

# Classification: Mammal Mystery

Grade	Standard / Element
2	S2L1. Obtain, evaluate, and communicate information about the life cycles of different living organisms
3	S3L1. Obtain, evaluate, and communicate information about the similarities and differences between plants, animals, and habitats found within geographic regions (Blue Ridge Mountains, Piedmont, Coastal Plains, Valley and Ridge, and Appalachian Plateau) of Georgia.
5	S5L1a - Develop a model that illustrates how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal) using data from multiple sources.

### *Main ideas:*

- Classification – characteristics of mammals (primarily mammary glands to nurse young and hair or fur covering for protection in a variety of ways including but not limited to warmth).

### *Misconceptions:*

- All fur has the same structure and function.
- Mammals, like otters, beavers, dolphins, and whales can breathe underwater.

### *What You Need to Know:*

- Most mammals have mammary glands which produce milk in the mother to nurse the young, such as a dog nursing its puppies after birth. (Platypus do not have live young or mammary glands, but still provide milk to their young through pockets on their skin).
- Mammals are covered in fur or hair that is made up of keratin, the same material that your own hair consists of. All mammals are “warm-blooded,” or endothermic which means they produce their own body heat.
- Hair provides protection to mammals in a variety of ways for different habitats and conditions. Aquatic mammals, such as otters and beavers have an oily fur which makes them resistant to water; the water will bead off the surface of their hair similar to a duck.
- Some fur is thicker or denser on a mammal like a chinchilla that lives in the arid mountains where this mammal needs to stay warm and protected from the extreme elements of its habitat. A human has one hair growing from each hair follicle while a chinchilla grows 50 hairs per follicle. Their fur is considered the thickest and softest in the world.
- A mammal’s fur often provides camouflage protection to hide from potential predators or stalk their prey.
- Most mammals have whiskers on their faces near their mouths. Whiskers are tactile or sensory organs that allow them to sense objects in their surroundings. Whiskers are not present in humans and a few aquatic mammals like dolphins and whales.
- Some mammals have modified hairs that are used for protection or defense. Porcupines and tenrecs have quills or spines covering their body.