REINDEER BOOTS!

HOW THE POLAR EXPLORERS LEARNT FROM THE PEOPLE WHO LIVED IN THE POLAR REGIONS

POLAR SURVIVAL KS2

Curriculum mapping:

History

Aims:

- **Know and understand how people's lives have shaped this nation and how Britain has influenced and been influenced by the wider world**
- **Understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed**

Science

KS2 – They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

Working scientifically

- **asking relevant questions and using different types of scientific enquiries to answer them**
- **setting up simple practical enquiries, comparative and fair tests**
- **making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers**
- **gathering, recording, classifying and presenting data in a variety of ways to help in answering questions**
- **recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables**
- **reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions**
- **using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions**
- **identifying differences, similarities or changes related to simple scientific ideas and processes**
- **using straightforward scientific evidence to answer questions or to support their findings.**
- **using test results to make predictions to set up further comparative and fair tests**

States of matter

- **observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)**
- **identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature**

Introduction activity

Discuss the word 'indigenous', meaning people who originate from and live in a particular region. We talk about the aborigines being the indigenous people of Australia and the Native Americans being the indigenous people of America. There are many indigenous people who live in the Circumpolar North which generally includes the lands surrounding the Arctic Circle. There are no indigenous people in the Antarctic, but Polar explorers would learn from the people living in the Circumpolar North, for example:

Sami: Northern Norway, Sweden, Finland

Inuit: Greenland, Northern Canada and Alaska

Inupiat: Alaska's Arctic and North Slope boroughs and the Bering Straits

Koryaks: Russian Far East

Explain that usually an indigenous person knows their area and customs and way of life and we can learn a lot from them.

Look at the 'boot covers' resources on page 18 of the Encyclopaedia of Artefacts: http://polar.lgfl.org.uk/encyclopaedia_of_artefacts.html#book/21

Explain that these boot covers were made especially for George Murray Levick, the surgeon on the Terra Nova Expedition. They were made for him by local people in the northern Arctic and they were the type of footwear that these people wore themselves.

Main part of lesson

Ask the class if they think that a boot made out of fur would be a very good material to use in Polar environments. The indigenous people used fur but perhaps they only used this material as they didn't have any other material?

Watch the 'boot covers' video clip again. Discuss the fact that the reindeer hair was excellent as a boot cover because the hair is hollow and so it traps the air, making it a very good insulator. That was why the indigenous people used it, they had used it for a very long time and it was an excellent insulator; also, the hair on the bottom of the boot stopped the boot slipping.

Discuss the importance of local knowledge.

Explain that in this lesson they are going to test out some insulating materials to see which is best - not reindeer fur, but some more accessible materials.

Pupils are to use ice cubes and some different materials that you provide, to see which material insulates the best.

Class can wrap the different materials (paper, cotton, plastic, woollen fabric, etc.) around an ice cube with an elastic band, securing it and timing how long it takes for the ice cube to totally melt.

Explain that you would like the class to complete the 'ice insulation' resource sheet (http://polar.lgfl.org.uk/Lessons/ks2_s2_l5.html#resources) to record their experiment and to add a conclusion as to which material is the best insulator.

Whilst the experiment is going on, pupils can access the virtual experiments activity located at www.ve56.lgfl.net

(Select 5C) which will reinforce the practical activity.

Plenary

Compare results and decide whether the whole class has the same conclusion as to which is the best insulator material

Go to page 34 of the Encyclopaedia of Artefacts where we learn about another very warm insulating material – wolf skin: http://polar.lgfl.org.uk/encyclopaedia_of_artefacts.html#book/37

Explain that as well as warm feet, explorers had to have warm hands, so they wore wolf-skin gauntlets over the top of two other layers of gloves. They needed warm hands, but also hands that could move and work. The wolf-skin gauntlets were not worn all the time, as they were bulky and restricted movement. They had a cord attached to them so they could be kept safe and close to hand for when the explorer needed them.