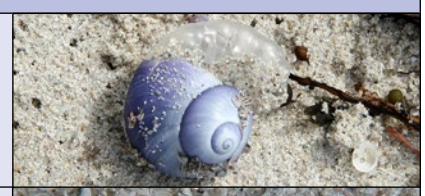
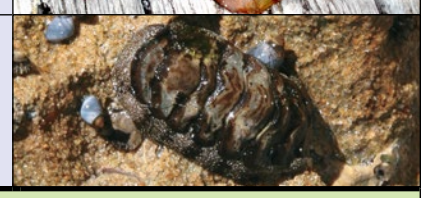
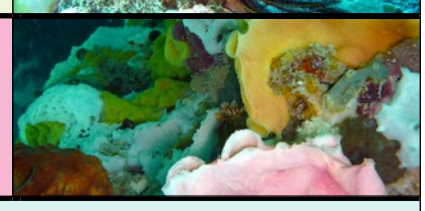
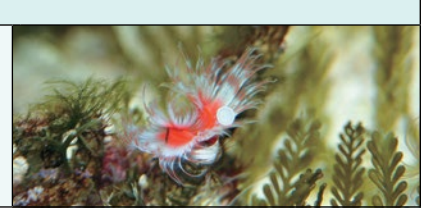
Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

Kingdom Animalia

Kingdom Animalia includes organisms which:

- depend on skeletons or shells to strengthen and protect their bodies;
- have an embryonic stage in their life cycle; and
- cannot produce their own energy from the sun, and must feed on organic matter.

The following phyla and classes are relevant to your beachcombing experience. They are by no means a full representation of the phyla and classes included in this kingdom.

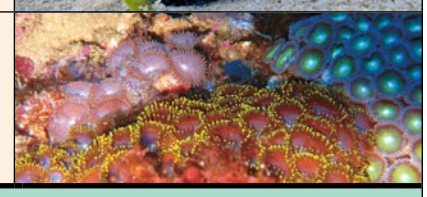
PHYLUM: MOLLUSCA Molluscs are one of the largest groups in the animal kingdom. They have soft bodies and generally a hard shell for protection.	
Gastropoda (e.g. sea snails and sea slugs) Gastropods have a large muscular foot attached to a body that is coiled within a single spiralled shell. However, nudibranchs (sea slugs) have lost their shell.	
Bivalvia (e.g. pipis, mussels) Bivalves have two hinged shells, which protect the flattened body inside.	
Cephalopoda (e.g. squids, cuttles and octopuses) The muscular foot is modified into a group of tentacles that appear to be joined to the head.	
Polyplacophora (chitons) They have eight separate articulated plates, which look like an oval armour.	
PHYLUM: ECHINODERMATA All members of this group have a skeleton consisting of hard plates under the skin, giving a spiny texture. They have water-filled "tube feet" which may be used for locomotion, respiration and collecting food.	
Asteroidea (sea stars) A star shaped animal that often has five arms (although it can have more).	
Ophiuroidea (brittle stars) Brittle stars are similar to sea stars but have five snake-like arms and a soft central disc.	
Echinoidea (sea urchins) Sea urchins have a rigid, ball shaped outer shell that is covered with spines.	
Holothuroidea (sea cucumbers) Sea cucumbers are a soft bodied, sausage shaped animal, with a ring of feeding tentacles around the mouth.	
Crinoidea (feather stars) Feather stars have modified their tube feet into feathery arms used to collect their food.	
PHYLUM: PORIFERA Sponges have no mouth, internal organs or nerves. They are the simplest form of multicellular animal. They are filter feeders and are characterised by a body that is punctured with microscopic holes (for taking water in), as well as one or more larger round openings or vents (for expelling water).	
PHYLUM: ANNELIDA Commonly referred to as worms, annelids have a soft cylindrical body which is divided into segments.	
Polychaeta (e.g. fan and tube worms) Polychaete worms such as fan and tube worms make up the largest class, which is almost exclusively marine. Their segmented bodies bear various appendages adapted to their particular mode of life, whether it's a fan of tentacles as a sedentary plankton feeder or large limb-like paddles as an active predator.	

PHYLUM: CNIDARIA
Cnidarians have a relatively basic body form consisting of a cup-shaped body with tentacles. A key feature of these animals is the presence of 'nematocysts' or stinging cells, found mainly in the tentacles.

Scyphozoa (sea jellies)
Sea jellies are free drifting cnidarians with a bowl or bell-shaped body with their tentacles hanging down.

Hydrozoa (e.g. bluebottles)
Hydrozoans are colonies of individuals (some of which are specialised for different functions) that live together in order to survive.

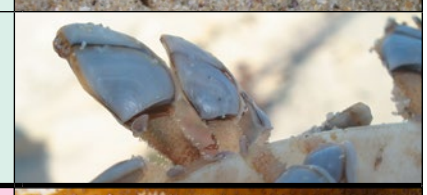
Anthozoa (e.g. anemones and corals)
Anthozoans attach themselves to rocks or substrate with their tentacles facing upwards.



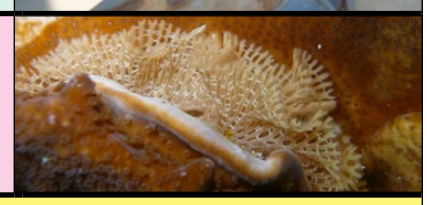
PHYLUM: ARTHROPODA
SUB PHYLUM: CRUSTACEA
Crustaceans belong to the phylum of animals called arthropods, meaning 'joint-legged'. These animals are covered with a protective outer shell or 'exoskeleton'.

Malacostraca (e.g. crabs, lobsters, prawns and amphipods)
All crustaceans in this group have a head (six fused segments), a thorax (eight fused segments) and an abdomen (six or seven segments) plus a tail (or telson). In most groups there is a large carapace covering the head and most of the thorax.

Cirripedia (barnacles)
Their external shell has become a series of plates, and their jointed legs have developed into feathery appendages used to feed on plankton.



PHYLUM: BRYOZOA (e.g. moss and lace corals)
These colonial animals are comprised of individual zooids. Many zooids have a hard box-like wall or cup made of calcium carbonate, which create a hard skeleton.



PHYLUM: CHORDATA
This diverse group of animals have a nerve chord, notochord (supporting structure), gill slits and a tail at some stage in the animal's development.

Osteichthyes (bony fishes)
Bony fishes have a skeleton of bone. They are cold-blooded and extract oxygen from the water through their gills.

Chondrichthyes (cartilaginous fishes)
Cartilaginous fishes such as sharks and rays have an internal skeleton made of cartilage. They are cold-blooded and extract oxygen from the water through their gills.

Reptilia (e.g. sea snakes and turtles)
Reptiles are air breathing, cold-blooded vertebrates. They have dry, scaly skin and generally lay eggs.

Aves (birds)
Birds are air breathing, warm-blooded vertebrates. They have a covering of scales and feathers and lay hard-shelled eggs. Their front limbs have been modified as wings.

Mammalia (mammals)
Mammals are warm-blooded vertebrates where the scales have become modified into hair or fur. They give birth to live young and produce milk to feed (suckle) their young.

Ascidiacea (sea squirts)
In their larval form, sea squirts have a notochord (supporting structure), which is lost as an adult. This simple animal filters water to collect food and nutrients, and has a cellulose-like material known as a 'tunic' that protects its body.