

Science Year 1: A Survey of Eye Colour

Introduction

Using pictogram software, pupils will gather, record, display and discuss information about the eye colours of children in the class.

Skills involved

What will the children learn?

- Pupils will learn that there are differences between humans. They will also collect and organise data and present it in the form of a pictogram, and learn how to interpret it
- They will learn that computers are excellent devices for collecting and representing information.

What prior experience do the children need?

The children should know their colours and have begun to think about similarities and differences between themselves and others. They do not need prior experience of pictogram software as this makes an ideal introduction.

Equipment

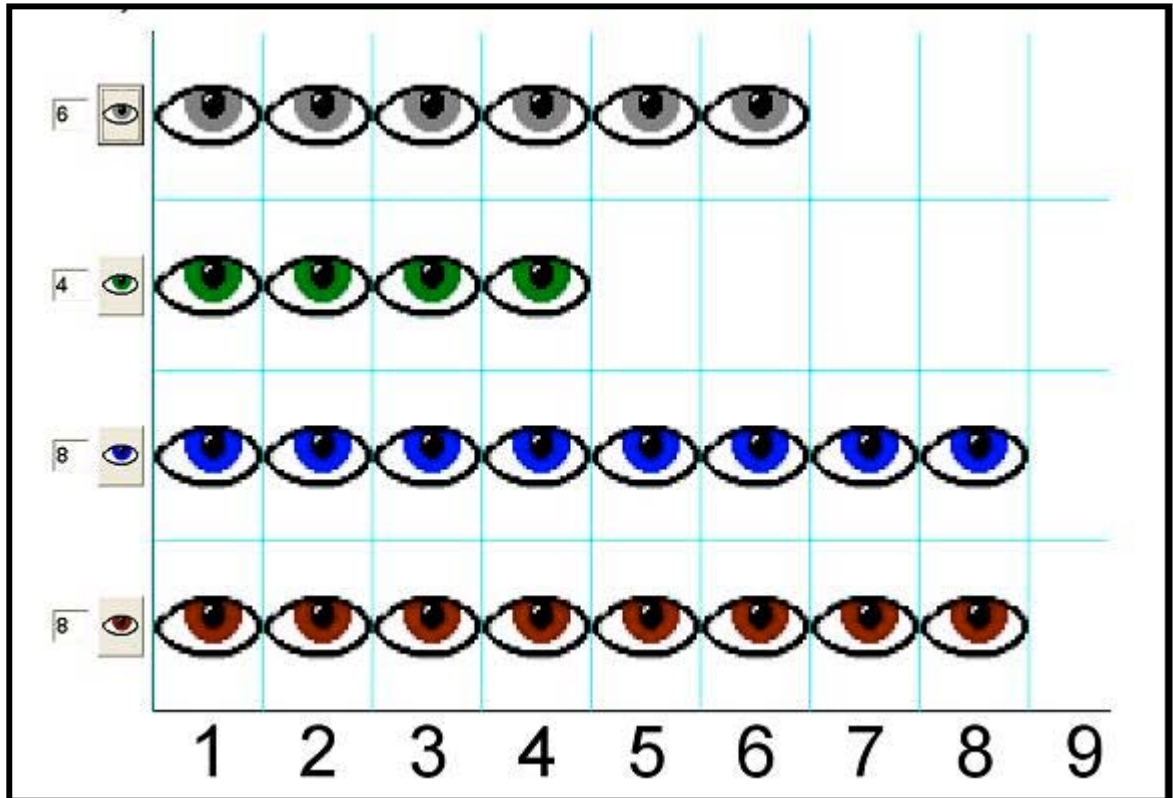
- Any software program which has prepared pictogram sets, including colour of eyes, for example Starting Graph, Pick a Picture, Information Workshop, Pictogram, 2Simple etc
- (There is a free demo version of a pictogram package from Interactive Resources available at <http://www.interactive-resources.co.uk/mathspack2/picto/picto.html>.) For information on how to purchase the full version go to the basic Interactive Resources website at <http://www.interactive-resources.co.uk>
- An interactive whiteboard or data projector would be useful but is not essential.

The Lesson

Begin with a discussion about eye colours and the words used to describe them. These can be recorded for the children to see. Ask how we could find out how many children in the class have brown eyes. Take suggestions from various children and discuss them with the group. One suggestion might be that all children with brown eyes stand up to be counted. Ask whether this would work and take responses and further suggestions. Ask if these would still be sensible suggestions if they wanted to find out about children in other classes or groups.

Explain that the computer can help with the survey. If possible, work with the whole class using a data projector or interactive whiteboard. Alternatively, group the children around the largest available monitor. Load the program and choose to use a pictogram graph, selecting the prepared set of images for eye colour. Explain what is displayed on the screen and illustrate how to build up a graph of eye colour. Check that the children understand that one picture/block represents one child by entering a few individuals. Clear the graph, and then undertake the survey with the children, recording the results on the pictogram.

This could be done in various ways. Children could stand up individually and have their eye colour added to the chart one at a time or the class could be organised into groups of similar eye colour, the numbers in each group counted and then this data added to the chart.



When the survey is complete, discuss the display asking (questions such as):

- What can we find out from the graph?
- Can we tell how many children have blue eyes?
- Can we find out the names of the children who have blue eyes?
- Which eye colour is the most common?
- Which is the least common?
- What is the difference between the number of blue-eyed children and the number of green-eyed children?

The answer to question 3 may puzzle the children. The graph does not show any names so it is not possible to recover this data.

Explain that the graph can be printed and kept as a record of the survey.

Why are we using ICT?

ICT enables pupils to make pictograms quickly and easily. They can also edit and display these immediately to explore 'What if ...?' type questions. With ICT, work can be stored, retrieved and printed out.

References

QCA Schemes of Work ICT Unit 1E: Representing information graphically: pictograms

<http://www.standards.dfes.gov.uk/schemes2/it/?view=get>

QCA Scheme of Work Science Unit 1A: Ourselves

<http://www.standards.dfes.gov.uk/schemes2/science/?view=get>

National Curriculum Science KS1 Programme of Study: Sc2 Variation and classifications: pupils should be taught to recognise similarities and differences between themselves and others

http://www.nc.uk.net/webdav/servlet/XRM?Page%2F@id=6004&Session%2F@id=D_yis3e4CTrLs7ag596Pwl&Subject%2F@id=6321

Where do we go next?

Groups of children could undertake a survey of their own – perhaps looking at eye colour of children in different classes within the school or at an alternative feature such as hair colour. The children could devise ways of recording the results of these surveys themselves or use the same software package that was used in the first part of the activity.

Differentiating the activity

Groups for the above follow-up work will need to be carefully constructed so that less able pupils are supported in the science and ICT aspects of the work. This could involve the use of a teaching assistant or parent helper. Groups of more able children will be able to work more independently.

Reflecting on their work

When the children have undertaken surveys in various ways, encourage them to discuss what they have done, what they found and to compare the different methods, giving their reasons. They could use a basic writing frame to write up their investigation and print pictograms to illustrate this.

Supporting Links

- There is a free demo version of a pictogram package from Interactive Resources available at URL <http://www.interactive-resources.co.uk/mathspack2/picto/picto.html>

Supporting assets

- Writing Frame provided – Y1 A survey of eye colour writing frame.