

Phylum Mollusca

Name _____
Date _____
Block _____

Basic Body Plan

Foot:

- Soft muscular. Usually contains the _____ . Also used for _____ .

Mantle:

- Thin, delicate tissue layer. _____ .

Shell:

- Made of _____ secreted by glands in the _____ .

Visceral Mass:

- Contains the _____ .

3 Main Classes

Gastropoda

- “ _____ ”
- Snails, slugs, abalone, sea butterflies, sea hares, and _____
- Most snails have a lid-like part called an _____ on the back of the foot so they can draw their bodies into their shell and close off the opening
- Shell-less varieties exhibit behaviours that _____ , and/or have ink glands, _____ , _____ , and bright “danger” colours!



Bivalvia

- “ _____ ”
- _____
- Have 2 shells that can be tightly closed with _____

- Many burrow in mud/sand, others have _____ to attach themselves to rocks
- Mantle glands make _____ that forms their shells, and _____ to keep the inside walls of their shells smooth
 - o _____ form when a grain of sand/a pebble gets between the mantle & shell. Mother-of-pearl is secreted to coat it to prevent further irritation!



Cephalopoda

- “ _____ ”
- _____, squid, cuttlefish, and _____
- Have tentacles with _____, some also have _____.
- Travel via _____ – by taking in water through their mantle, then shooting it out through their _____



Feeding

- **Gastropods**
 - o Use a _____ to scrape algae off of rocks/or eat land plant material (_____/or drill holes in shells of their prey (_____.)
 - o The radula is a _____, spread over a strong supporting rod of _____. Feels like sandpaper! They move the outer skin layer back & forth over the cartilage rod to feed.

- Cephalopods

- Tend to be _____ – “_____”.
- Some also have poison/radula. _____ used to catch & direct prey to their mouth.

- Bivalves

- _____ . Use _____ to sift food (ex: phytoplankton) from the water. Food is trapped in gills' sticky mucous, then _____ direct it to their _____.

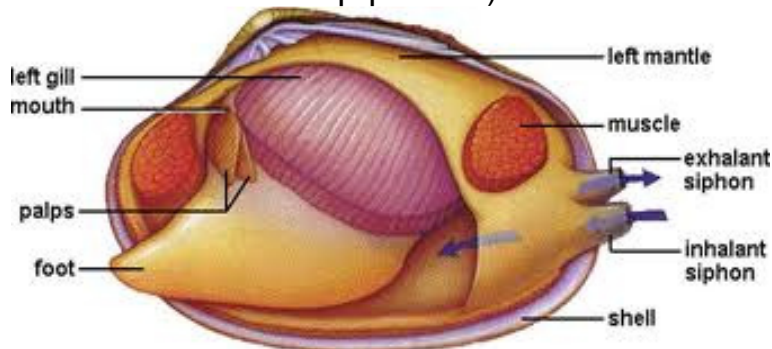
Respiration

_____ species

- Use _____ (usually located inside their mantle cavity.)

_____ (land) species

- Breathe via _____ through a specially adapted mantle cavity lined with many _____.
- The mantle is highly folded to increase _____, and is kept _____ for efficient gas exchange. (This is why they tend to live in moist/damp places!)



Circulation (Internal Transport)

Gastropods/Bivalves

- _____ circulatory system. Blood travels through _____ (open spaces) which lead to/from gills & heart for O₂ and CO₂ exchange.
- An open system is efficient enough for sessile & sedentary (_____) species.

Cephalopods

- _____ circulatory system.
- Too fast-moving (predators!) to use the less efficient “open” system. Blood travels _____.

Excretion

Solid wastes

- leave via _____
- ie. they have a _____ (one-way street!)

Liquid wastes

- leave the blood via _____

Response (Nervous System)

Bivalves

- Simple. _____ near their mouth, some _____ and _____:
- Chemoreceptors, touch receptors, _____

Cephalopods

- Active, intelligent _____. Well-developed nervous system:
 - o _____ (& great memory), _____ to sense shapes by sight and textures by touch.
- _____, & often studied to observe how animals learn.

Gastropods

- Show no standard trend (all very different!)

Reproduction

- Separate sexes
- _____ fertilization in *most marine species*
 - o Form free-swimming _____ larvae
- Internal fertilization in _____
- Some gastropods are _____
 - o Reproduce sexually in pairs
- Certain _____ (like oysters) can _____!

Ecology

In their environment

- “_____” their surroundings (filter-feeders, detritus feeders, etc...)
- Hosts to _____ and/or _____
- Some are parasites
- Important source of food in their food web (incl. humans!)

Relating to human interests

- Bivalves are used as _____ because filter-feeding can concentrate dangerous pollutants/toxic micro-organisms in their tissues. This is called _____.
 - o Ex: **Red Tide** (eating shellfish will make you ill)
- Snails don't get cancer!
- Snails/slugs may damage crops/gardens
- Some bivalves may damage wood (drilling)

Identifying Characteristics of Mollusks

- Have a _____ which allows for specialization of organ systems
- Most are _____
- All have a _____
- Possess a one way _____ with specialized organs and have feeding mouthparts
- Cephalopods have a closed _____, all other classes possess open circulatory systems
- Many have highly developed _____ with sensory organs
- Many have calcium carbonate _____
- _____ - includes the use of _____ to extract O₂ and get rid of waste
- Many have a _____ which is a chitinous tongue used for feeding
- _____ (have separate sexes: dioecious)