

Feeding Adaptations

No animal adopts a random combination of independent activities but instead has a coordinated lifestyle. Locomotor patterns nearly always related to feeding habits. Reproductive, defensive & other behaviors usually correlated with feeding and locomotion. The focus of this lab is to encourage you to solve the correlation problems. A number of vertebrate anatomy books are available (***use them as general references available equally to the whole class rather than carrying them back to your seat***) and in conjunction with the specimens and the skull drawings in your text should enable you to answer the following questions.

1. Fishes, most amphibians and many reptiles have jaws that are both **protrusible** and **kinetic** (movement of parts of the skull), adapted for a fast snap that swallows prey whole. Mammalian jaws are neither protrusible nor kinetic but are instead characterized by adaptations for what?
2. How do ungulates apply force along each tooth row? anterior cropping mechanism?
3. Can rodents and rabbits apply force at anterior gnawing incisors and at posterior grinding molars simultaneously
4. The mechanics of jaw movement is shaped by feeding requirements and the shape of tooth rows and mandibular condyles vary with type of feeding. Describe how the carnassials and the condyles work in a carnivore. In a herbivore.
5. How can you tell if a herbivore chews back to front or side to side?
6. Describe how the following structures differ in any three orders (your choice)
condyles, symphysis, adductor muscles (masseter, temporal, pterygoid)
7. Define the following terms: **carnivorous, piscivorous, insectivorous, scavengers** and explain how the teeth would differ for each diet.
8. Describe the general adaptations (lips to anus) for feeding on flesh.
9. Contrast the above information with that for a herbivore.
10. How do the front teeth become specialized in rodents, horses, artiodactyls and kangaroos?
11. List a mammal showing each of the following feeding strategies and describe the physical and behavioral modifications required to fill such a feeding niche
 - a. filtering and straining
 - b. suck feeding
 - c. nectar and pollen feeding
 - d. blood drinkers
 - e. feeders on swarming insects
 - f. crushing and cracking nonedible material
 - g. swallowing food whole