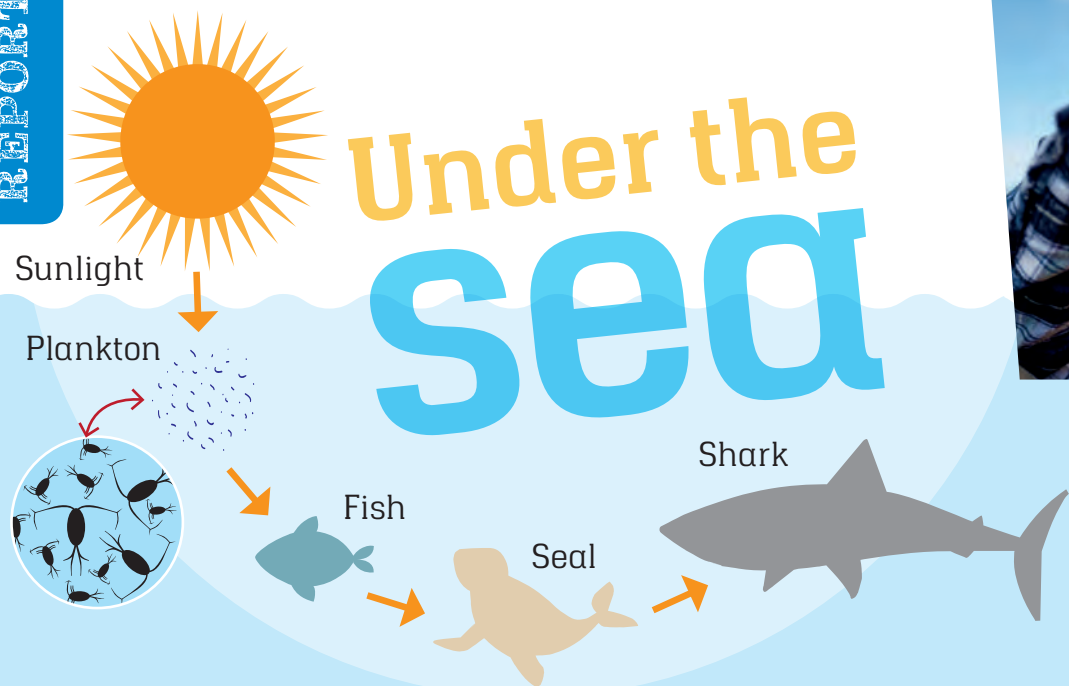


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Food chains

A food chain describes what animals eat. In the ocean, the animals at the top of the food chain are often large and fast, like sharks. But what is at the bottom? The answer is plankton. Plankton are microscopic plants and animals that float around in the sea. Plant plankton use the light from the sun to create energy. They are at the the start of the food chain. Then, animal plankton eat the plant plankton. And, in turn, the animal plankton become food for the marine food chain – fish, corals, and even sharks! The whale shark is the largest fish in the sea and its favourite food is plankton.

Plankton power

Plankton may be tiny, but they are very important. Plant plankton make 50% of the oxygen on Earth. So we need plankton to breathe!

And some plankton make their own light. This is called bioluminescence. When millions of tiny plankton glow together, it makes the sea glow in the dark.





Working with water

Marine biology is the study of life in the sea.

And people who do this are called marine biologists. They work underwater, on boats and in science labs*. They can study anything from huge* whales to tiny invisible* plankton.

- **breathe:** move air in and out of the lungs through the mouth
- **corals:**



- **float:** move slowly around in water or air
- **glow:** make light
- **huge:** very big
- **invisible:** that you can't see
- **labs:** laboratories where scientists work
- **microscopic:** very very small
- **oxygen:** the air we breathe
- **tiny:** very small




1 Listen to the marine biologist talking about his job. Then answer the questions.

- a** What type of boat does the marine biologist use?
- ☐ a dinghy
 - ☐ a fishing boat
 - ☐ a shipwreck
- b** What do the university students help collect?
- ☐ water samples from the sea
 - ☐ fish from the coral reefs
 - ☐ sand from the beach
- c** What does the marine biologist say is in Plymouth?
- ☐ a beautiful beach
 - ☐ a famous surf school
 - ☐ a Marine Biology Centre

Listen in

Sea and see are homophones. They have different spelling, but you pronounce them the same way.



- 2**  **Listen, then repeat the sentence.**
And I can't wait to see all the sea animals that you have here!



- 3 Match the homophones, then listen and check.**

- | | |
|--|----------------|
| a <input type="checkbox"/> ate | 1 high |
| b <input type="checkbox"/> bye | 2 whole |
| c <input type="checkbox"/> hole | 3 eight |
| d <input type="checkbox"/> hi | 4 buy |

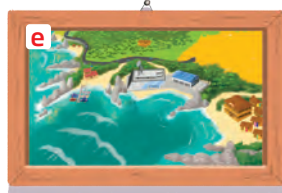
Before Reading

1 Match the words below to the pictures. Use a dictionary if necessary.

- ☐ bay
- ☐ bioluminescence
- ☐ coast

- ☐ diving
- ☐ jet-ski
- ☐ seal

- ☐ shark
- ☐ shipwreck
- ☐ surfing



2 Use words from Exercise 1 to complete the sentences.

- a Mako was attacked by a when he was young.
- b Can we go diving to see the old?
- c Along the, there was a factory in the middle of the beautiful beaches.
- d They jumped on the and raced across the bay.
- e Midnight Bay is perfect for , because there are no rocks.

Listen in



3 Think of how you say *coast*. Then listen and tick (✓) the words with the same vowel sound (*coast*).

☐ boat

☐ glow

☐ koala

☐ coat

☐ hall

☐ saw

☐ close

☐ know

☐ show



4 Listen to an extract from the story. Then complete the sentences with words from the box.

glow expert trip amazing few excited about
waiting Professor outside dressed

California was too hot! She was **a**..... for the English spring, in jeans and a jumper. She took her jumper off and put it in her bag. She hoped that someone was **b**..... for her. She looked up and down the line of faces. A **c**..... people had signs with names on. "Welcome back, Ted!", "We missed you, Mum". Nothing with "Rosa Daniels".

She went and sat on a bench **d**..... She was very tired, but very **e**....., too. This was her first **f**..... to America! And an **g**..... opportunity, studying sea animals on a summer exchange programme. Awesome! Her friends were so jealous. Plus, it was a chance to work with **h**..... Kato! He was an **i**..... on bioluminescence. She knew everything **j**..... his work. It was really interesting - animals that could **k**.....!

5 Think about the following questions.

a Where does Rosa live?

b If you could go to another country to study, where would you go and what would you study?


c What makes you jealous?

d What do you want to be an expert on?

6  Share your answers with a friend.



1 California

 Rosa picked up her backpack from the floor and walked out into the arrivals terminal. It wasn't really a terminal – the airport was too small for that. It was just a small hall. She checked her phone – there was no free wi-fi here, and roaming was expensive. She texted her mum to let her know she was OK. What time was it in England? Were they behind or ahead? They must be seven or eight hours ahead... so... it was 3.15 p.m. back home in Bristol. It felt like a world away. Car, plane, plane, here. What time did she leave? What day was it?

California was too hot! She was dressed for the English spring, in jeans and a jumper. She took her jumper off and put it in her bag. She hoped that someone was waiting for her. She looked up and down the line of faces. A few people had signs with names on. “Welcome back, Ted!”, “We missed you, Mum”. Nothing with “Rosa Daniels”.

GLOSSARY

- **a world away:** (here) a totally different world
- **checked:** (here) looked at
- **roaming:** ability to send and receive calls and messages when in a different country
- **texted:** sent a message

She went and sat on a bench outside. She was very tired, but very excited, too. This was her first trip to America! And an amazing opportunity, studying sea animals on a summer exchange programme[•]. Awesome[•]! Her friends were so jealous. Plus, it was a chance to work with Professor Kato! He was an expert on bioluminescence. She knew everything about his work. It was really interesting – animals that could glow!

Her phone beeped. It was a message from her mum, happy to know that she was OK, sending her love, and asking her to take lots of photos! *Well, obviously!*

‘Erm... excuse me, Miss?’ A voice made her jump.

‘Hello!’ she said and looked up. There was a young man standing in front of her. He had blond hair, like a surfer, and an old blue shirt. He was wearing shorts and trainers[•].

‘Can I... help you?’ said Rosa. She wasn’t sure about this man.

‘Are you...’ the man looked down at a piece of paper in his hand, ‘Rosa Daniels?’

‘Oh! Yes! I am!’ she said

‘Great! Nice to meet you!’ The man held his hand out, ‘I’m Sonny, the biology teacher at Midnight Bay High School, welcome to our little town!’

Rosa shook his hand and stood up.

‘Let me take your bag!’ I’m so sorry I was late! It was crazy today at the university,’ he said. He spoke quickly, like he was in a hurry to finish his sentences.

‘The university?’ asked Rosa as they walked outside and across the small car park.

‘Yes! They help arrange[•] the summer exchange programme. We’re only a small high school, but thanks to the university we can work on some really exciting projects!’ Sonny opened the door of an old blue car and put Rosa’s backpack[•] on the back seat.

GLOSSARY

- **arrange:** organise
- **awesome:** great
- **backpack:** bag you carry on your back
- **exchange programme:** course where students study in a different place
- **trainers:** sports shoes

‘You’re going to work from the school’s Marine Biology Centre. Actually, it’s pretty• big and lots of university students and professors work with us, too. Free help I guess!’

Rosa opened the passenger• door. There were piles• of papers and letters on the front seat. The envelope on the top had the word ZORRO in big letters on it. She picked everything up and put it on the back seat. On the floor of the car were a pair of wet boots and jeans.

Sonny sat in the car and saw her looking in the back.

‘Ah! Sorry, it’s such a mess•... really busy days with all the research... collecting animals, you know. Lots to do.’

He turned the keys in the car and turned the air-conditioning• on. Music started playing on the stereo. It was an old French song.

Sonny quickly changed it to the radio.

‘My mother was French, I listen to her old songs sometimes. Do you want to go straight to your host family•? Or do you want to see the school and meet Professor Kato first?’ he said with a smile.

‘Oh, I’d love to meet the professor!’ said Rosa.

‘Not a problem!’ said Sonny.

They drove away from the small airport. They were on their way to Midnight Bay.



-
- **air-conditioning:** system to keep air cool
 - **host family:** family she is staying with
 - **mess:** untidy area
 - **passenger:** person travelling in a car, bus, train but not driving
 - **piles:** lots (one on top of the other)
 - **pretty:** (here) quite (not as much as very)

After Reading

Over to you

- 1 Why is Zorro Cars polluting the bay? First, write your clues below.



- 2 Now look at the pictures and choose two people who know why Zorro Cars is polluting the bay. Tick (✓).



- 3  Now tell a friend, explaining why.



- 4 Listen and check.

After Reading

Listen in  and Debate



activist

someone who tries to cause social or political change through their actions

Mikaela Loach is a young British **climate activist** who spends all of her free time fighting to save the planet. When she was a teenager, Mikaela suffered from climate anxiety, and she couldn't sleep because she was so worried about the future. Then she decided to become an activist. She changed her habits. She became vegan and stopped buying fast fashion. But she decided to do more. Now she makes climate documentaries and has over 100,000 followers on her social media channels. 'No one is going to save us,' says Loach. 'Our governments are not going to save us. The only people that can save us are ourselves.'

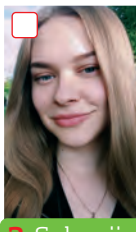
Can young people make a real difference to the environment?



- 1 We asked this question to four teenagers. Who agrees? Listen and tick (✓).**



1 David



2 Solomiia



3 Marcos



4 Tamara



- 2 Listen again and write the correct names.**

- a** says that it is not fair to ask young people to change things.
- b** says that young people can ask their parents to help the environment.
- c** says that governments don't listen to young people.
- d** says that if lots of young people change, then they can make a difference.

- 3 Think. Who do you agree with?**



WHAT ARE FOSSIL FUELS?

Fossil fuels are made from dead plants and animals. They can be found deep inside the Earth. Oil, natural gas, and coal are all fossil fuels. Using fossil fuels causes climate change.



4  What are fossil fuels used for? Tick (✓) below, then share ideas with a friend. Listen and check.

- | | |
|--|---|
| <input type="checkbox"/> To grow our food | <input type="checkbox"/> To make some medicines |
| <input type="checkbox"/> To heat our homes | <input type="checkbox"/> To make mobile phones |
| <input type="checkbox"/> To make our cars and buses go | <input type="checkbox"/> To make plastic |
| <input type="checkbox"/> To make electricity | <input type="checkbox"/> To make power for industry |


What are the problems with fossil fuels?

5 Read, then complete the text with the missing words.

global warming
non-renewable
pollution

- They are They took millions of years to create and we have already used a lot of them.
- Burning them creates carbon dioxide which keeps the heat from the Sun in the Earth's atmosphere. This is one of the causes of
- They cause to the air, ground and water, and harm wildlife.

DEBATE

6  In two groups, discuss the question below. Do you agree? Say why, or why not. Give reasons and examples. Use the quotes to help.

Can young people make a real difference to the environment?



I AGREE

GRETA THUNBERG
(Activist)

"I have learned you are never too small to make a difference."



I DISAGREE

ARNOLD SCHWARZENEGGER
(Actor and politician)

"Combating climate change requires collaboration with many levels of government."