F10 Biology Invertebrates

Molluscs I Squid & Octopus

English with 2 Little Pigs

www.with2littlepigs.com

Various Coastal Creatures

Topics & Concepts

- ★ Mollusca
  - Bivalves
  - Chitons
  - Cephalopods
    - Octopus
    - Squid
    - Cuttlefish
    - Nautilus
  - Gastropods
    - Abalone
    - Limpet
    - Conch
    - Sea hare
    - Sea Butterfly
    - Snails
    - Nudibranch
    - Slugs

Vocabulary

Laterally
Hinged
Majority
Articulate
Girdle
Flex
Locomotion
Dislodged
Octopuses
Radically
Appendages
Expelling
Intertidal zone
Abyssal
Senescent
Tentacles
Decapodiformes
Gladius
Bioluminescent
Cooperatively
Cuttlebone
Furnished
Mother-of-pearl
Rhinophores
Pelagic
Salinities
Brackish
Polyphyletic

Domain

Kingdom

Phylum

Class

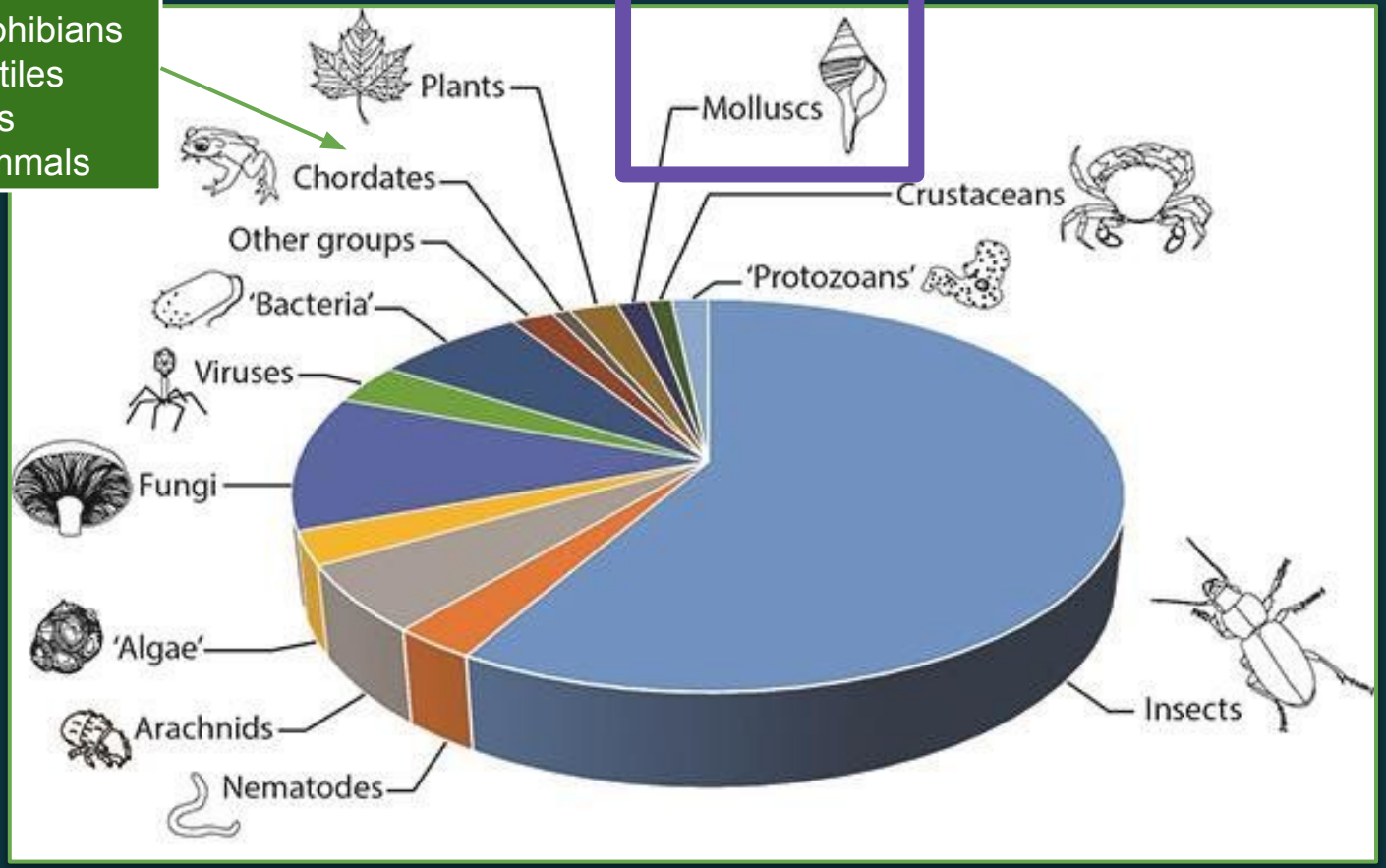
Order

Family

Genus

Specie

Fish
Amphibians
Reptiles
Birds
Mammals



Phylum Mollusca

There are TEN classes of mollusca, 3 are extinct and 3 others are unusual and rare. These four are the most common and familiar.

Bivalvia

Polyplacophora

Cephalopoda

Gastropoda

Bivalves
(Bivalvia)

Clam

Bivalves (Bivalvia)

Bivalvia is a class of marine and freshwater molluscs that have laterally compressed bodies enclosed by a shell with two hinged parts, they have no head.

They include the clams, oysters, cockles, mussels, scallops, and numerous other families that live in saltwater, as well as those that live in freshwater. The majority are filter feeders. The gills have evolved into specialised organs for feeding and breathing.

Bivalves bury themselves in sediment, lie on the seafloor or attach themselves to rocks or other hard surfaces. Some bivalves, such as the scallops and file shells, can swim.


Clam


Mussels

Bivalvia


Clams


Giant Clam


Oysters


Cockles


Mussels


Scallops

Chitons (Polyplacophora)

Chitons

Chitons (Polyplacophora) ‘Ky-tuns’

Chitons are marine molluscs. About 940 extant and 430 fossil species are recognized, also known as gumboots, sea cradles and coat-of-mail shells.

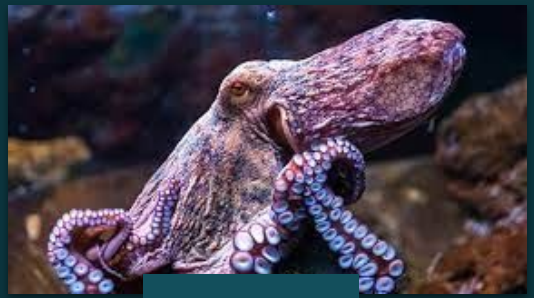
Chitons have a shell composed of eight separate shell plates which overlap slightly at the front and back edges, and yet articulate well with one another. The shell plates are encircled by a skirt known as a girdle.

The shell provides protection at the same time as permitting the chiton to flex upward when needed for locomotion and even allows the animal to curl up into a ball when dislodged from rocks.

Octopus & Squid (Cephalopoda)

Cephalopoda

Cephalopod means “head foot” in Greek, a reference to the way the cephalopod's head connects to its many arms.

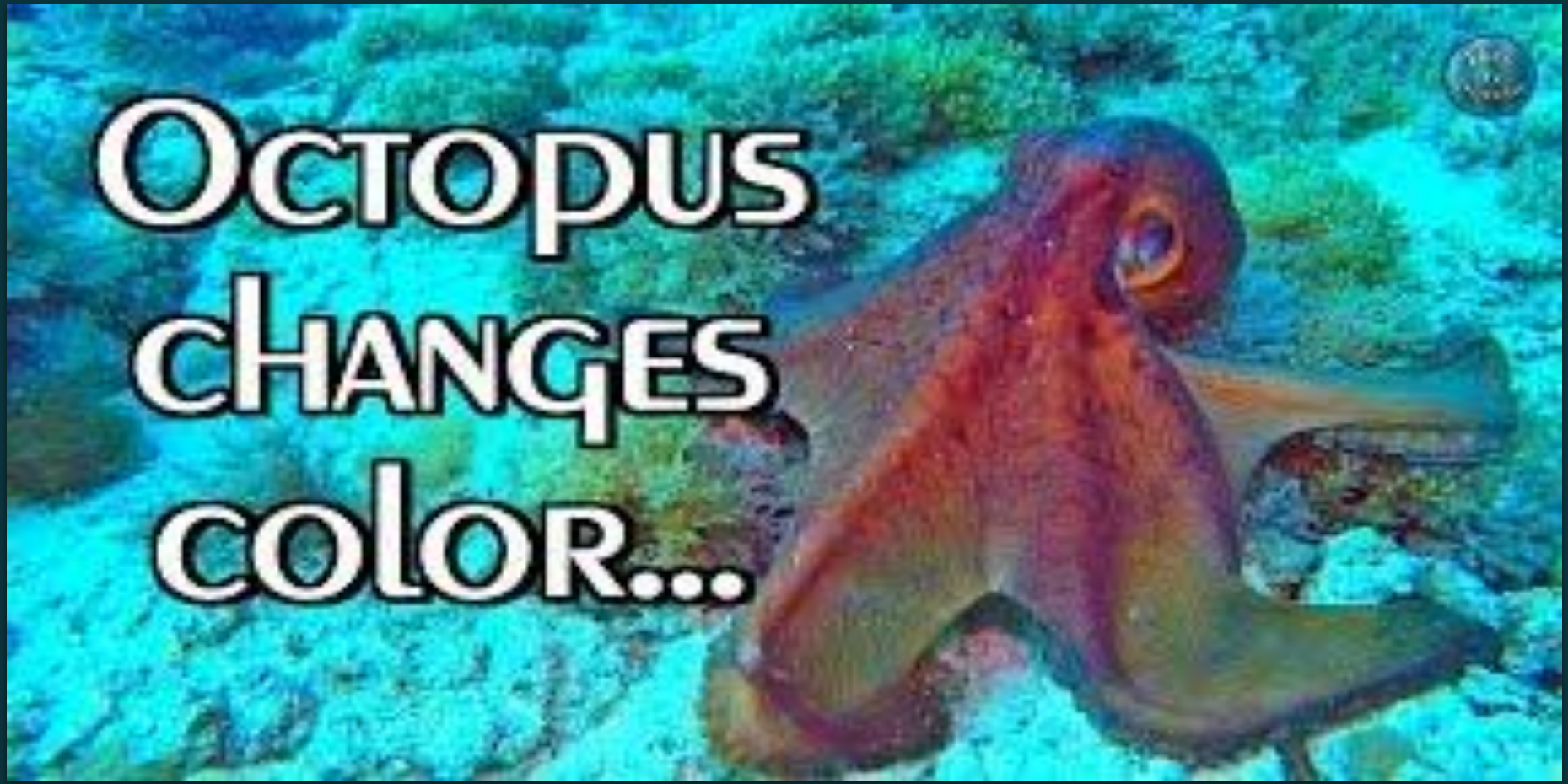


Octopus

Squid

Cuttlefish

Nautilus



Octopus

Octopus

Octopuses NOT Octopi

Octopuses are a soft-bodied, eight-limbed mollusc of the order Octopoda with some 300 species.

They have two eyes and a beaked mouth at the center point of the eight limbs. They can radically alter their shape, enabling octopuses to squeeze through small gaps. They trail their eight appendages behind them as they swim. The siphon is used both for respiration and for locomotion, by expelling a jet of water.

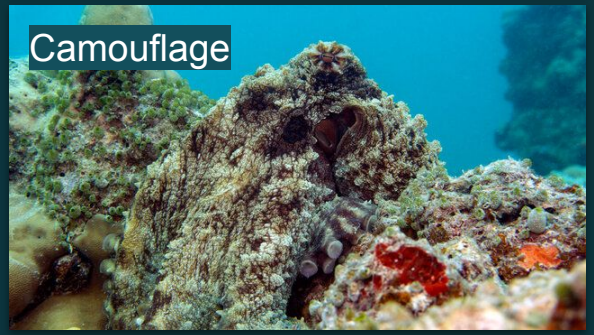
Octopuses have a complex nervous system and excellent sight, and are among the most intelligent and behaviourally diverse of all invertebrates.

Octopus

Octopuses inhabit various regions of the ocean, including coral reefs, deep waters and seabed; some live in the intertidal zone and others at abyssal depths.

Most species grow quickly and are short-lived. The male becomes senescent and dies after mating, while the female deposits fertilised eggs in a den and cares for them until they hatch, after which she also dies.

To defend themselves they squirt ink, use camouflage and threat displays, jet quickly through the water and hide. All octopuses are venomous, only the blue ringed octopuses are known to be deadly to humans.



Humboldt Squid

Squid

Squids only for more than one type of squid.

The Squids are a mollusc with over 300 species and diverged from other cephalopods during the Jurassic.

They are mainly soft-bodied, large eyes and eight arms, like octopuses, but with an elongated body plus two extra tentacles, making ten. They are classified in the superorder Decapodiformes, meaning ‘ten feet’.

The two long tentacles are used to grab prey and the eight arms to hold and control it. The beak then cuts the food into suitable size chunks for swallowing.

They have a small internal skeleton in the form of a rod-like gladius or pen, made of chitin.

Squid

Squid can change colour for camouflage and signalling. Some species are bioluminescent, using their light for counter-illumination camouflage, while many species can eject a cloud of ink to distract predators.

Squid are rapid swimmers, moving by jet propulsion, and largely locate their prey by sight. They are among the most intelligent of invertebrates, with groups of Humboldt squid having been observed hunting cooperatively. They are preyed upon by sharks, other fish, sea birds, seals and cetaceans, particularly sperm whales.

Cuttlefish

Cuttlefish

Cuttlefish are marine molluscs of the order Sepiida. They have a unique internal shell, the cuttlebone, which is used for control of buoyancy.

Cuttlefish have W-shaped pupils, eight arms, and two tentacles furnished with toothed suckers with which they secure their prey. They eat small molluscs, crabs, shrimp, fish, octopus, worms and other cuttlefish. Larger marine fish and mammals eat them.

The typical life expectancy is about 1–2 years and are amongst the most intelligent invertebrates with the largest brain-to-body size ratios of all invertebrates.

Nautilus

The nautilus derived from the Greek word ‘*nautílos*’ meaning sailor, is an ancient pelagic (open ocean) marine mollusc of the cephalopod family Nautilidae.

The nautilus is the sole extant family comprising nine living species in two genera.

Having survived relatively unchanged for hundreds of millions of years, nautiluses represent the only living members of the subclass nautiloidea, and are often considered "living fossils". They are protected worldwide.

Nautilus


English with
2 Little Pigs
The End