

## Biofact Worksheet – Skulls and Teeth

Animal skulls can tell us many things about creatures and how they once survived in their natural environment. The types of teeth an animal has, and the placement of its eye sockets, can indicate if the animal is a plant eater (herbivore), meat eater (carnivore), or consumer of both plants and meat (omnivore). By looking at a skull, we can find clues to what it may eat and whether it is a predator or prey animal and which senses were most important to the animal's survival.

There are different kinds of **teeth** to perform different functions. **Incisors** are in the front of the mouth and used for food gathering. They snip vegetation or nip off small pieces of foods such as bark, nuts, fruit, or meat. **Canines** are also positioned at the front of the mouth. They are the sharp piercing and tearing “knives” of predators and are used to kill prey. In the sides of the mouth are premolars and molars (also known as cheek teeth). **Molars** vary in shape or size depending on their function. Some function like scissors for slicing meat. Others serve as grinders for grinding foods like grass, leaves, and bones. All of these teeth types may be present in different numbers from species to species, or some may not be present at all.

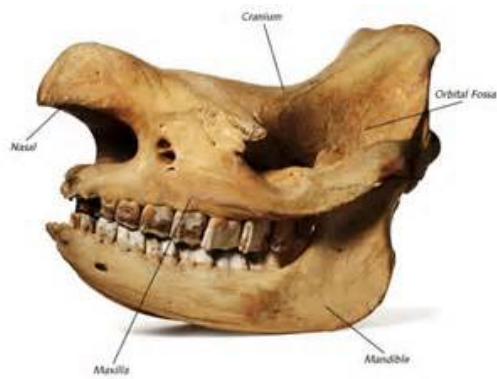
- **Carnivores** have a full set of teeth; canines, incisors, molars, premolars; cat species have reduced number of cheek teeth called “carnassials” that are sharp and grind against each other like scissors.
  - Cats have short, flat skulls, tiny incisors and usually long, sharp canines.
  - Canine or dog-like species typically have a long muzzle portion of the skull, many sharp molars/premolars, relatively large incisors.
  - Articulation between lower jaw and skull is in line with the teeth row.
- **Herbivores** typically have a long toothless portion from the premolars to the incisors called a “diastema”. Canines will be reduced or absent and they will have large, flat cheek teeth.
  - In some ruminating species, such as deer, cows, and giraffes, most have only lower, flat shaped incisors that meet the upper toothless gum. There is a plate of bone under the skin instead, to grind against
  - horse-like species have large upper and lower incisors.
  - Articulation between lower jaw and skull is well above the level of the teeth.
- **Omnivores** have canines and flattened cheek teeth.
  - Bear species usually have a longer muzzle like dogs but their premolars/molars are flattened due to their varied diet and they usually have a large opening where the nostrils are located as they use smell a great deal.
- Rodents have long, recurving incisors, no canines and flat grinding molars
- Primates have forward facing, large ocular bones or eye sockets, as most have binocular vision. In many, there will be exaggerated canines, where some may be reduced like humans. All have flattened cheek teeth and larger incisors. Prosimian species will have longer muzzles, while apes and monkeys will have a more blunt skull that appears more human-like.
- Reptiles have undifferentiated teeth (generally shaped the same) and two nares.

**Eye placement** varies among animals depending on the role of eyesight in their lives. Many prey animals have eye sockets that position the eyes on the side of the head. This allows for a wide range of view to the side and back and helps prey animals, often herbivores, see a predator moving in the periphery. Predators, however, generally have eyes that face forward. This provides the visual acuity and depth perception needed for a predator to pursue fleeing prey.

Next to the picture of the skull write the name of the animal species and whether it is an herbivore, omnivore or a carnivore. Chose from: Human, Black Rhino, Giraffe, Lion, Grizzly Bear, Zebra, Anaconda, Lemur, American Alligator, Squirrel Monkey, Agouti, Komodo Dragon, Bobcat



A.



B.



C.



D.



E.



F.



G.



H.



I.



J.



K.



L.