

arctic maths lesson plan 1

Test your arctic
maths skills!



Maths 1 - Graphs and charts

Learning Objectives

- To understand data presented in a bar chart and a pie chart.
- To represent information in a bar chart and a pie chart.

Key Vocabulary

Bar chart

Pie chart

Vertical axis

Horizontal axis

Comparison

Least

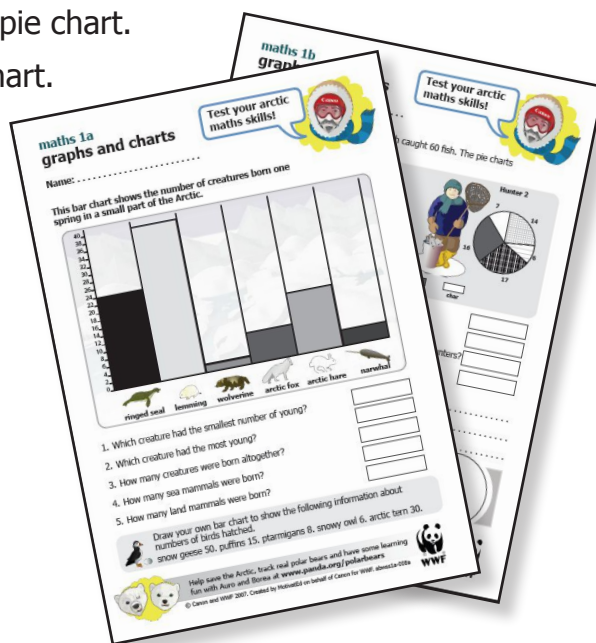
Most

Smallest

Largest

Resources

- Maths Activity Sheet 2
- Squared maths paper
- Pencils, crayons
- Follow the link to the standards site to enable children to enter their own data.
http://www.standards.dfes.gov.uk/primary/teachingresources/mathematics/nns_itsps/data_handling/datahandling_3_0.swf



Warm-up

- Count in twos – up to 40 and back down again.
- Count in twos – starting on an odd number, up to 41 and back again.
- How many multiples of 2 are there in 12, 18, & 24?
- Play a game of **polar bear on the ice block**. The children pair up; one sits on the chair (the polar bear on the ice) and the other stands behind the chair (polar bear waiting to get on the ice). Teacher calls out a sum appropriate to age and ability level e.g. 10×2 , both children call out the answer. The child (bear) who answers most quickly moves on to the ice block. They should keep a tally of how many ice blocks they visit.

Whole Class Introduction

- Choose around 12 children to demonstrate the first activity. You call out the question and instruction.
'How many languages can you speak? Find any other children who speak the same number as you and make a group.'

continued...



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Challenge the rest of the children to tally up the numbers.

- Supplementary questions:
How many would there be in the group if the size was doubled/halved/tripled?
How many more to make the group up to 7?
How many should leave to make the group the second smallest? And so on.
- Play again with alternative questions:
How many arctic sea creatures can you draw in 30 seconds?
How many arctic mammals can you write down in 20 seconds?

Independent Activities

- Before the children start work on the sheet check that they can locate both the vertical and horizontal axis on the bar chart.
You may want to complete the first activity together with younger or less able children.
- They can then go on to draw up their own bar charts to show the number of Arctic birds that hatched during the spring.
- Side 2 uses a pie chart to show the number of fish caught by two hunters.
The children answer questions based on the charts and then make up three of their own questions to ask their friends. Older and more able children should be challenged to write more questions.
- Finally they make up a third pie chart based on the combined data from the two hunters.

Plenary

- Recap on the difference between a bar chart and a pie chart. Can the children show you the vertical and horizontal axis?
- Ask them to read out some of the questions which they made up about the fishermen and their catches. Do they all make sense? Is it possible to answer the questions from the data?
- Do the children now have some other ideas about areas they might research and gather data for?

Extension Activities

- Challenge the children to find a way to represent much larger numbers. For example bird colonies: Arctic tern 256, snow geese 1200, snowy owl 32, ptarmigans 842, puffins 377. How will they represent the number of birds on the vertical axis?
- Invite the children to explore the rest of the WWF site and to compile data based on a subject that interests them. This might be number of animals, days of sunlight, rate of ice-melt and so on. They can then choose the best way to represent this information, and to share it with the rest of the class.
- Explore how a chart can plot the effect of continued global warming on a species over time and the effect on the chart if we lessen global warming by acting now. See actions on cards on website.
- Make a display of different charts and graphs based on the data gathered by the children.



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