

# Can the Ocean Freeze?

During the winter months, lakes and ponds freeze. However, during these same months, ocean water does not freeze. Have you ever wondered why the water in the ocean doesn't freeze?

## Freezing Point of Water

When the temperature of water reaches 32 degrees Fahrenheit (F), it will freeze. When salt is added, it is more difficult for the water to freeze. The more salt in the water, the lower the temperature needs to be. The freezing point of the ocean is 28 degrees (F). Ocean water will freeze if it reaches this temperature.

## So Why Doesn't It Freeze?

Waves help to keep some of the heat in the ocean water. Even if the air temperature near the ocean is 28 degrees (F) or less, this does not mean that the water will freeze. The temperature of the water is harder to change.

In the Arctic and Antarctica, the temperatures dip very low. It is cold enough to freeze some of the ocean water. These areas have large polar ice caps that float on top of the water.

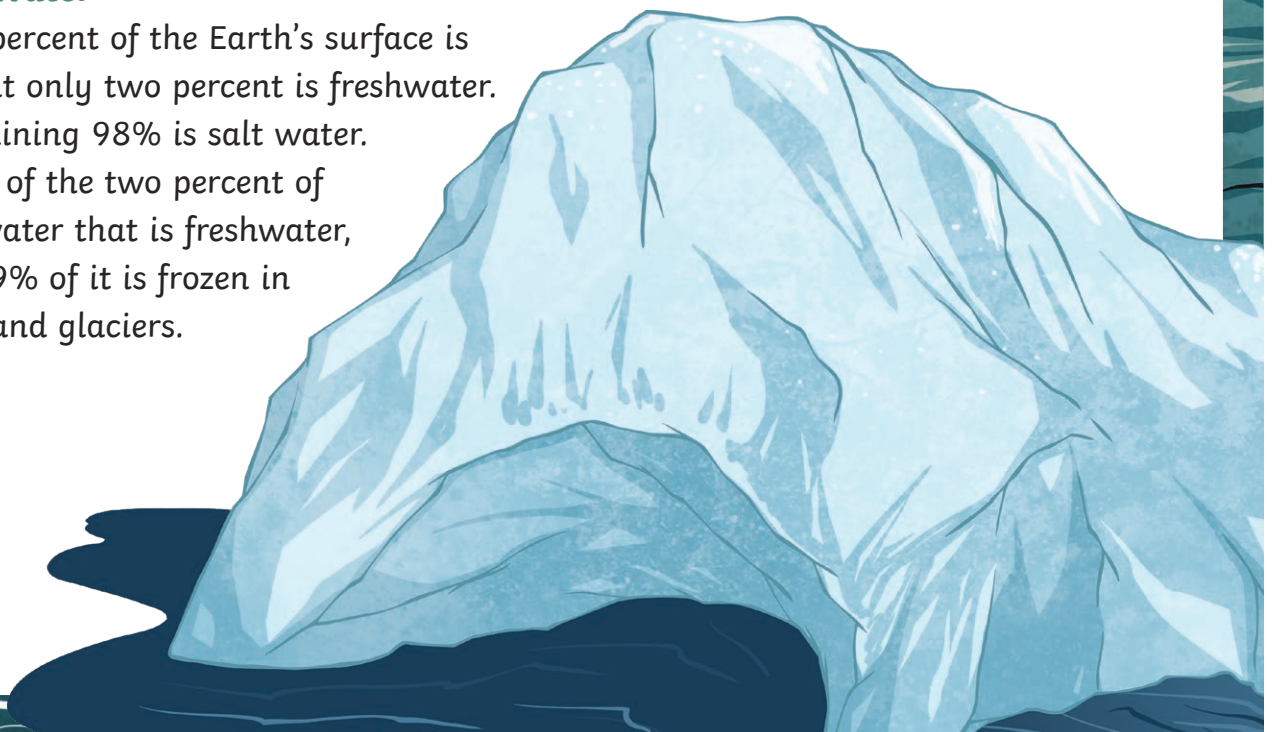
When ocean water freezes in the North and South Poles, not all of the water freezes. As a result, ocean animals are still able to live under the ice. Animals like polar bears and penguins can hunt in the water.

## Earth's Water

Seventy percent of the Earth's surface is water, but only two percent is freshwater.

The remaining 98% is salt water.

However, of the two percent of Earth's water that is freshwater, nearly 69% of it is frozen in ice caps and glaciers.



# Questions

1. At what temperature does freshwater freeze?
  - 32 degrees Fahrenheit
  - 28 degrees Fahrenheit
  - 32 degrees Celsius
  - 28 degrees Celsius
2. What happens to the freezing point of water when salt is added?
  - The freezing point is lowered.
  - The freezing point is raised.
  - The freezing point remains the same.
  - The freezing point turns to the melting point.
3. What percentage of the Earth's freshwater is frozen?
  - 50 percent
  - 2 percent
  - 98 percent
  - 69 percent
4. On which continent are the temperatures low enough to freeze ocean water?
  - Europe
  - South America
  - North America
  - Antarctica

5. Explain why all of the ocean doesn't freeze like lakes do in winter?

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6. Why can't we use all of the freshwater on Earth?

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# Answers

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  - 69 percent**
4. On which continent are the temperatures low enough to freeze ocean water?
  - Europe
  - South America
  - North America
  - Antarctica**
5. Explain why all of the ocean doesn't freeze like lakes do in winter?

**The ocean doesn't freeze because it is salt water which is harder to freeze. Also, the waves keep heat in the water.**
6. Why can't we use all of the freshwater on Earth?

**We can't use all of the freshwater because 69 percent is frozen in polar ice caps and glaciers.**