

Layers of the Ocean



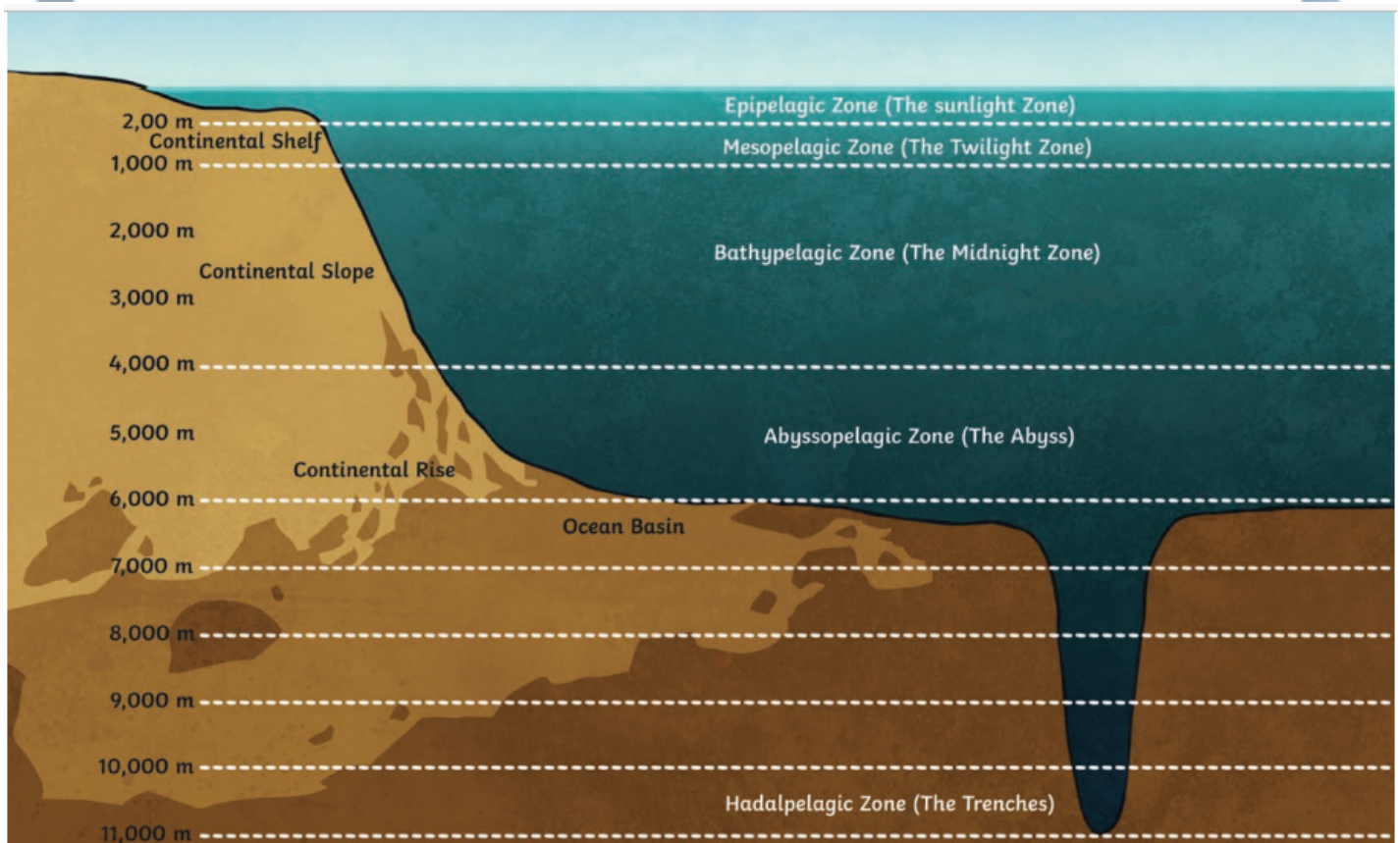
Oceans cover two thirds of our Earth. There are five oceans which all flow into each other.

Oceans should not be confused with seas.

Seas are smaller than oceans and are usually located where the land and ocean meet. Look at this map of the United Kingdom as an example:

What Are the Layers of the Ocean?

Oceans are made of five layers which all have different temperatures, amount of light and creatures living within them.



Layers of the Ocean

Sunlight Zone – up to 200m below the surface of the ocean

There is plenty of sunlight and heat in this zone although they both get less the deeper you go. Due to the light and warmth, this is the layer with the most life, including:



- seaweed which plant feeders eat;
- fast swimming hunters, such as dolphins (mammals which breathe air) and salmon;
- coral reefs.

Humans enjoy this layer for activities such as swimming, fishing and sea transport.

Twilight Zone – up to 1000m below the surface of the ocean

This layer has only faint sun rays reaching it due to its depth. It is home to some of the strangest sea animals, which often have large eyes to help them see, including:

- the sea cucumber;
- the swordfish;
- the wolf eel;
- the octopus.



No plants grow within this layer so creatures either feed by filtering the water or by hunting other creatures at speed. Humans can dive to this layer but must wear protective suits due to the extreme pressure and the lack of warmth.

Midnight Zone – up to 4000m below the surface of the ocean

The Midnight Zone makes up 90% of the ocean. It gets its name from the fact that sunlight cannot reach this layer but some light can be seen from the creatures that produce their own light, such as:

- the anglerfish;
- the viperfish;
- the jellyfish.



There are large numbers of creatures living within this layer and many of them are red or black due to the low light levels. Some creatures, such as the sperm whale, dive to these depths to hunt for food.

Abyss – up to 6000m below the surface of the ocean

This layer contains three quarters of the ocean bed, which is covered with thick mud made from the remains of dead animals. The sunlight cannot reach this layer at all, so it is pitch-black and near freezing. Very few creatures live here but those that do are mainly transparent, blind invertebrates, such as:

- sea stars;
- amphipods (shrimps);
- squid.



The Trench – up to 11,000m below the surface of the ocean

The Trench is also known as the ocean floor. It is a series of narrow, underwater valleys which can only be explored using specialist scientific equipment. This is due to the high pressure and the near freezing temperatures. There is no natural light 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 man is in the Mariana Trench. It is almost 11,000m deep!

The ocean is an incredible part of our world and sea scientists hope that it will be explored more as technology advances.

Questions

1. How deep is the Twilight Zone? Tick **one**.

- up to 200m below the surface of the ocean
- up to 1000m below the surface of the ocean
- up to 4000m below the surface of the ocean
- up to 6000m below the surface of the ocean

2. Which creatures are found in the Abyss? Tick **three**.

- sea stars
- amphipods
- jellyfish
- squid

3. How much of the ocean bed is contained within the Abyss?

4. How do creatures feed in the Twilight Zone?

5. **Find** and **copy** an adjective which tells you that the Abyss is dark.

6. Summarise what you have learned about the Trenches, in 30 words or less.

7. In your own words, explain why the Sunlight Zone was given that name.

8. Which layer of the ocean would you most like to visit? Give **two** reasons to explain your choice.
