

Mollusca Worksheet

1. For what purpose do mollusks use their muscular foot?
  - Locomotion, attachment, feeding
  
2. How is the muscular foot of a squid different from that of clams and snails?
  - Squid - modified to form tentacles/arms
  - Clam - Burrowing
  - Snail - Attachment / locomotion
3. What is a mantle and where is it located in most mollusks?
  - Covers visceral mass, found under the shell
  - Mantle secretes the shell
4. What is contained in the visceral mass?
  - Digestive, reproductive, circulatory organs.
  
5. How do most sessile and burrowing mollusks obtain food?
  - Filterfeeding → Gills of bivalves modified to trap food particles
  
6. What kind of digestive tract do mollusks have?
  - Complete (mouth / anus separate)
  
7. How do the nervous systems of clams and octopuses differ?
  - Clams → Few sensory organs, no brain
  - Octopus → Sensitive sensory organs, eyes, brain
  
8. How do mollusks reproduce; sexually, asexually, or both?
  - Sexually (most dioecious except snails)
  
9. Where does fertilization take place in mollusks?
  - External (Bivalves, Polyplacophora, some gastropods)
  - Internal (Cephalopods, some gastropods)

10. a) Gastropods have a special chemical sensing organ called an OSPHRADIUM near their mouths. Why do you think this class of molluscs would need this organ? (Hint: Torsion)

- Mouth located very near anus, Osphradium senses wastes and prevents the organism from eating poop.

b) Why do you think squid have no need for an osphradium even though it seems they'd have the same problem as snails given the location of their mouth and anus?

- Siphon expels wastes so less likely the squid would ingest poop.

11. Describe the ecological and economic importance of molluscs

- Filter feeders
- Jewelry
- Food source
- Symbiosis w algae/bacteria
- Predators

12. Observe preserved and live specimens and complete the chart below:

Class	Gastropoda	Bivalvia	Polyplocophora	Cephalopoda
Example	Snail / Slug	Clam / Mussel	Chiton	Octopus / Squid
Body Covering	Shell (coiled) No shell	Two shells	8 plates	Shell reduced or lost
Habitat	Terrestrial & aquatic	Aquatic	Aquatic	Aquatic
Circulatory System	Open	Open	Open	Closed
Feeding Structures	Radula	Gills	Radula	Beak / Radula
Specialization	Eyes, tentacles.	Filterfeeding Burrowing	Bent plates	Brain eyes.
Sketch				