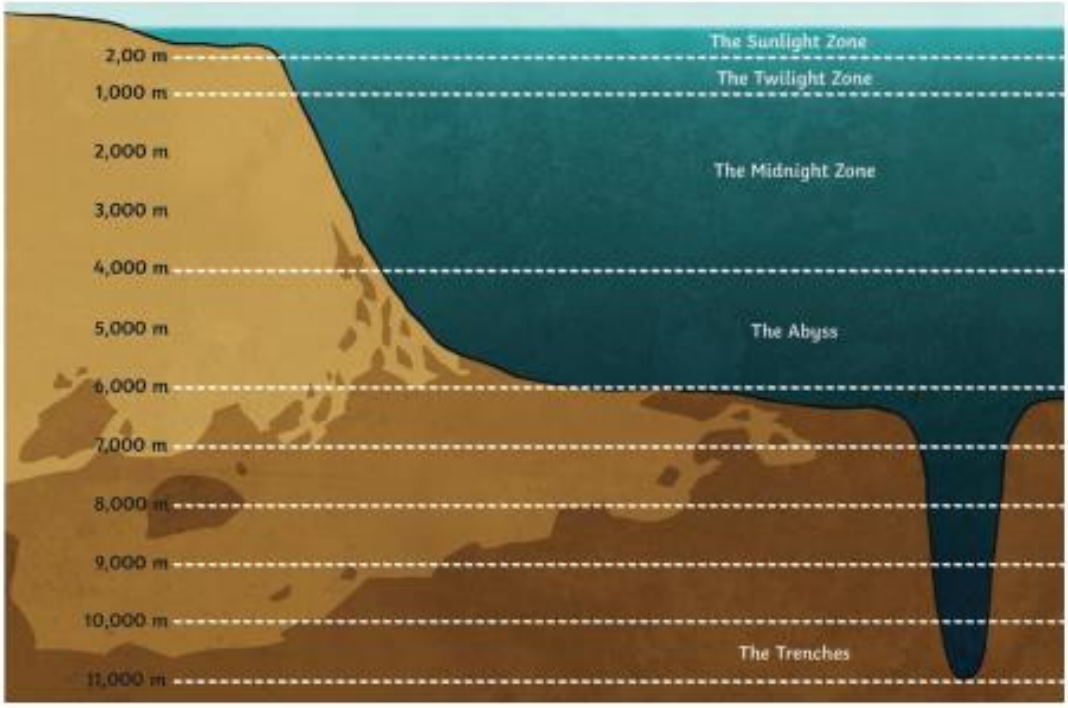
**Year 3**

**Friday 5th June**

# Layers of the Ocean




Oceans cover two-thirds of our Earth and there are five main oceans which all flow into each other: the Arctic Ocean, the Atlantic Ocean, the Indian Ocean, the Pacific Ocean and the Southern or Antarctic Ocean.


## What Are the Layers of the Ocean?

Oceans are made of five layers, or depths, which all have different characteristics, such as temperature and amount of light. They have unique creatures living within them.

### The Sunlight Zone

The Sunlight Zone is up to 200m below the surface of the ocean and there is plenty of sunlight and heat in this zone although these both decrease as you go deeper. There are many different living things within this layer, including seaweed, dolphins, fish and coral reefs. Humans enjoy this warm layer for activities such as swimming and fishing.

# Layers of the Ocean

## The Twilight Zone

The Twilight Zone is up to 1,000m below the surface of the ocean and only faint sunrays reach this layer, making it very cold. It is home to unique sea animals, which often have large eyes to help them to see, such as the sea cucumber, the swordfish, the wolf eel and the octopus. No plants grow within this layer and humans can only dive to this layer wearing protective suits.

## The Midnight Zone

The Midnight Zone is up to 4,000m below the surface of the ocean and it is pitch-black because sunlight cannot reach this far down. Some light can be seen from the creatures that make their own light, such as anglerfish, viperfish and jellyfish. Some creatures, such as the sperm whale, dive to these depths to hunt for food.

## Abyss

The Abyss is up to 6,000m below the surface of the ocean so sunlight cannot reach this layer at all. It is pitch-black and near freezing meaning very few creatures live here. Those that do are mainly transparent, blind invertebrates, such as lanternfish, amphipods and squid.

## The Trenches

The ocean floor is made up of narrow, underwater trenches. These trenches are up to 11,000m below the surface within the ocean floor. The temperature is near freezing and there is extreme pressure. No natural light exists in this zone but different creatures can be found, such as sea stars.

**Did You Know...?**

The deepest part of the ocean ever to be explored by humans, using specialist scientific equipment, is the Mariana Trench. It is almost 11,000m deep!

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| **Reading Mission**<br>30 mins | Children to read or be supported to read the text about the Layers of the Ocean.<br>**After, they can answer these questions. These can be verbal answers or they could be written down or typed. Suggested answers are below in red.**<br><br>1. How many oceans are there?<br>2. Number these ocean layers in order of how deep they are, with 1 being closest to the surface.<br>- The midnight Zone<br>- The Sunlight Zone<br>- The Trenches<br>- The Abyss<br>- The Twilight Zone<br>3. Which facts are true about the Sunlight Zone? Choose two.<br>- It is up to 1000m below the surface of the ocean.<br>- There is plenty of heat.<br>- Humans enjoy this layer for swimming.<br>- There are very few creatures living there.<br>4. Which layer can humans explore wearing a protective suit?<br>5. Find and copy a phrase which shows the Abyss is very dark.<br>6. What is the name of the deepest part of the ocean explored by humans?<br>7. Why do some of the creatures in the Midnight Zone make their own light?<br>8. Why is specialist scientific equipment needed to explore the trenches?<br><br>Answers<br>1. five<br>2. The midnight Zone 3<br>The Sunlight Zone 1<br>The Trenches 5<br>The Abyss 4<br>The Twilight Zone 2<br>3. - There is plenty of heat.<br>Humans enjoy this layer for swimming.<br>4. The Twilight Zone<br>5. Pitch-black<br>6. The Mariana Trench<br>7. Because it is so dark in the Midnight Zone. Some creatures make their own light so that they can find food to eat.<br>8. It is very cold with high pressure so humans would not be able to dive that deep without getting hurt- the specialist equipment means they can explore the trenches safely. |
| Writing Mission<br>30 mins | Your mission today is to write a postcard to bring a smile to someone's face. This could be to a family member, friend or neighbour. You might be able to deliver it on your daily walk, post it or hold onto it and give it to them when you next see them.<br><br>You can tell them about what you have been doing at home and include something to make them smile.<br><br>On the front of your postcard you can draw a picture of your choice.<br>There is a template at the end of this document or you can create your own template on a blank piece of paper. |

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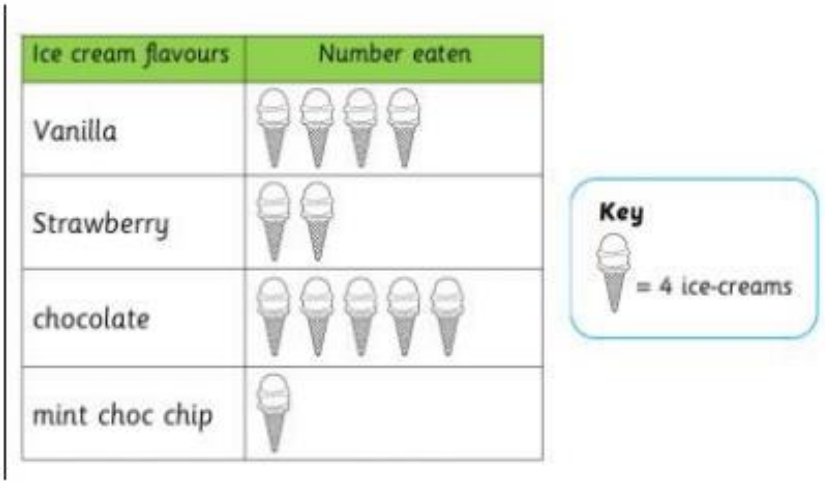
| Maths Mission<br>30 mins | Today's maths mission builds on yesterday's pictogram learning.<br>A pictogram is a chart that uses pictures to represent data. Pictograms are set out in the same way as bar charts, but instead of bars they use columns of pictures to show the numbers involved.<br><br><u>Part 1</u><br>The following pictogram shows number of ice cream flavours sold. Use the pictogram to answer the questions.<br><br>**Each picture represents 4 ice creams.**<br><br>  <br><br><br>1. How many of each ice cream were eaten?<br>2. How many more vanilla ice creams were eaten than mint choc chip?<br>3. How many fewer strawberry ice creams were eaten chocolate?<br><br><u>Part 2</u><br>Use the following information to draw your own pictogram to show favourite ice lolly flavours. In your pictogram I would like each picture to represent **2 lollies**.<br><br>Orange= 12<br>Lemon = 4<br>Raspberry = 8<br>Pineapple = 7 |

Answers Part 1

1. Vanilla = 16 , Strawberry = 8, Chocolate = 20, Mint Choc Chip = 4
2. 16 – 4 = 12
3. 20 – 8 = 12

Answers Part 2

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| **Orange**<br><br>**12** |  |
| **Lemon**<br><br>**4** |  |
| **Raspberry**<br><br>**8** |  |
| **Pineapple**<br><br>**7** |  |

Topic Mission Ideas for the week. Choose activities based on what interests you.

**<u>Art and Design</u>**

Create an under the sea scene. You could use a shoebox to present your scene in, create a back ground and place your sea creatures in front or even use an egg box.

**Art**

Corals are living creatures that live in all the oceans of the world. Some types live alone. Many live in groups. When several different types of corals live together this forms a coral reef. The largest coral reef in the world is the Great Barrier Reef off the coast of Australia.

As they grow corals form different patterns and shapes. They may look like feathers, fingers, branches or even a brain.

Use the photos and examples below to create a coral reef landscape.

**Science**

Explore how water behaves by creating a wave in a bottle.

**You will need:**

- An empty plastic bottle
- Vegetable Oil
- Water
- Food colouring

**Activity:**

1. Wash a bottle and take off the label by soaking it in hot water.
2. Fill the bottle with 3/4 cup of water.
3. Add a few drops of food colouring.
4. Pour 1 cup of oil into the bottle.
5. Screw the cap on.
6. Roll the bottle on its side and let it settle for a few minutes.
7. The water will sink to the bottom and the oil will rise to the top.
8. Now tip the bottle back and forth and make some waves.

The waves will be bigger at one end of the bottle and smaller at the other.

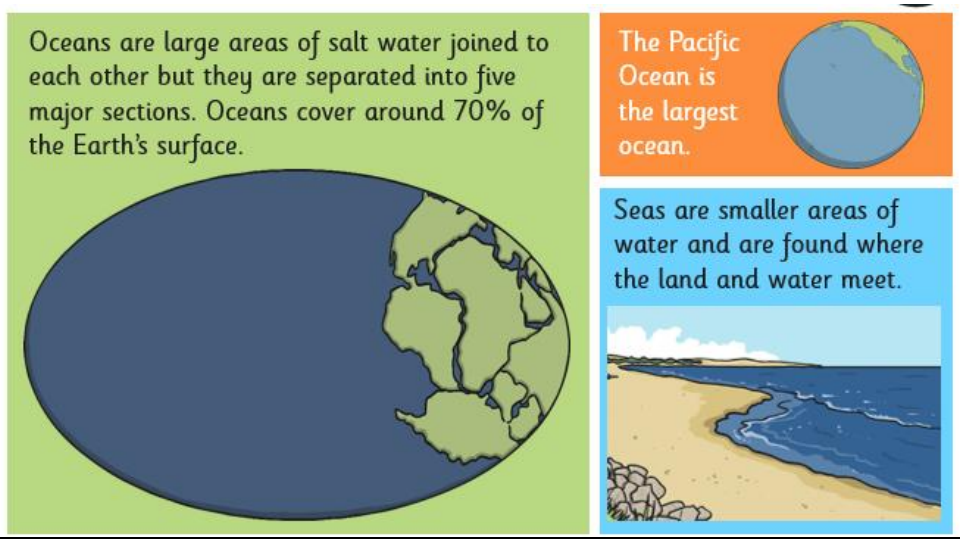
**What causes ocean waves?**

Obviously, waves are not caused by oil floating on water. However this ocean waves in a bottle activity is a good picture of the movement of ocean waves.

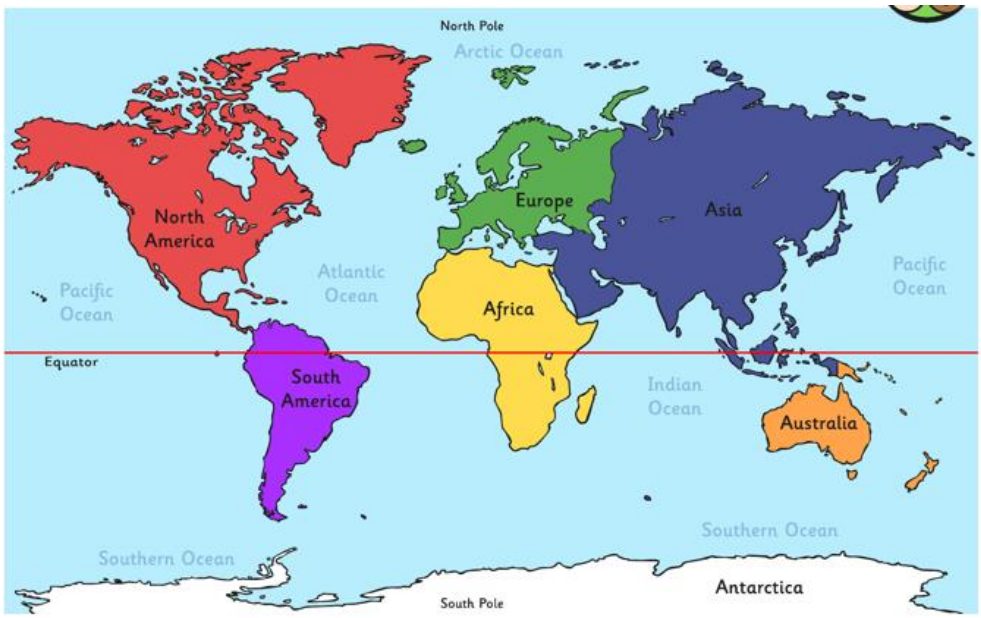
Ocean waves are created by energy moving through the ocean water. Most of the time, the energy comes from wind blowing on and disturbing the surface of the water. Other things cause ocean waves too such as the gravitational pull of the sun and the moon. This causes tidal waves or tides!

When you move the bottle, you're seeing energy move through the water to make waves, just like out in the ocean! Did you know if a wave doesn't have anything to stop it, it can travel far distances?

**Geography- Find out about the world's seas and oceans**



There are 5 oceans, the Pacific, Atlantic, Indian, Southern and Arctic. Can you spot them on the map?




You can learn more about the oceans on BBC Bitesize. Link: https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zmqwscw

You might also enjoy learning the five oceans song on Youtube https://www.youtube.com/watch?v=X6BE4VcYngQ

Can you use the map and your own research to answer the following questions? The answers can be found below.

1. How many oceans are there in the world?
2. Which is the largest ocean?
3. Which is the smallest ocean?
4. Which ocean surrounds the Antarctica?
5. Which ocean is the furthest North?
6. Which ocean can be found between North America and Africa?
7. Which ocean can be found between North America and Asia?

Answers:

1. 5
2. Pacific Ocean
3. Arctic Ocean
4. Southern Ocean
5. Arctic Ocean
6. Atlantic Ocean
7. Pacific Ocean

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| | **History**<br><br>Find out about a famous explorer that travelled the oceans by ship. You can present what you have learnt however you like. This could be a poster, a leaflet or a fact file. You could even write in role as the explorer.<br>Below are a list of some explorers you might want to find out about and some links to useful information.<br><br>- Christopher Columbus https://www.bbc.co.uk/teach/class-clips-video/ks2-christopher-columbus/z7j3hbk<br>- Captain James Cook https://www.natgeokids.com/uk/discover/history/general-history/captain-cook/<br>- Ferdinand Magellan https://www.ducksters.com/biography/explorers/ferdinand_magellan.php |

# Kindness Postcards or Postcards to Those Self-Isolating

Write a postcard to a friend, neighbour or someone at your local care home to brighten up their day and help them feel connected to their community. On the back of the postcard, draw a picture of something that could make them smile.