Animals without bones

Most of the world's animals do not have bones, but instead have either skeletons on the outside (such as insects) or skeletons made of liquid (such as worms).

Many animals do not have a skeleton inside their body. Some animals do not even have a hard skeleton at all.

Worms and leaches

Animals such as worms and leaches have a watery skeleton, something like a balloon filled with water (Picture 1). These animals need to live in moist conditions, otherwise they will dry out and go limp.

Insects, crabs and clams

Another kind of skeleton is found on the outside of the animal. In this case, the skeleton forms a hard, protective case. The muscles are attached to the inside of the skeleton and pull against one another over joints to make the animal move (Picture 2).

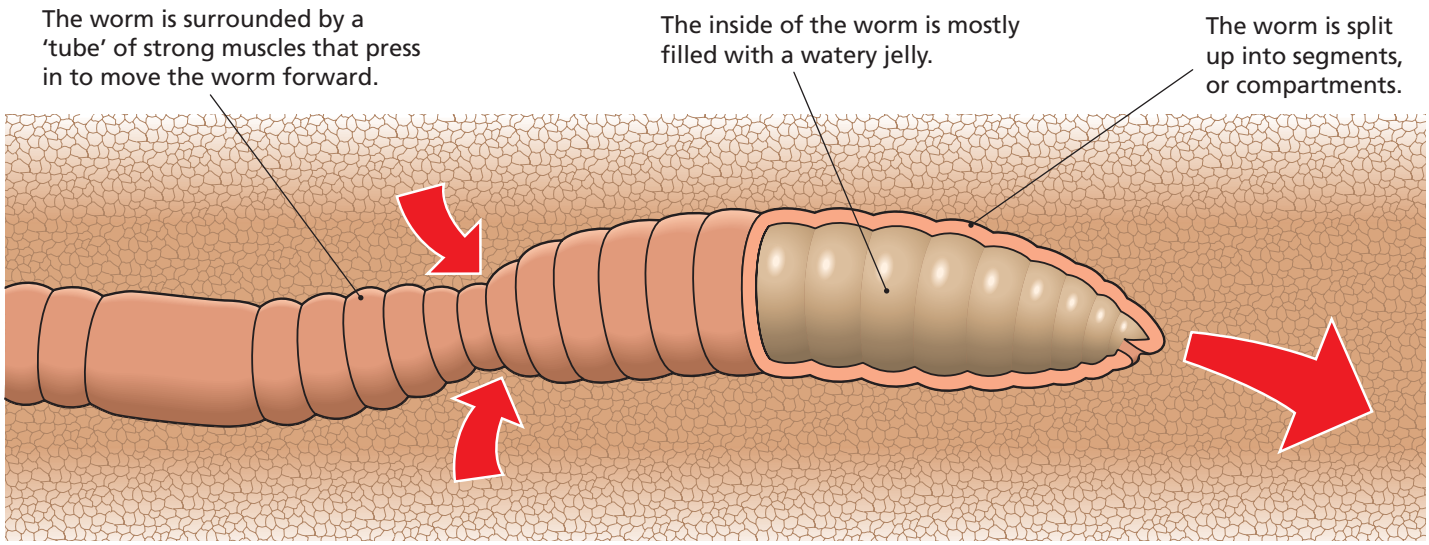
An insect flies by changing the shape of its skeleton where the wings are attached. One set of muscles pulls the skeleton down so that the wings go up, and the other set pulls the skeleton up so that the wings are forced down.

Many sea-living animals, such as crabs, prawns and lobsters, also have an outside skeleton called a shell (Picture 3).

Another group of animals with shells are snails, mussels, oysters and **CLAMS**. Together they are often called **MOLLUSCS** (Picture 4).

Some molluscs move by opening and shutting their shells quickly. This forces out the water and pushes them along.

▼ (Picture 1) What the inside of a worm looks like.



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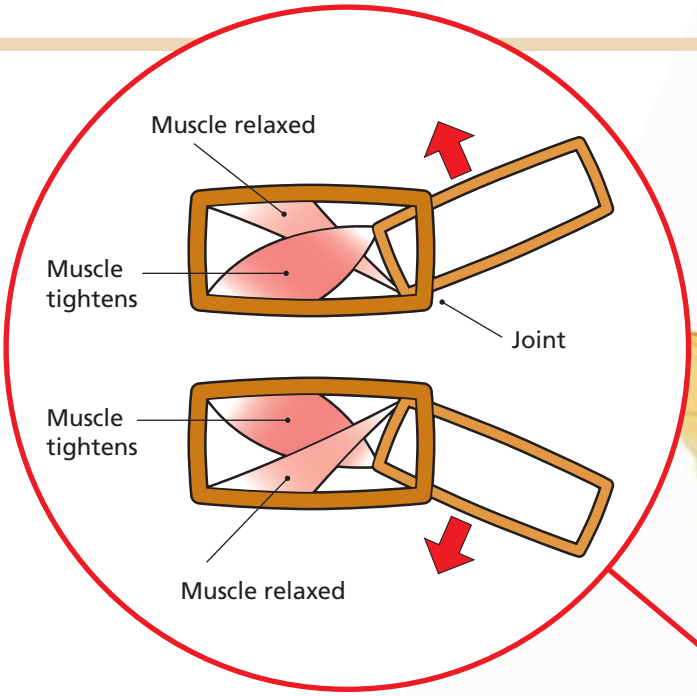
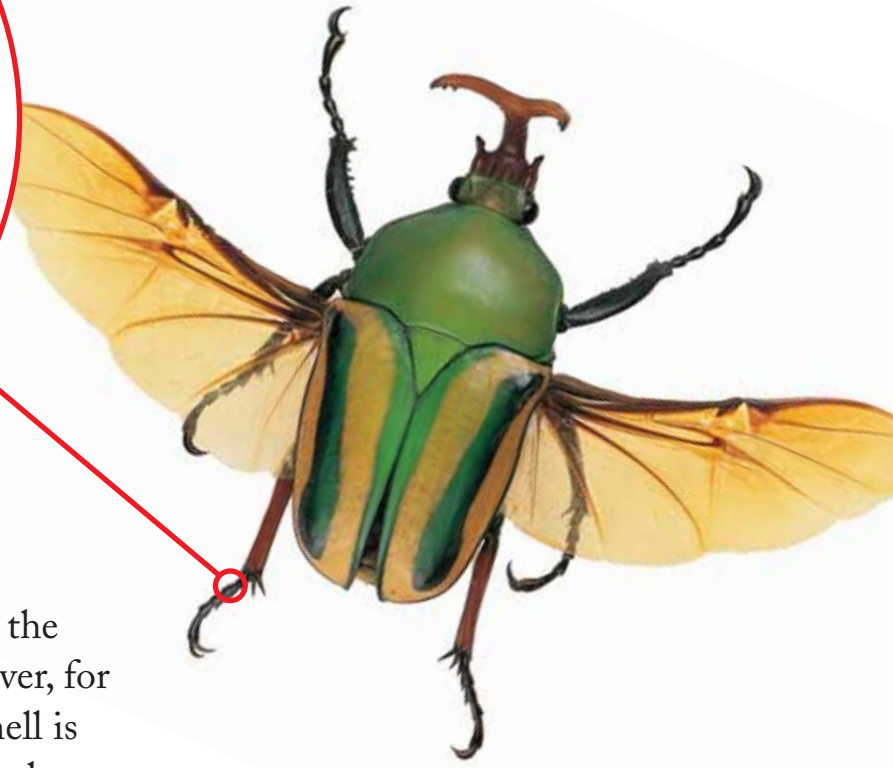
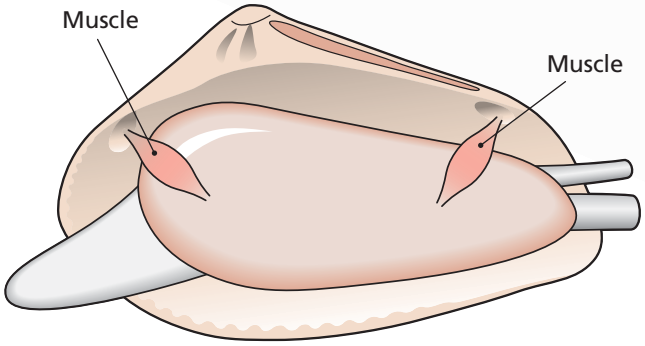




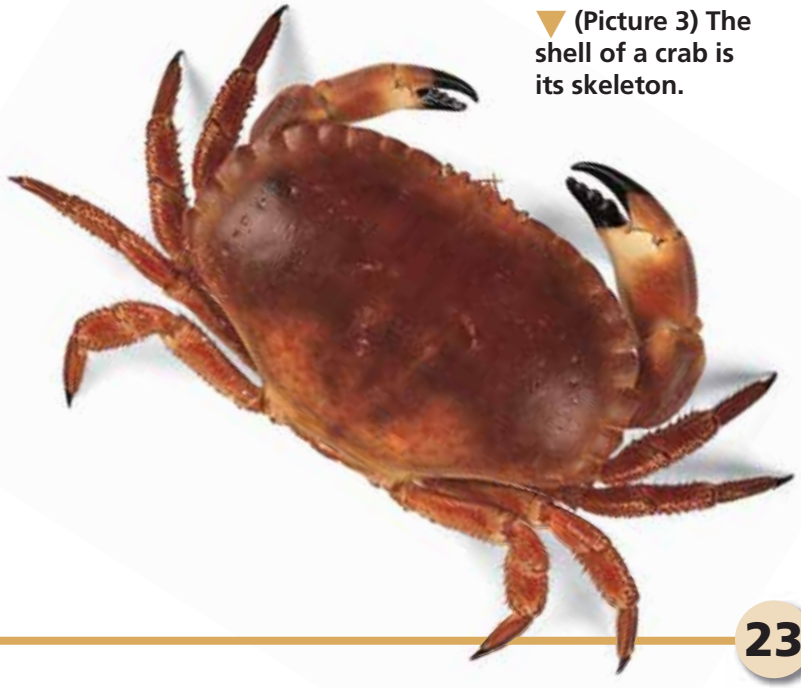
(Picture 2) Insects have a hard, rigid skeleton on the outside. Sections of the skeleton are connected at joints and moved by muscles on the inside.

How shelled animals grow

Some shells change size and grow with the animal. Clam shells are like this. However, for insects, crabs and lobsters, living in a shell is like living in a suit of armour. The animal might grow, but the shell does not. As a result, from time to time the animal has to squeeze out of its shell and then quickly grow another, bigger one. This is called **MOULTING**.



(Picture 4) Clams and similarly shelled animals are very soft inside. They attach themselves to each of their shells and use their muscles to open and close their shells.



(Picture 3) The shell of a crab is its skeleton.

Summary

- Some animals have a watery skeleton.
- Some animals, such as insects, have a hard, outer skeleton.
- To grow, an animal with a hard, outer skeleton has to moult.

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