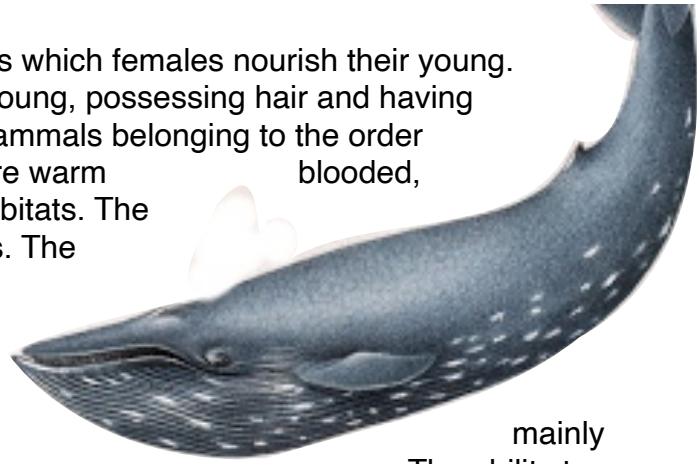


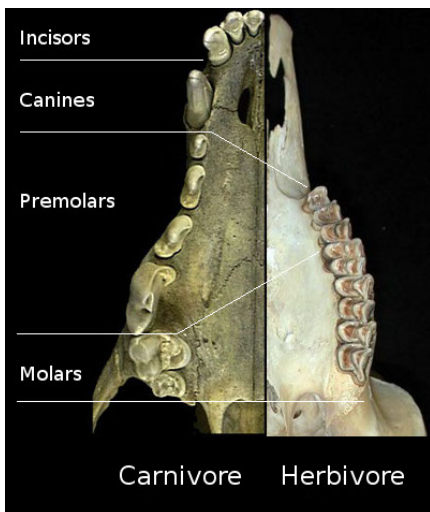
Mammals are named for the specialized mammary glands which females nourish their young. Other defining characteristics include giving birth to live young, possessing hair and having three bones make up the middle ear. Three species of mammals belonging to the order Monotremes lay eggs instead of giving birth. Mammals are warm blooded, endothermic, which allows them to occupy a variety of habitats. The range in size in the class is the most of all the vertebrates. The smallest mammal is the Kitti's hog-nosed bat (*Craseonycteris thonglongyai*), also known as the bumblebee bat, from Thailand and Myanmar at 30–40 mm in length while the largest is the Blue whale (*Balaenoptera musculus*) measuring 30 meters. Although terrestrial mammals have also colonized the air and water. maintain a constant body temperature is critical to the order's



mainly  
The ability to  
adaptability.

## Teeth

One of the defining characteristics of mammals is the differentiation of their teeth. Most species have two sets of teeth during their lifetime: deciduous or milk teeth and permanent teeth. There are three types of permanent teeth: incisors, canines and cheek teeth which consists of premolars and molars.



Incisors are used for biting and grazing. In elephants, the upper incisors are modified into curved tusks (unlike with Narwhals, where it is a canine that develops into a straight and twisted tusk). The incisors of rodents grow throughout life and are worn by gnawing.

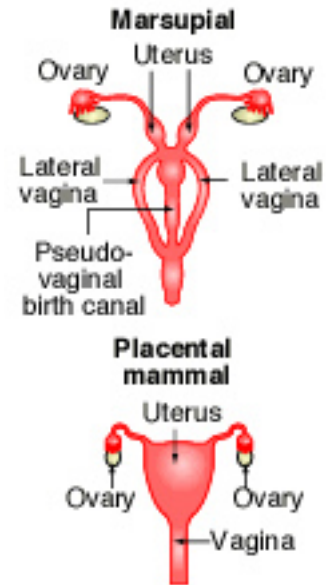
Canines are sharp stabbing teeth. They are often called fangs in carnivores. However, they can appear more flattened, causing them to resemble incisors and leading them to be called incisiform. They evolved and are used primarily for firmly holding food in order to tear it apart, and occasionally as weapons. They are often the largest teeth in a mammal's mouth. Most species that develop them normally have four per individual, two in the upper jaw and two in the lower, separated within each jaw by its

incisors; humans and dogs are examples. In most animals, canines are the anterior-most teeth in the maxillary bone. Narwhals provide an extreme example, where one canine tooth, usually the left, erupts into a long spiral horn up to 9 feet (2.7 m) long.

The cheek teeth (molars and premolars) of mammals are often marvelously complex and adapted to specific tasks. In carnivores the fourth upper pre-molar, and the first lower molar are called carnassials and act like scissors to shear meat. In herbivores the cheek teeth grind the tough plant material.

## Reproduction

Mammals are divided into two subclasses based on reproduction Protheria and Theria. The mammals in the subclass Protheria lay eggs and all other mammals belong to the subclass Theria and give live birth. Monotremes are the only living members of Protheria. The subclass Theria is further divided into two infraclasses: marsupials and placental mammals. Marsupials' reproductive systems differ markedly from those of placental mammals. The female develops a kind of yolk sac in her womb which delivers nutrients to the embryo. Embryos of some marsupials additionally form placenta-like organs that connect them to the uterine wall, although it is not certain that they transfer nutrients from the mother to the embryo. Pregnancy is very short, typically 4 to 5 weeks, and the embryo is born at a very young stage of development.



The largest group of mammals are the placental mammals. In these mammals the unborn fetus develops in the mother's uterus. During pregnancy a specialized organ, the placenta, provides oxygen and nourishment to the fetus.

## Thermoregulation

Many of the characteristics of mammals are adaptations for thermoregulation. Although hair has many roles, insulation is vital to the survival of mammals in cold weather. In marine mammals who have little body hair blubber serves as insulation. Unlike fat blubber is very thick and highly vascularized.

Sweat glands are the major method for reducing body temperature in mammals. Sweat glands reduce temperature through evaporative cooling. Extremely large pinnae, outer ear, like those of the fennec fox and elephant also aid in cooling.

