



EDUCATOR GUIDE: COASTAL SEAS

INSTRUCTIONS

1. Direct students to watch the [Our Planet Coastal Seas episode](#) on YouTube.
OR discuss Coastal Seas on a class call, and show the [Coastal Seas Biome Tour video](#) on [ourplanet.com](#) to fuel a class discussion on the qualities and importance of coastal ecosystems to people, the wildlife and the planet. Tips for using videos to prompt constructive discussions can be found in the [Our Planet Their Future Educator's Guide](#) (PDF).
2. Direct students to watch '[How to Save Our Coastal Seas](#)', on [ourplanet.com](#), narrated by Sir David Attenborough.
3. Direct students to spend some time visiting the Coastal Seas biome on our [explorable globe](#). Students should then use the information in the video above and collected from the interactive globe to complete the questions and tasks below. Suggested answers are included in this version.

- 1. Using the explorable globe to help you, list some of the different coastal sea habitats that can be found on our planet and give examples of the species that can be found in these waters.**

Use the filming location videos to help you with this question.

Coastal Sea Habitats (target: __)

Coastal Sea Species (target: __)

Coral reefs, Icy shallows, Kelp forests, Mangrove

Corals, Urchins, Sea Otters, Fish, Reef Sharks, Fur seals, Sea lions, Herring, Whales, Bottle-nose dolphins, Mobula rays, Giant Trevally, Anchovies

- 2. Wild fish populations are decreasing almost everywhere. Find and list the overfishing statistic for each of the oceans below:**

- a) **Atlantic:** 45% overfished
- b) **Mediterranean and Black Sea:** 50% overfished
- c) **Indian Ocean:** 23% overfished
- d) **Southern Ocean:** 20% overfished

- 3. Explain why 'Overfishing' is happening in our seas and why it is a problem. Include statistics in your answer:**

Over the years, mankind has been catching too many fish. Our industrial fishing fleets have multiplied, and we have become smarter at finding and catching fish. This has exhausted fish populations and pushed species to the brink. **For every large ten fish that should be swimming in our oceans, there is only 1 today.**

If we continue, 90% of all fish stocks will be overfished by 2050.	
4. List 4 characteristics of fish that means it is easy to replenish our coastal seas and reverse the effects of over-fishing:	
<ul style="list-style-type: none"> • Coastal fish grow fast • Coastal fish have lots of young • Fish never stop growing • As a fish grows bigger it has <i>exponentially</i> more young 	
5. Explain why the characteristics you have listed could help us to restore coastal seas	
If we allowed more fish to live to grow older, they would have more and more young meaning that there would be many more fish in the sea. More fish would help sustain more of the creatures that eat fish too leading to a thriving ecosystem to keep fish stocks plentiful.	
6. For each of the two actions that can be taken to restore our planet's coastal seas, list the ways they work to restore ocean populations and benefit human needs.	
Action	Impacts / How it works
Create marine reserves (aim for 4-5 points)	<ul style="list-style-type: none"> • In marine reserves that exist around the world, fish numbers have bounced back. • Marine reserves protect fish to allow them to grow old and big, producing many more fish. • There are no physical barriers, so soon the surrounding waters start to fill with fish and this provides a steady supply of fish to local fishermen without reducing the core breeding fish. • Fishermen can catch more fish than they used to.
Smart Fishing (aim for 4 points)	<ul style="list-style-type: none"> • Limiting the places where we fish to leave protected sites and overall spending less time and money on over-fishing will allow fish populations to bounce back. • Fishermen could spend less time working, but catch more fish. • Profits could increase by 53 billion US dollars a year. • We could carry on fishing sustainably forever and feed more people, whilst protecting the richness of ocean biodiversity.
7. List any ways you can think of that individuals at home can help to protect our coastal seas:	
<ul style="list-style-type: none"> • Opt for fish from sustainable stocks • Look for the Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) labels when shopping. • Avoid using single-use plastics 	

- Reducing your carbon-footprint
- Avoid coral-reef tourism/ look for sustainable alternatives

8. Watch [this video](#) on reef health. Draw, or copy and paste, a picture of the reef shown and label the different organisms that live there. Beneath, write a short paragraph explaining why sharks are a sign of a healthy reef and the important role they play.

Species labelled: Corals, algae, grazing fish, predatory fish, sharks

Paragraph:

Coastal waters are “fish factories” with millions of baby fish emerging every day. Sharks help to keep fish numbers under control and the reef in balance. The corals in our reefs need lots of grazing fish to keep the algae that covers them at bay, Sharks protect these grazing fish by eating the bigger fish that prey on these smaller species. Without sharks, there would be too many predatory fish eating the algae-eating fish, which would result in the corals being swamped by algae and dying. Therefore, lots of sharks are a sign of a healthy balanced reef.

LINKS TO THE SUSTAINABLE DEVELOPMENT GOALS



GOAL 14: Conserve and sustainably use the oceans, seas and marine resources. un.org/sustainabledevelopment/oceans/

Ensuring a healthy and productive future for our oceans also contributes to other SDG goals, including the following:

- **GOAL 1:** No Poverty
- **GOAL 2:** Zero Hunger
- **GOAL 3:** Good Health and Well-being
- **GOAL 8:** Decent Work and Economic Growth
- **GOAL 12:** Responsible Consumption and Production
- **GOAL 13:** Climate Action

DISCUSSION PROMPTS

Use these prompts to generate a class or small group discussion online based on the Freshwater episode of *Our Planet*, or videos on ourplanet.com.

1. Can you describe the ocean that you have just seen?

2. What does it look like? What surprised you most?

Allow children to convey their sense of wonder at these underwater places that they will probably never have seen. To create a relaxed group setting, give children time to talk together in pairs, before sharing their thoughts with the whole group.

3. Which is your favourite sea creature and why?

4. What does the sea give us?

The sea gives us food, but it also provides us with water activities and beaches to play on. Millions of people depend on the sea to earn their living. Even if we don't live near the sea, it plays a big part in our lives.

5. Why do we need our oceans?

They provide us with food, they supply us with clean air to breathe, they soak up dangerous carbon dioxide in the earth's atmosphere and they help to regulate our climate.

6. What do you think is harming high seas and the wildlife that live there?

Over-fishing, mining, shipping, pollution

7. How can we look after the seas?

It is important to help children understand that we can all do something about the challenges that our planet faces. Reducing our carbon footprint and saving energy, is a small step that can make a big difference. We can also make sure we eat fish with an MSC label, keep beaches clean, use less plastic, and support organisations that are working to protect the seas.

8. Imagine it is 2030 (12 years time). What do you hope oceans would be like? What would you want to be different about how we treat them?

Lots of fish, big variety of different marine creatures, clean, areas with no fishing (MPAs), lots of fish caught to eat – but enough left behind to keep the population healthy.

9. Why are Marine Protected Areas (MPAs) important?

MPAs provide safe areas where animals and plants are protected so that the oceans can be replenished.

10. Why is no one stopping these things happening?

International waters belong to no country so no one has responsibility to protect.

11. What do you think could be done to make things better?

International treaties on use of the high seas, including protected areas (MPAs).

EXTENSION ACTIVITY IDEAS

KS2-3

Activity idea	Subjects
Work collaboratively to create a sea mural.	Art Geography
Design a poster or storyboard a TV campaign aimed at persuading people to buy responsibly sourced seafood.	Art, Literacy, Citizenship
In groups, make a board game based on the environmental issues faced by the coastal seas.	Art & Design, Literacy, Geography
We are still discovering new species in the deep sea. Research real recent discoveries. Imagine and draw a creature that you might discover. What are its characteristics and why has it evolved in that way? Remember to give it a name!	Art, Science
Imagine you are world leaders, and work together to come up with an agreement about how you will work together to look after the oceans. Remember – you still want to be able to benefit from the sea, but you need to ensure that those benefits are still available in the years to come. When you have come up with your treaty, hold a press conference to answer questions from other groups.	Citizenship, Geography, Drama
Work collaboratively to create a sea mural.	Art, Geography

KS3-4

Activity idea	Subjects
<p>Design a large billboard, poster or social media header to raise awareness about the need to protect our coastal seas. You can produce this digitally or by hand using any mediums you like (collage, acrylic, oils, watercolour, pen, graphite). It must:</p> <ul style="list-style-type: none"> • Have clear messaging and/or a “punchy” tagline/hashtag • Clearly show the damage that is being done to our coastal ecosystems and what the causes are • Show the ramifications of what could happen if we don’t act • Show the benefits of what could happen if we do act 	<p>Art, Media, Citizenship</p>
<p>Imagine you are a TV reporter. You’ve been asked to present an exclusive News Feature explaining the vital role that marine reserves and smart fishing can play in restoring life to our coastal seas. You will need to plan and write a 3-5 minute speech (aim for half a side to a side of A4). Try to include a range of techniques to engage and persuade the viewers at home, for example: facts and statistics, rhetorical questions, lists of three and direct address (you, I, we). Once you have written your speech, why not practise your presentation skills and ask a family member to film you delivering it news-report style.</p>	<p>English, Drama</p>
<p>Find and watch ‘Skeleton Coral’ on the explorable globe, then read this information on Coral Bleaching. Draw a storyboard or series of diagrams showing the effects of rising water temperature and pollution levels on coral in coastal seas. Remember to use a pencil and ruler and clearly label each part of your diagram / storyboard with what is happening. Use the box on the right to help you label/plan your diagrams or storyboard.</p>	<div data-bbox="778 1111 1185 1473" style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> • Healthy sea (low levels pollution, normal water temperature) • Unhealthy sea (high levels pollution, increased water temperature) • Zooxanthellae algae • Expelling of algae • Brightly coloured coral • Fading coral • Bleached/white coral • Factors increasing water temperature </div> <p>Biology, Geography, Art</p>