

Rockpool Fact File

Rockpools are found across the UK. They are fascinating habitats and provide a home to a diverse range of plants and animals that have adapted to live in this harsh, ever-changing environment.

Harsh conditions



Changing tides – The area is covered with water twice a day at high tide and drained of water twice a day at low tide. Only the pools retain water. When there is no water, this leads to two main problems:



Drying out – Lack of water can cause animals to dry out especially on hot or windy days.



Lack of oxygen – Some animals, like fish, need to be in the water to breathe. Other creatures, like crabs, can breathe both in and out of the water.



Waves – Rockpools are often found on exposed coastlines and animals have to be able to withstand strong waves.



Sunlight – As the rockpools are shallow, on strong sunny days the sun can heat the water in the pools and evaporate some of the water. This can lead to increased salinity in the pools.



Rain – Rainwater can reduce the salinity of saltwater in the pools.



People – When people walk along the coast and through the pools they can accidentally stand on creatures. People can also harm creatures when picking up and returning them when rockpooling.



Competition – The competition is high in rockpools due to creatures fighting for space during low tide. This is bad news for creatures ending up in the same pools as their predator.

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Why are rockpools great to live in?

The rocky substrate provides a hard surface for seaweeds to attach. These seaweeds provide shelter and food for many other species. The cracks and crevices in the rocks and under boulders provide shelter for animals.



Rockpools
© MCS/Rachel Wyatt

Adaptations

Animals living in rockpools have to be well adapted to cope with the harsh ever-changing environment and high competition for space.



© Matt Barnes

Anemones have tentacles which they use to catch tiny food particles and plankton floating in the water. When the tide is out they curl up into a ball shape to avoid drying out and conserve energy.



© Richard Harrington

Limpets have many adaptation features. They have a strong foot gluing them to the rocks, which helps protect them from waves, and a hard shell to protect from predators. They are able to store water under their shells to be able to breath out of water and avoid drying out at low tide.

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Adaptations



Crabs have a hard shell which helps protect them from predators and strong waves. Their sharp claws are used for feeding and fighting off predators or competition.



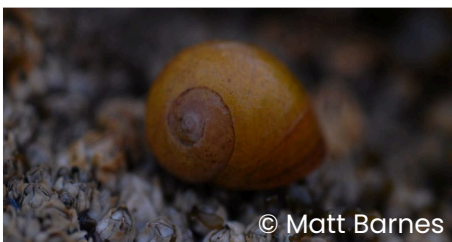
Barnacles are attached to the rocks with their heads, and once attached they can't move. Along with their hard outer shell, this protects them from waves. They have a door-like structure which is closed at low tide and open during high tide. When covered by water, they eat with their feet.



Sea scorpions have a sharp spine to deter predators and competition.



Blennies have slime-covered skin to help them slide between rocks and to help them stop drying out if temporarily caught out of water.



Sea snails are very varied and different sea snails are adapted to different parts of the rocky shore, this reduces competition for food.

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Zones

Rocky shores can be split into different zones depending on exposure to water. This determines the diversity of species in each zone.

- **Subtidal zone** is the area covered by water at all times and not affected by the tides.
- **The lower shore** is normally always underwater but exposed during large Spring tides.
- **The middle shore** is uncovered by the tide twice a day. It experiences the most wave action so animals here need to be hardy.
- **The upper shore** is above the high tide mark because this area only gets covered with water on really high tides. There are fewer species found here.
- **The splash zone** is at the very top of the shore and is influenced by salt spray.

**Subtidal
zone**

**Lower
Zone**

**Middle
Shore**

**Upper
Shore**

**Splash
Zone**



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Grouping animals

Animals are grouped according to their physical and behavioural characteristics.



Fish

Are cold blooded aquatic vertebrates which use gills to breathe.



Echinoderm

Their name comes from the Greek for spiny skin. They have radial symmetry. Starfish, sea urchins and sea cucumbers are all echinoderms.



Crustaceans

Are a type of arthropod. The most famous crustacean on land is the woodlouse. In the ocean, common well known crustaceans include crabs, barnacles, and lobsters.



Molluscs

Are soft bodied, un-segmented animals with a large muscular foot, including, snails, slugs, shellfish and octopuses.



Cnidaria

Their distinguishing feature is their cnidocytes (stinging cells), which are used predominantly for capturing prey. Examples of cnidaria include jellyfish and anemones



Sea squirts

Also called ascidians, belong to the subphylum Tunicate. They are predominantly fixed to a substrate and can live individually or in colonies. Their common name comes from their ability to eject water from a siphon when touched.



Sponges

Belong to the phylum Porifera, meaning pore bearer, as their bodies are full of pores which circulate water through them.

The animals in the rockpool spotter guide can be grouped into the following groups:

Fish - Tompot blenny, sea scorpion, pipefish

Echinoderm - Cushion starfish

Crustaceans - Prawn, Shore Crab, Velvet swimming crab, Hermit crab, Barnacles

Mollusc - Grey top shell, Common periwinkle, Common limpet, Dog whelk

Cnidarian - Beadlet anemone

Sea squirt - Star ascidian

Sponge - Breadcrumb sponge