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Opening extract from

Above and Below

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ABOVE and BELOW

For Tim, Noa and Dustin
~ Hanako Chulow

360 DEGREES

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The North Pole

The North Pole is the northernmost point of the Earth and sits in the middle of the Arctic Ocean. In Winter, temperatures can drop as low as -43°C , and many animals migrate south to warmer climates. Those that remain have often developed special features to help them survive.



ice floe

Ice floes are flat masses of free-moving ice that float on the surface of the ocean.

iceberg

Icebergs, in contrast, are large masses of ice that have broken away from glaciers or ice shelves, and are not normally flat. The North Atlantic and Antarctic regions contain the largest number of icebergs in the world.

porpoise

Porpoises are among the smallest marine mammals. They have 60-120 teeth, which are flattened into a spade-like shape at the tip.



orca

One of the world's most powerful predators, the orca's teeth can grow up to 10cm in length.



narwhal

Nicknamed 'the unicorn of the sea', narwhals are famous for the large tusk on their heads. This 'tusk' is actually a tooth that grows right through their lips, and can reach lengths of up to 2.7m.



planktonic copepod

Planktonic copepods are tiny aquatic crustaceans.

harp seal

Spending relatively little time on land, the harp seal is an adept swimmer, feeding on fish and crustaceans.



arctic cod

This cod occurs farther north than any other marine fish.

humpback whale

The humpback whale has grooves on its throat, allowing it to expand when it feeds.



The Ocean

Oceans cover 71% of the Earth's surface and they play a major part in our climate and weather systems. But did you know that more than 95% of the underwater world remains unexplored? That leaves plenty for us to discover!



palm tree

As well as coconuts, different species of palm tree produce a wide variety of fruits.



coral

Coral reefs take millions of years to form. Coral organisms are actually translucent, they get their bright hues from the billions of colourful algae they host.



loggerhead turtle

Females dig a hole in the sand, lay their eggs, then return to the sea. On hatching, the babies must fend for themselves.



starfish

Starfish don't have brains or blood! If necessary, they can re-grow their limbs.



flying fish

This species of fish has evolved to be able to 'fly' as a way of escaping from predators below the water.



crab

There are over 4,500 species of crab, living in both oceans and fresh water.



dolphin

Dolphins are very sociable creatures and use squeaks and whistles to communicate with each other.



albatross

The albatross has the largest wingspan of any bird – up to 3.4m – and it can glide for hours without resting.



The Ocean

cover 71% of the Earth's
major part



octopus

An octopus can change its colour, pattern and texture to match its surroundings – a real master of disguise!



dory fish

Dory fish are demersal, which means that they live near the ocean bed.



There are over 4,500 species of crab, living in both oceans and freshwater.

evolved to be as a way of escaping from predators below the water

fish

Hundreds of species of fish can live in a small area of coral reef, many of them suitably camouflaged.



squid

Squid can squirt black ink to scare off predators when they feel threatened.

butterfly fish

The eye-like dot on the back of a butterfly fish is designed to confuse and distract predators.

clown fish

The female clown fish can lay up to 1,000 eggs at a time.



jellyfish

Jellyfish feed on crustaceans and molluscs, trapping them in a flowing film of mucus.

sea horse

The sea horse is the only known animal species where the male bears the young.



coral

Coral reefs take millions of years to form. Coral organisms are actually translucent; they get their bright hues from the billions of colourful algae they host.



palm tree

coconuts.

