Phylum
Mollusca
(5 Classes)

Polyplacophora – Many plates on a foot
Cephalopoda – Head foot
Gastropoda – Stomach
Scaphopoda – Tusk shell
Bivalvia – Hatchet foot
Typical questions for Mollusca

• How many of these specimens possess a radula?
• Which ones are filter feeders?
• Which have undergone torsion? Detorsion?
• Name the main function of the mantle?
• Name a class used for currency
• Which specimens have lungs?
(Just have think of which live on land vs. in water......)
• Name the oldest part of a univalve shell? Bivalve?
Answers...maybe

- Gastropods, Cephalopoda, Mono-, A- & Polyplacophora
- Bivalvia (Scaphopoda....have a captacula)
- Gastropods Opisthobranchia (sea hares & sea slugs) and the land slugs of the Pulmonata
- Mantle secretes the shell
- Scaphopoda
- Pulmonata – their name gives this away
- Apex for Univalve, Umbo for bivalve but often the terms are used interchangeably
Class *Polyplacophora*

- Mantle
- Anus
- Gills in mantle cavity
- Radula in mouth
- Head

Chitons radula, 8 plates
Class **Cephalopoda** - Octopuses, Squid, Nautilus, Cuttlefish...beak, pen, ink sac, chromatophores, jet propulsion..........dissection.

Tentacles (2) & arms are all derived from the gastropod foot
**Gastropoda**

**WORDS TO KNOW:**
- snails, conchs, torsion, coiling, radula, operculum & egg sac

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**Subclass Prosobranchia**

Aquatic – marine.
Generally having thick pointed shells, spines, & many have opercula.

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**Subclass Pulmonata**

Aquatic – freshwater.
Shells are thin, rounded, with no spines, ridges or opercula.

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**Apex**
Detorsion...

If something looks strange, chances are....

.......it is something from Class **Gastropoda**

(...or your roommate!)
Class **Gastropoda**

‘**POP**’

Subclass **Prosobranchia**
- Aquatic snails ("shells")
- Have gills

Subclass **Opisthobranchia**
- Marine
- Have gills
- Nudibranchs / Sea slugs / Sea hares
- Mantle cavity & shell reduced or absent

Subclass **Pulmonata**
- Terrestrial Slugs and terrestrial snails
- Have lungs
Scaphopoda - “tusk shells”

Wampum Indian currency. ‘Head’ in sand. Respire through mantle (no gills.) Captacula for feeding on (capturing) foraminiferans
**Bivalvia** or **Pelecypoda** - clams, scallops etc. filter feeders, bivalved shells...... dissection

Name of oldest part?
Bivalvia or Pelecypoda - clams, scallops etc. filter feeders, bivalved shells...... dissection
Quiz Mollusca

• How many classes posses a radula?
  – 3 of the 5 classes (Cephalopoda, Polyplacophora & Gastropoda)

• How many are filter feeders?
  – 1 of the 5 classes (Bivalvia)

• What feeding structure do Scaphopoda use?
  A/ pedicellaria  B/captacula or C/Aristotle’s Lantern?
  – B - to catch foramnifera