POLAR REGIONS

Together the North Pole and the South Pole are called the polar regions. These regions are made up of polar ice caps which are massive pieces of ice. It’s not surprising then that it’s really cold, in fact the South Pole is the coldest, windiest and driest place on earth.

1. The North Pole is called the Arctic and the South Pole is called Antarctica.
2. The polar regions have just two seasons – summer and winter.
3. Trees can’t grow in the polar regions as it’s too cold.
4. When animals need shelter, they have to make snow caves or burrow underground.
5. Some animals sleep right through the coldest months this is called hibernation.
WHAT I’VE LEARNT ABOUT POLAR REGIONS
**TEACHER NOTES**

**Aims**
To learn about the climate in the polar regions.

**Objectives**
- To identify both poles on a globe and describe the polar climate.
- To learn about some of the properties of ice and melting.

**Useful links**
http://www.worldwildlife.org/habitats/polar-regions

**Time indication**
- Core activity: 30 mins (plus testing time)
- Extension activity: 30 mins

**Resources**
- Tray of ice cubes
- Clear plastic pots
- Globe
- Stopwatch/stopwatch app

**Experimenting with ice**

**Introduction:**
- Show on the globe (or an online globe) where North and South Poles are. These are both called polar regions.
- The Arctic is in the north and the Antarctic is in the south. Animals like polar bears are found only in the north and penguins are found only in the south.
- Talk about the features of polar animals and how they adapt, for example:
  - Their coat is usually up to 5cm thick
  - Their fur repels water
  - Their skin is black to help absorb warmth from the sun.

**Development:**
- Find out what ice needs to stop it from melting. Look at the properties of an ice cube and ask for words to describe the ice – appearance, how it might feel, what we use ice cubes for.
- Ask the children for three places they think will be cool enough to stop the ice cubes melting.
• Place an ice cube in a plastic container in each location and start the stopwatch. Check the ice cubes every 30 minutes (or more or less depending on where the ice cubes are placed) and observe the changes.
  - Ask the pairs to choose three or four headings and jot them down. You can add an ‘other’ or a ‘nothing’ column too. If they are familiar with tallying encourage them to use this to collect data.
  - Ask the groups to look at their collected data and find out the most popular and least popular items and any surprises. The data could also be presented as a bar chart using graph software, if available.

**Plenary:**
After two or three hours, check back and come to a conclusion about which place kept the ice coldest the longest. Where the predictions correct? What does this tell us about the polar regions?

**Extension activity: Make a polar scene**
Create polar pictures using chalks or pastels on dark paper. Ask the children to choose the North or South Pole and try to remember which animals are found at each. Display the pictures as part of a display of information about the polar regions.

**At home activity: Ice expands**
• Ask parents’ help to try an ice experiment at home. Ask children to half fill a plastic bottle with water, mark the level and place it in the freezer. Note it’s important to not fill the bottle to the top as it might expand too far and explode.
• Once frozen, check the level and mark again. Empty the bottle and bring into school to see how much the water expanded as it froze.

**Curriculum links**

<table>
<thead>
<tr>
<th>England</th>
<th>Pupils should be taught to:</th>
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<tbody>
<tr>
<td></td>
<td>Geography – Human and physical geography</td>
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<tr>
<td></td>
<td>Identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles.</td>
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<td></td>
<td>Geographical skills and fieldwork</td>
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<tr>
<td></td>
<td>Use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage.</td>
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<td>Science – Materials Y1</td>
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<tr>
<td></td>
<td>Describe the simple physical properties of a variety of everyday materials.</td>
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<td>Seasonal changes – Y2</td>
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<td>- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</td>
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<td>- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</td>
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<thead>
<tr>
<th>Scotland</th>
<th>Sciences</th>
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<tbody>
<tr>
<td></td>
<td>By investigating how water can change from one form to another, I can relate my findings to everyday experiences. <strong>SCN 0-05a / SCN 1-05a</strong></td>
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</tbody>
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We love hearing all about how schoolchildren are using our resources. You can send us pictures and comments to walktoschool@livingstreets.org.uk as well as tweeting us @livingstreets