Skull Study

Did you know you can tell what an animal eats by looking at their skull? The teeth, eye placement, and nasal passages can tell us a lot about how an animal survives. Observe each animal skull and answer the following questions to find out more about how scientists classify animals.

Key terms
Herbivore- an animal that gets energy from eating only plants
Omnivore- an animal that gets energy from eating both plants and meat
Carnivore- an animal that gets energy from eating only meat

Materials
Animal Skull Photos (provided)
Animal Teeth Guide (provided)
Ruler or measuring tape

Skull 1:
1. This skull is from a ________________________________________________________________________

2. What do the teeth in this skull look like (shape, size, any other observations) ? ________________________________________________________________________

3. Based on these observations, what kind of teeth does this animal have? Canines Incisors Molars

4. How long are the nasal passages of this animal? How long is the skull?
   a. Nasal Passages _____________________________________________
   b. Skull __________________________________________________

5. What kind of eater do you think this animal is? Herbivore Carnivore Omnivore

In the space below, sketch the skull
Skull Study

Skull 2:

6. This skull is from a ______________________________________________________

7. What do the teeth in this skull look like (shape, size, any other observations)? ____________________________

8. Based on these observations, what kind of teeth does this animal have? Canines Incisors Molars

9. How long are the nasal passages of this animal? How long is the skull?
   a. Nasal Passages______________________________________
   b. Skull ____________________________________________

10. What kind of eater do you think this animal is?
    Herbivore Carnivore Omnivore

In the space below, sketch the skull

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Skull 3:
11. This skull is from a

12. What do the teeth in this skull look like (shape, size, any other observations)?

13. Based on these observations, what kind of teeth does this animal have? Canines Incisors Molars
14. How long are the nasal passages of this animal? How long is the skull?
   a. Nasal Passages_________________________________________
   b. Skull _________________________________________________
15. What kind of eater do you think this animal is? Herbivore Carnivore Omnivore

In the space below, sketch the skull
Animal Teeth Guide:

Incisors: Located in the front part of the mouth, and shaped like small chisels

Canines: Located just behind the incisors, sharp and pointed to tearing food

Molars: Located at the back of the mouth, large teeth with a lot of surface area used to grind up food
Guiding Questions Suggestions:

1. Why are canine teeth so long and pointed? They’re used for piercing and holding other animals.

2. What are the incisors used for? Incisors are used for cutting plant parts and stripping leaves.

3. Why don’t humans have long canines? We don’t need long sharp canines since we don’t have to kill and capture animals with our teeth.

4. What do the orbits on a skull tell us? Predators typically have their orbits placed forward on the skull for binocular vision. This placement is common in predators because it helps them judge distance when attacking prey. Large orbits generally indicate excellent eyesight. Prey species, especially herbivores, have their orbits on the side of their head for a wide field of vision to help the animal watch for predators.

5. What do the auditory bullae tell us? Generally, smaller in size means a relatively moderate since in hearing with more of a reliance on smell and sight. When they are large, relative to the size of the skull, that indicates a more acute sense of hearing.

6. What does the nasal passage on a skull tell us? The longer the nasal passage in relation to the skull size, the better the sense of smell.
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Skull Photos

1. American Beaver, *Castor canadensis*

2. Coyote, *Canis latrans*
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3. Virginia Opossum, *Didelphis virginiana*