Secrets Beneath the Waves

YEAR 4 KNOWLEDGE ORGANISER

How do living things survive beneath the waves?

LEARNING THIS TERM:	Geography:	Science:	French:	RSE:	Art:	RE:	Games:	PE:	Computing:	Music:
	Ocean layers and pollution	Classification, adaptation and ocean food chains	En ville and directions	Growing and changing	Craft and Design – Fabric of Nature	How do people try to make the world a fairer place?	Striking and fielding with clubs and bats	Gymnastics – floor, vaults, jumps and turns	Repetition in games – Scratch	Xylophones and composition

OUR BLUE PLANET

- About 71% of Earth's surface is covered by ocean.
- The five oceans are Pacific, Atlantic, Indian, Southern and Arctic.
- Seas are usually smaller parts of oceans, often partly surrounded by land.



- Great Barrier Reef: a huge coral reef system off north-eastern Australia.
- Corals are animals called invertebrates. Many live in colonies.



JOURNEY INTO THE DEEP

Not drawn to scale.



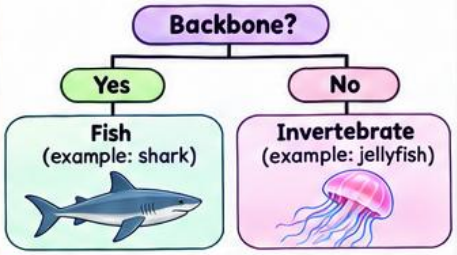
Deeper water has less light and greater pressure. It is generally colder.



Bioluminescence means making light. Some animals use it to attract prey, communicate or hide.

CLASSIFY AND ADAPT

- Classification groups living things by shared features.
- **Vertebrates** have a backbone: mammals, birds, reptiles, amphibians and fish.
- **Invertebrates** have no backbone: for example jellyfish, crabs and corals.
- A classification key uses questions to identify living things.



- **Adaptations** help living things survive.



Fish: gills take oxygen from water.

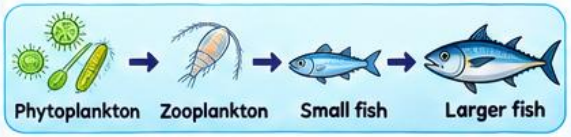


Turtle: flippers help it swim.



Anglerfish: a glowing lure attracts prey.

FOOD CHAINS & OCEAN CARE



- Arrows show energy passing from food to eater.
- **Producers**, such as phytoplankton, use sunlight to make food.
- Consumers get energy by eating other living things.
- A **predator** hunts other animals. **Prey** is eaten by a predator.

PROTECT OUR OCEANS

- Plastic and other pollution can harm marine life.
- Climate change warms oceans and threatens coral reefs.
- Use less disposable plastic, put litter in bins and protect habitats.



KEY VOCABULARY

Marine	relating to the sea.
Habitat	a place where a living thing lives.
Adaptation	a feature that helps a living thing survive.
Classification	grouping by shared characteristics.
Vertebrate	an animal with a backbone.
Invertebrate	an animal without a backbone.
Bioluminescence	light made by a living thing.
Food chain	shows how energy passes between living things.

WE WILL BE ABLE TO...

- ✓ Name and locate the five oceans.
- ✓ Describe the five ocean depth zones.
- ✓ Use a key to classify living things.
- ✓ Explain adaptations and ocean food chains.
- ✓ Suggest ways to reduce ocean pollution.

LEARNING LINKS

Before: Year 3 – The River's Journey: rivers, the water cycle, compass points and pollution.

Build on: locating continents and seas and using maps.



How would you design a submarine for the deep ocean?