

Adaptive Radiation in Molluscs

Class: Monoplacophora

shell:	forms a single dorsal conical shell
head:	reduced
mantle:	covers undersurface of shell
gills:	5 or 6 pairs
foot:	broad flat ventral, for creeping
radula:	present
larva:	

Classes: Caudofoveata & Solanogastres (formerly Cl. Aplacophora)

shell:	none, but with calcareous scales and spicules in mantle
head:	reduced
mantle:	encloses animal
gills:	absent, or present in cloaca
foot:	reduced to small ridge within ventral groove
radula:	present in some, for piercing
larva:	trochophore

Class: Polyplacophora (Chitons)

shell:	modified into eight overlapping dorsal plates
head:	present
mantle:	greatly enlarged, modified into "girdle" around base of shells
gills:	present
foot:	broad flat ventral, for gliding movement
radula:	present
larva:	trochophore

Class: Scaphapoda (Tusk Shells or Tooth Shells)

shell:	anteroposteriorly elongated into tapering tusk-like tube open at both ends
head:	reduced to short proboscis
mantle:	lines inside of shell, used for respiration instead of gills
gills:	none; oxygen diffuses across mantle
foot:	conical, elongated ventrally and used for burrowing
radula:	present
larva:	trochophore & veliger

Class: Bivalvia (Clams)

shell:	two lateral, usually symmetrical, hinged valves
head:	absent
mantle:	lines inside of both shells; forms siphons for water flow
gills:	most with pair of large gills; also used for feeding and as marsupium
foot:	ventral, wedge-shaped, very muscular, used for burrowing
radula:	absent
larva:	marine forms with trochophore & veliger; fw - glochidia

Class: Gastropoda (Snails)

shell:	most with single shell often coiled spirally
head:	present and well developed
mantle:	lines inside of shell; in pulmonates forms lunglike sac
gills:	some with single gill; terrestrial forms without
foot:	ventral, very large, used for gliding movement
radula:	highly developed as grater, rasp, brush or comb
larva:	marine forms with trochophore & veliger

Class: Cephalopoda

shell:	most reduced to internal pen or absent
mantle:	forms external protective covering over visceral mass
gills:	2 to 4 present within mantle cavity
foot:	modified to form siphon and tentacles
radula:	present, takes in food cut with beak
larva:	none