

Knowledge Organiser – How do animals survive in our world’s seas and oceans?

| Subject Specific Vocabulary | |
|-----------------------------|---|
| adapt | A change in an animal or plant that helps it to survive in its environment |
| camouflage | The way some animals are coloured |
| Climate | The weather conditions in a place over time. |
| Conservation | The protection of an animal or area from damage. |
| coral | Marine invertebrates that live in large colonies and produce a hard exoskeleton. |
| habitat | The natural environment where a plant or animal normally lives. |
| oceanography | The study of the oceans and every thing in them. |
| organism | An individual animal, plant or microorganism. |
| species | A group of animals or plants that share the same characteristics and can breed with each other. |
| submarine | A ship that can travel underwater. |

Sticky knowledge

Food chains

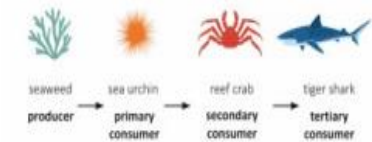
All living things need energy to survive . Food chains show where living things get their energy and how all species in an environment depend on each other. If a produce in a food chain is in short supply, it will affect all the consumers in that food chain

Producers are found at the beginning of a food chain. They are usually green plants. They use energy from the sun to make their own food in a process called photosynthesis.

Consumers get energy from eating plants and animals.

Prey are animals that are eaten by other animals.

Predators are animals that hunt, kill and eat other animals to get their food.



Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates. These groups can be further subdivided. Classification keys are scientific tools that aid the identification of living things.



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| annelid | A group of animals that includes worms. |
| arthropod | An invertebrate with an exoskeleton e.g. spiders and insects |
| cnidarian | A type of marine animal e.g. coral or jellyfish |
| echinoderm | A type of marine animal e.g. starfish and sea urchins |
| fish | An aquatic animal that has gills. |
| mammal | A vertebrate animal that produces milk for its young. |
| mollusc | An group of invertebrates usually found in water e.g. octopus |

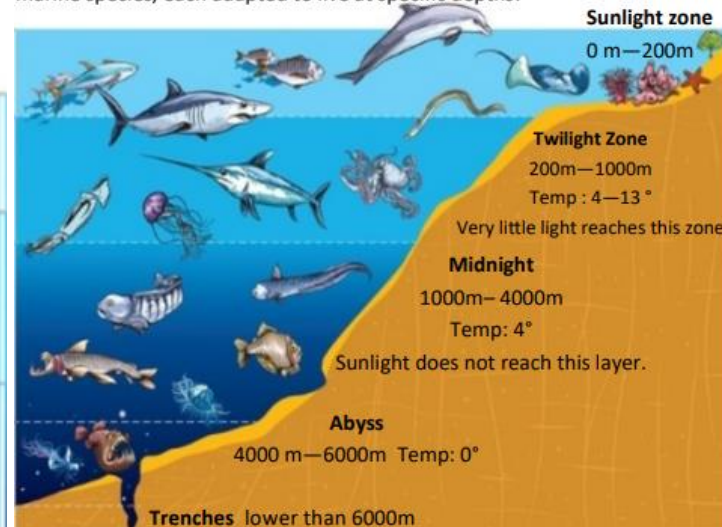
Great Barrier Reef

Corals are marine invertebrates that live in large groups called colonies. Some species produce hard exoskeleton that forms into a coral reef. The Great Barrier Reef, in the north-eastern coast of Australia, is the longest and largest coral reef in the world with over 600 type of coral. Corals are at risk of being destroyed by climate change, pollution and consumers.



Sticky knowledge

The ocean has five different layers. As the depth increases the temperature and light levels fall and the pressure rises making it a difficult place to live. Oceans are home to hundreds of thousands of marine species, each adapted to live at specific depths.



Bioluminescence

Some marine animals have chemicals in their cells that make light or bacteria that live on them and produce light. Bioluminescence can be used as defence, camouflage, to attract prey or to see in the dark. The most common colours of bioluminescence are blue, green and red.



Ocean zones

Sunlight zone
0 m—200m
Most types of fish and animals, including dolphins, turtles, rays, seals, coral and jellyfish, live in this zone.

Twilight Zone
200m—1000m
Temp: 4—13 °
Very little light reaches this zone
Animals such as whales, shrimps, swordfish, hatchet fish and octopuses live in this zone.

Midnight
1000m—4000m
Temp: 4 °
Sunlight does not reach this layer.
In this zone, you will find animals such larger whales, squid, echinoids and blob fish. The only light in this zone is produced by bioluminescent (light-producing) animals, such as the angler fish.

Abyss
4000 m—6000m Temp: 0 °
The organisms that live in this zone include sea spiders, basket stars, medusas and sea pigs.

Trenches
lower than 6000m
Most animals living in this zone are unable to see.