

Ocean Conservation



Task 1:

Create an interesting title page for your assignment. It must include the following:

- Title: Ocean Conservation
- A range of colours
- Drawings/pictures related to the assignment topic.

Task 2:

Research endangered or extinct ocean animals/fish. Find four different examples and for each one:

- Draw a picture of the ocean animal/fish or find an image from the internet
- Write the name of the ocean animal/fish
- Describe why it is endangered/extinct

Ensure this is all on one page.

Part 1: What do we mean by Ocean Conservation?

An estimated 12.7 million tonnes of plastic – everything from plastic bottles and bags to microbeads – end up in our oceans each year.

Travelling on ocean currents this plastic is now turning up in every corner of our planet – from Cornish beaches to uninhabited Pacific islands. It is even being found trapped in Arctic ice.

Oceans are slowly turning into a plastic soup and the effects on ocean life are chilling. Big pieces of plastic are choking and entangling turtles and seabirds and tiny pieces are clogging stomachs of creatures who mistake it for food.



Facts:

- The biggest source of pollution in the ocean is directly from land. Thousands of tonnes of plastic waste is dumped into the ocean every day.
- Over one million seabirds are killed by ocean pollution each year. Three hundred thousand dolphins and porpoises die each year as a result of becoming entangled in discarded fishing nets, among other items. One hundred thousand sea mammals are killed by ocean pollution each year.
- Animals are also affected by man-made chemicals released in the water as plastic breaks down.
- There is an island of garbage twice the size of Texas inside the Pacific Ocean: the North Pacific Gyre off the coast of California is the largest oceanic garbage site in the entire world. There, the number of floating plastic pieces outnumbers total marine life six to one.
- Plastic debris can absorb and release toxic chemicals into the ocean poisoning whatever eats it. Plastic does not degrade; instead, it breaks down into progressively smaller pieces, but never disappears.
- Not all courses of contamination in the ocean come from plastic. The dumping of radioactive waste from nuclear reactors, industrial waste (such as heavy metals and acids), and drained sewage are also major contributors to ocean pollution.

Task 3:

You are going to interview someone in your house about the endangering of sea life and what is being done to help protect them.

You need to write between 6 – 8 questions to ask them, and also record their answers.

Examples of questions you might ask:

1. Name a living organism (animal/plant/fish etc.) that is in trouble in our oceans.
2. Does it matter that this living organism is endangered?
3. Why is it endangered?
4. Do you think it is important to reduce the amount of plastic we use? Why?
5. What ideas do you have as to how we can reduce the amount of plastic we use?

Task 4:

Now you have interviewed someone and collected their answers.

How much did they know about the ocean and the issues that it faces?

Task 5:

Read the information on Coral Reefs at the back of this booklet.

Using this information and create a one page factsheet to educate people on coral reefs.

If you have access to the internet, you can add in additional information onto your factsheet.

Part 2: What can we do to help the oceans?

- Reduce the use of single use plastic – don't use straws, plastic utensils, plastic cups or plastic bags
- Recycle
Recycle all plastics to reduce the amount of plastics that need to be manufactured (made) in the first place
- Avoid microbeads
Don't buy facewash, scrubs or toothpaste that contain abrasive plastic microbeads
- Participate in a beach or river clean up or simply pick up any plastic you find when you are at the beach!

Task 6:

Create a poster telling people how we can help the oceans.

- On your poster, include the following:
- A bold title that stands out
- Pictures/drawings to catch people's attention
- Bright colour
- Key pieces of information

If you have access to the internet, you can add in additional information onto your poster.



Part 3: Who's in trouble?

Orca Whales (Killer Whales)



- Orcas are warm-blooded like other mammals.
- A fatty tissue called "blubber" keeps them warm.
- They live in small, close-knit, groups called pods.
- Males usually live into their 40s and females into their 60s.
- They have no predators.

Commercial-Hunting

Orca whales are killed for their fat, skin, flesh and internal organs. This practice has decreased, there is still hunting in Japan, Greenland, Indonesia and some parts of the Caribbean.

Capture for Entertainment

Orca whales are intelligent mammals and are capable of learning to perform aerobatics. Therefore, live catches of killer whales are sometimes made for displaying them in aquariums.

Habitat Pollution. Water pollution directly affects their health. Oil spills are very dangerous accidents that directly affect their body or indirectly through decreased prey.

Albatross



- The albatross is an ocean bird
- They have a wingspan of 11ft, the biggest wingspan of any bird
- They can live for up to 50 years and mate for life
- They spend most of their life at sea flying for long distances. They land to mate and rear their young.

Plastic affects albatrosses as the parents accidentally pick up plastic, mistaking it for fish which they then feed to their young. Plastic fills the stomach of the chick, eventually killing it as it can no longer absorb any nutrients. Even when the parents do feed the chick fish, the fish can contain small pieces of plastic.

Task 7:

Read the information about endangered species above.

Describe how reading about endangered species makes you feel.

Do you think you will make more of an effort to protect the oceans?

Part 4: Washed Ashore

Washed ashore is a non-profit community art project founded by artist and educator, Angela Haseltine Pozzi in Oregon in 2010. They work together with volunteers to clear beaches of litter and plastic waste, which they then use to create recycled plastic sculptures.

Since 2010, Washed Ashore has processed tons of plastic pollution from Pacific beaches to create monumental art that is awakening the hearts and minds of viewers to the global marine debris crisis. They then take these sculptures to schools and museums to raise awareness of ocean pollution and highlight the amount of plastic that washes up on beaches every day.



Task 8:

Collect any plastic from around the home that is not being used or is finished with e.g. drinks bottles, bottle caps, straws, plastic cups, yoghurt pots, shower gel bottles etc.. *Make sure everything is clear before you use it!*

Using the plastic you have, create a sea life creature. *You might need some help from a family member but that is ok!*

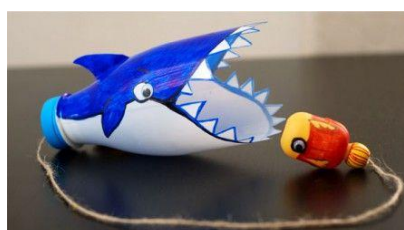
Where to start?

There is no set place to start, but think about the following:

- Sort your plastic out first – into colours/sizes/shape etc.?
- Now you've seen what plastic you've got, draw a rough sketch of your sea creature.
- Think about how you are going to use your plastics, as once it has been cut you can't undo it.

Once you've created your sea creature, if you can, take a photo and email it to hchampaneria@park-aspirations.org

When school returns, we would love for you to bring in your sea creatures!



Coral Reef

The coral reef is one of the major marine biomes. Although it is a relatively small biome, around 25% of the known marine species live in coral reefs.

What is a coral reef?

At first glance, you may think that coral reefs are made up of rocks, but they are actually live organisms. These organisms are tiny little animals called polyps. Polyps live on the outside of the reef. As polyps die, they become hard and new polyps grow on top of them causing the reef to grow.

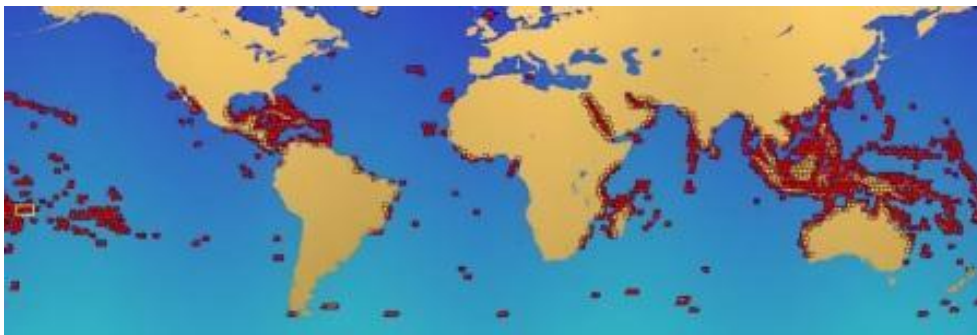
Does the coral reef eat?

Since polyps need to eat to stay alive, you can think of the coral reef as eating, too. They eat small animals called plankton as well as algae. The algae get their food from the sun by using photosynthesis. This is why coral reefs form close to the surface of the water and in clear water where the sun can feed the algae.

Where are coral reefs located?

Coral reefs need warm, shallow water to form. They form close to the equator near coastlines and around islands throughout the world.

A significant portion of the world's coral reefs are located in Southeast Asia and near Australia. The largest coral reef is the Great Barrier Reef located off of Queensland, Australia. The Great Barrier Reef stretches for 2,600 miles.



Coral reefs of the world in red

Types of Coral Reefs

There are three main types of coral reefs:

- Fringe reef - Fringe reefs grow close to the shore line. It can be attached to the shore or there may be a narrow strip of water called a lagoon or channel between the land and the coral reef.
- Barrier reef - Barrier reefs grow further from the shore line, sometimes several miles from the shore.
- Atoll - An atoll is a ring of coral surrounding a lagoon of water. It starts out as a fringe reef around a volcanic island. As the coral grows up, the island sinks into the ocean and just the ring of coral is left. Some atolls are so big that people live on them. An example of this is the Maldives.

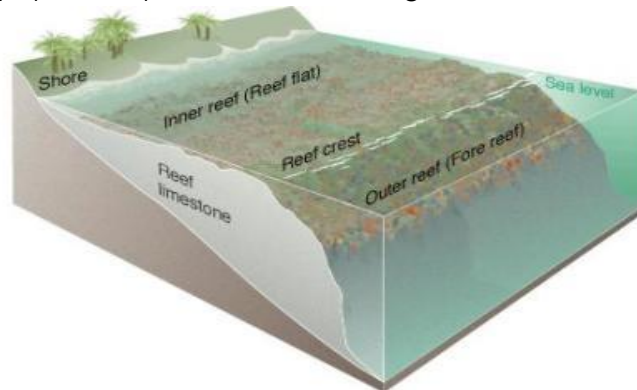


Coral Reef Atoll

Zones of the Coral Reef

After a period of time, coral reefs develop zones. Each zone is inhabited by different kinds of corals, fish, and ocean life.

- Shore or inner reef zone - This area is between the crest and the shoreline. Depending on the shape of the reef, this area can be full of life including fishes, sea cucumbers, starfish, and anemones.
- Crest reef zone - This is the highest point of the reef and where the waves break over the reef.
- Fore or outer reef zone - As the reef wall falls off, the waters get calmer. Around 30 feet deep, you will generally find the most populated part of the reef along with lots of different types of coral species.



The coral reef can be divided into zones

Coral Reef Animals

All sorts of animals live around a coral reef. This includes many different types of corals such as star coral, brain coral, column coral, cactus coral, and finger coral.

Some of the most strange and interesting creatures in the world live here. Many animals attach themselves to the reef covering nearly every square inch. They include sponges, starfish, anemones, cucumbers, snails, and clams. Also, there are lots of [fish](#) swimming around such as cuttlefish, sharks, [lionfish](#), pufferfish, [clownfish](#), and eels. There are 1500 species of fish and 400 species of coral that live on the Great Barrier Reef alone.

Coral Reef Plants

The majority of the plants living on the coral reef are various species of sea grass, seaweed, and algae.

Why are the coral reefs important?

Besides being beautiful, a tourist attraction, and an important part of planet Earth, coral reefs have a positive impact on many people throughout the world. This includes food from fishing, protection of coastlines from [erosion](#), and even medical discoveries such as medicines for cancer.

Are they in danger?

Yes, the coral reefs are slowly being destroyed. Since they grow at such a slow rate, they are disintegrating faster than they can be repaired. Much of the damage is caused by humans, primarily from [pollution](#) and overfishing. Even tourists can damage the reefs by standing on them, touching them, or bumping into them with their boats.

Facts about the Coral Reef

- Coral reefs grow very slowly. Large reefs grow at the rate of 1 to 2 cm per year. It's estimated that some of the largest reefs took as long as 30 million years to form.
- Some animals in the coral reef have symbiotic relationships. This means they help each other to survive. The clownfish and the anemone are one example of this.
- Different types of coral grow into different shapes. Some look like mushrooms, some trees, fans, honeycombs, flowers, and even brains.
- The Great Barrier Reef is so big it can be seen from outer space.
- Some coral reefs have turned white because they lose their algae when the water gets too salty or warm.