

## P3 Week of 01.02.21

*We are continuing to follow our planned Religious and Moral Education Programme. This term P3's RME topic is the Personal Search topic of Winter.*

### Lesson 3: World issues

Seasonal snow is an important part of Earth's climate system. Snow cover helps control the temperature of the Earth's surface, and once that snow melts, the water helps fill rivers and reservoirs in many regions of the world.

Ice caps and mountain glaciers often grow or shrink. Today, many scientists think global warming is causing the ice to melt and sea level to rise.

As the temperature rises, our ice caps are at risk. The two polar caps are shrinking and huge amounts of ice fall into the sea.

The northern polar region is called the Arctic, and in the south the polar region is the continent of Antarctica.

Polar habitats are located at the very top and very bottom of the Earth. They are cold, windy and have a lot of snow and ice. It's even too cold for trees to grow. Polar habitats have just two seasons - summer and winter (but even summer is normally very cold). In the summer, it is light for 24 hours a day (right at the north and south Poles, the sun doesn't set for six whole months when it is summer) and in the winter it is dark for 24 hours a day.

Polar habitats get very, very cold - it can get as cold as  $-50^{\circ}\text{C}$  in the Arctic, and temperatures in Antarctica have been as cold as  $-89^{\circ}\text{C}$ .

The mass of ice at the very tip of the north and south Poles is called the polar ice cap. It is always frozen, although the size of the ice cap changes when bits on the edge of it melt during the summer months.

Global warming is changing polar habitats, especially in the Arctic. This means that animals like the polar bear and Arctic fox are becoming endangered.

Because it is too cold for trees to grow in arctic habitats, animals find other places to live such as holes in the ground, or in caves made from snow. Polar habitats have tundra, which is ground that is nearly always frozen. The very top of it will thaw in the summer months so grasses and mosses can grow, but there isn't enough room for tree roots in the non-frozen soil. It's the only place where

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any plants can grow, but the ground only thaws just enough for short grasses and moss - tree roots can't go as far down into the ground as they need to because it's frozen.. Animals have adapted to survive in these extreme conditions. They have thick fur or feathers, blend in with the white snow, or hibernate during the coldest winter months.

In Greenland the amount of ice falling into the sea has doubled in the past few years. As the average temperature of the oceans rises, the water expands.

This is called thermal expansion and will cause sea levels to rise.

Melting glaciers will lead to a shortage of drinking water for millions of people around the world - particularly in the foothills of the mountains

As temperatures rise, it will become increasingly hard for plants to grow in some areas of the world. This could lead to even less food for our growing population. All this connects to many problems for our planet.

Climate change is increasing temperatures in all seasons, including winter, and this has a variety of outcomes.

You can watch this you tube clip if you want to find out more about the Arctic region.

<https://www.youtube.com/watch/ruMQRCRMAAnI>

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Now imagine you were going to be a scientist going to the Arctic or Antarctic region and complete this worksheet. What do you think you would need to take with you?

Arctic/Antarctic  
Explorer/Scientist Backpack

