
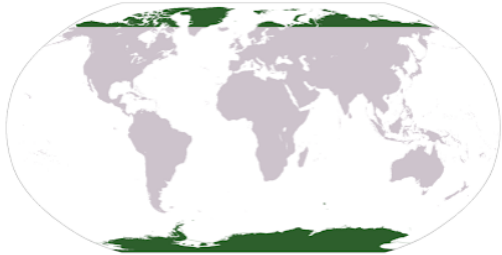


Bill Quay Primary School

Year 4 Geography

Spring Term 1: Living in a freezer

What pupils should already know:	Vocabulary	Images
<ul style="list-style-type: none"> • The seven continents (including Antarctica) and five oceans of the world. • Examples of some countries around the world and what the climate is like there. • What climate means and how it affects the vegetation in an area. • Key features of a tropical rainforest biome. • What plants need to survive. 	<p align="center"> Arctic Antarctic Barren Biome Climate Zone Climate change Tundra Continent Frozen Vegetation Permafrost habitat </p>	
<p>By the end of this unit, pupils will know:</p>	<p align="center">National Curriculum</p>	
<ul style="list-style-type: none"> • The climate zones of the world. • Where polar and tundra biomes are on a map. • The climate of these biomes. • The polar biomes are harsh environments. • The plants that can grow here and how they are adapted to the harsh environment. • The impact of seasonal change on the wildlife in the Arctic. • How people and wildlife have adapted to their environment. 	<ul style="list-style-type: none"> • Identify the position of the Arctic and Antarctic Circle • Describe key aspects of climate zones, biomes and vegetation belts. • Human geography, including types of settlements and land use. • Use maps, atlases and globes to identify places studied. 	

Session	Learning Outcomes	Activity
1	To recognise what creates a cold place both locally and globally. To recognise where cold places might be located. To learn how to use thermometers and record temperatures.	Use atlases and a globe. Ask children to find a map of the world. Where are we? Look at a map of the world on powerpoint. Where are the coldest places? Where are the hottest? Why are some places in the world hot and some places cold? Look at some photos of the Arctic and Antarctic. How do we know these places are cold? Where are they situated on Earth? How do we measure how hot or cold a place is? Where do you think the coldest place in our school might be? What is the temperature of our classroom? Model reading the temperature of the class. Can children suggest where the coldest and warmest places around the school might be? Give out a plan of the school grounds. Each pupil should mark an 'H' where they think the hottest part would be, and a 'C' for the coldest part. Children devise their own symbols and a key for the plan. Take ideas and model drawing a key on the IWB. Why are some areas cooler and some warmer? What is needed to warm the school? Discuss how a thermometer works. Agree as a class where we'll put two thermometers to measure temperature over the next week. Place the thermometers. Four pupils will read the thermometers at the beginning of breaktime each day. They should log the temperatures and share with the class. Record in a chart in jotters, completing on a daily basis.
2	To know the typical weather conditions of each climate zone.	Revise: what is the difference between weather and climate? Establish that climate is what you expect in a given place and weather is what you get. Weather changes all the time. It might be sunny in the morning and rainy in the afternoon! Introduce the idea of climate zones using the video at: https://www.bbc.co.uk/bitesize/clips/zr7hyrd Which countries can we find in each of the climate zones? Divide the class into groups and give each group a climate zone and an atlas between two. Keep the climate zones shown on IWB for children to refer to. They must find at least three countries that are in their climate zone, name each capital city, the continent that it lies in, its main river and national flag. Model how to set out in jotters.

3	To recognise the amount of ice changes with the seasons and that in summer months, there is constant daylight and in winter, complete darkness	Why are the Arctic and Antarctic the coldest places on Earth? Identify their location on the globe. Take children's ideas. Compare and contrast these ideas for the hotter parts of the world. Do their theories work? Show diagram of how the sun shines on the Earth and explain that the middle part of the world gets the most sun and the tops and bottoms barely get any sunlight, hence why it is so icy and cold. What countries lie within the Arctic circle and have an arctic climate? Read information about the seasons and the midnight sun. Have a look back at the temperatures of the school over the week and compare with that of temperatures in the Arctic at the same time of year. You could show this in a chart or on a line graph on IWB. Can children work out the difference in temperatures?
4	To identify animals and plants that live in the tundra and polar biomes. To know the difference between the two. To know how animals and plants have adapted to survive the harsh conditions.	<p>Recap the climate zones. Show some animals on the board. In which climate zones would you find these animals? Introduce the idea of a biome by watching BBC Bitesize https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zvsp92p and showing a map of them at:</p> <p>https://schoollearningzone.co.uk/key_stage_two/ks2_geography/climate_zones_and_biomes/climate_zones_and_biomes.html</p> <p>Pupils should know that a biome is used to describe the plants and animals in a given habitat. Climate is a major factor in determining the life that resides in a biome.</p> <p>What is the difference between the Arctic Tundra and the Polar Desert biomes? What is the tundra and how it is different in summer to winter? Focus on the tundra and polar biomes and ask children to investigate what plants and animals can be found there. Model where these are and the difference between the two. Children split their page in two and write titles: Arctic Tundra and Polar Desert. They write/draw about the climate, plants and animals that live there.</p> <p>To show children how the living creatures and plants rely on one another for survival, model drawing a simple food chain:</p>

		<p>Plankton-fish-penguin-killer whale</p> <p>Can children use books/internet to illustrate another food chain for either of these biomes? How have the plants and animals adapted to live in these harsh environments? Children should learn that the animals and plants that reside here have evolved adaptations that allow them to survive in this frigid environment, such as thick fur and the ability to hibernate.</p> <p>https://kids.nationalgeographic.com/nature/habitats/article/polar</p>
5	To understand that climate change is causing the ice to melt and the ramifications for the rest of the planet.	<p>https://www.bbc.co.uk/bitesize/guides/zp37hv4/revision/1 Use this video to introduce the idea of climate change and how fragile the ecosystem is. Show pupil satellite pictures of the poles and how they have changed over the last 100 years. What is happening in the pictures and why do we think this is? What can we do to stop climate change?</p> <p>Children to write a simple information text about the polar regions and what they have learnt in this topic. Suggest subheadings and remind them that diagrams will help explain ideas too.</p>