that each student is researching a different animal.

6. Give each student one index card. Have each student research his or her assigned mammal using print and online resources. As the children research their mammals, instruct them to jot down 8-10 clues about their animals on the index cards. For example, "It has a heavy fur coat to keep warm" or "It hibernates in the winter." One of the clues should include the name of the mammal group to which the species belongs.

7. When students have completed their research, invite each student to present a clue and allow the rest of the class to guess the animal. The presenter can give clues until the audience has guessed the mammal. Once the mammal is revealed, the presenter should share the rest of the clues and any other information learned about the mammal.

Discussion Questions

1. Why are camels, dogs, whales, and humans all considered mammals?
2. Like all animals, mammals have certain adaptations that enable them to survive in their environment. For example, giraffes with long necks could reach food in high tree branches while short-necked giraffes could not. When the food on the ground was all gone, the short-necked giraffes died, but the long-necked giraffes survived for many generations. What are some human adaptations that help us live in our environment?
3. Most mammals give their young more protection and training than do other animals. Discuss how specific mammals take care of their offspring. What behaviors are unique to mammals?
4. Chimpanzees and humans are not only both mammals, they share many other characteristics. List some of the similarities between humans and chimpanzees. For example, we both use tools, and walk upright.
5. What characteristics distinguish humans from all other mammals? What unique traits make people "human"?

Evaluation:

You can evaluate students on their Mammal Mystery Cards and their presentation of the clues using the following three-point rubric:

- Three points: reflects in-depth and thorough research of the mammal; includes more than eight clues about the mammal; identifies the mammal group to which the species belongs; presents the information to the class in a clear and prepared manner
- Two points: reflects adequate research of the mammal; includes at least eight clues; identifies the mammal group to which the species belongs; presents clues to the class in a satisfactory manner
- One point: reflects inadequate research; includes less than eight clues and neglects to include the group to which the mammal belongs; presents the clues to the class in an unprepared manner

You can ask students to contribute to the assessment rubric by determining criteria for well-written and well-presented Mystery Mammal Clues.

Additional Ideas:

Have students work in pairs or groups to create new mammals. Their animals must include traits that are common to all mammals. The species must also have characteristics common to 1 of the 11 mammal groups. They should draw a picture of their animal, describe its physical and behavioral characteristics, determine its habitat, and name the species. Then, invite them to present their mammals to the rest of the class.

An A to Z Mammal Book

Invite students to research and write an alphabet mammal book that presents a picture and some facts about a different mammal on each page. Encourage them to include one mammal per letter ("antelope" for A, "Bear" for B, "Cat" for C, etc.).