

Geography Year 1: Graphing Homes Around the School

Introduction

In this unit children look at the different types of homes around the school and learn how to use ICT to represent information graphically. They learn how to create pictograms and how to answer simple questions on the data shown in their pictograms.

What are we going to do?

- Survey the local housing
- Show children how the features of a map can relate to the features found in the physical world
- Enter the details into a simple graphing program
- Look at what the graph tells us.

Skills involved

What will the children learn?

In carrying out this activity, pupils should learn to:

- relate to a map of the local area
- observe manmade features and understand their significance
- observe and record accurately
- enter data into a computer graphing package
- note the significance of graphed data.

What prior experience will the children need?

The activity assumes that the child can collect data, with help, and is beginning to understand that data can be represented graphically. It would be helpful if the children have had some experience of maps of their school grounds so that they can relate to local maps.

Equipment

- Large-scale local maps (you can also obtain digital maps from the internet, your LEA or local council). One way to produce a large-scale map of your school area would be to photocopy it onto acetate, place it on an overhead projector and project the image onto to a large piece of paper, tracing round the image
- Aerial photos of the locality, particularly of the school, if possible
- Data collection sheets
- Computer software for drawing simple graphs, with a pre-prepared file
- A camera (preferably digital)
- Digital pictures of the local area collected by teachers or children
- 'House features' worksheet (supplied).

The Lesson

- Set the scene by starting a wall display by mounting a large-scale map of the local area, preferably with the school in the middle of the map. If one can be obtained, an aerial photograph of the area would provide an ideal aid to understanding a map representation of the locale
- On the wall map, label significant places that the children know. During the course of the project children will explore the local area so that more labels can be added
- Establish a common vocabulary to describe what children are going to see prior to filling in their raw data-collection sheets (the worksheet or a similar resource will support this). Discuss terms such as bungalow, terraced, detached, semi-detached, flats
- Go on a walk round the local area so it includes a selection of different types of houses. The children will need to begin to relate what they see to the map when out exploring. This will need to be taught: stop regularly and look at the map together. Take digital photographs which can later be placed round the map and joined to the place where the picture was taken
- Collect basic information on a data collection sheet using a tally system. If possible, mark locations of different sorts of buildings on a map (an adult could be responsible for collating this)
- Back in school, enter the raw data from the data-collection sheet into a pre-prepared file using the graphic program. Set up the file so that the graph grows as the data is entered. If possible include illustrations to help pupils know which type of house is which. Explain how the tally is converted into cardinal numbers. Show the pupils how to enter the data
- Print out the graphs
- Use the graphs to help answer simple questions such as 'How many houses were bungalows?'
- These graphs will make excellent display material to go round the big class maps.

Why are we using ICT?

Much of the activity in this unit of work consists of the construction of graphs from raw data collected in the field. The making of graphs by children is a thoroughly worthwhile activity but it can sometimes get in the way of children's understanding about what the graph is trying to communicate. A simple graphing program will produce excellent charts and graphs that visually demonstrate to the pupil the meaning behind the raw numbers.

References

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

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

QCA Schemes of Work Geography Unit 1: Around your school

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

Where do we go next?

- Children could transfer the skills acquired during this activity to other data-collecting exercises and construct graphs
- Are there any other features of the local area or the school grounds which could be graphed?

Differentiating the activity

- Pupils may need to be carefully paired for the walk with more able and less able working together
- A small group of pupils may need to work specifically with an extra adult (particularly when map reading)
- More able pupils can annotate their maps with extra features not included on the map, such as the homes of some of the pupils
- When graphing, check that the data-collection sheet the pupils are working from has appropriate tallies on it. Some pupils may need photocopies of an adult's sheet to work from.

Reflecting on their work

- Are the pupils better able to identify different types of houses than before the activity?
- Has the activity made them understand maps more easily?
- Did the graphs help children understand that there was a correlation between the number entered into the cells and the height of various blocks in the graphs?
- Could the children answer simple questions that were generated before the inquiry began using the graphs to buttress their answers?

Supporting links

- Maps of the local area <http://www.map24.co.uk/map24/>

Supporting Assets

- House features worksheet
- Data collection sheet
- Kind of houses image
- Kind of houses graph
- Kind of houses table