Populations

Resources
■ Spreadsheet software such as Excel®
CD-ROM: 💿
■ Activity sheets: 'Swansea's population growth' (also p17), 'Glasgow's population', 'Worcestershire's population' and 'Isle of Man population'
■ Bar chart tool; Line graph tool; Pie chart tool

Introduction
Display the table on the activity sheet 'Swansea's population growth'. Explain that Swansea started to keep statistics on its population as far back as 1801. Ask:
■ *By how much did the population grow from 1801 to 1931?*
■ *What sort of work was there for people in this area?*
■ *Why do you think the population dropped between 1931 and 1941 then again between 1941 and 1951?*
■ *By how much has the population grown from 1801 to 2010?*
Now show the bar chart for this data. Ask, for example:
■ *What scale is used for these statistics?*
■ *How accurately can you judge the 1801/2010 statistics from this scale?*
Discuss how bar charts with such large scales give a picture of the pattern that the numbers show.

Children's task
Provide copies of the activity sheets 'Glasgow's population' and 'Worcestershire's population'. The children work in pairs to enter the data for Glasgow's population into a spreadsheet using Excel® or similar, then make a bar chart, a line graph and a pie chart, using the same software or the tools from the Kids Zone of the CD-ROM. Ask them to discuss the charts they make and write a brief evaluation for each one on the activity sheet. They repeat this for Worcestershire's population statistics and save their spreadsheets and charts.

Differentiation
More confident: Challenge the children to explore other features of the charts they make and to decide whether these features add anything to their understanding of particular statistics.
Less confident: Decide whether to limit the graph-making to a bar chart at this stage. Discuss what the children can see from the 'picture' that the chart makes.

Review
Display one of the spreadsheets and bar charts for Glasgow. There is no data available for 1941. Ask:
■ *What was happening in 1941 that might have stopped Glasgow from collecting this data?*
■ *How much effect did the bombing have on Glasgow during World War II?*
Ask children to look at how the population has declined from over 1,000,000 in 1951 to about 580,000. Ask:
■ *What do you think might have caused this?*
■ *What has happened to shipbuilding in Britain?*
■ *What other industries does shipbuilding need?* (Discuss the decline of Ravenscraig steelworks, for example.)
Discuss how, for some towns and cities, the population will grow as it has in Worcestershire. However, the industrial backbone of Glasgow up to the 1950s gradually declined. Children could investigate what sorts of industries provide employment in Glasgow today.
    Talk about the children's hometown and its work opportunities. Ask the children if they think their population is growing or in decline and why they think that.

Now try this...
Invite local people into school to talk about the history of their town, from the 1930s to now. Beforehand, ask the children to find the population statistics for their town, enter these into a spreadsheet and make bar charts to show the population statistics. They can make a list of questions to ask about changes over time.

CD-ROM follow-up material
Provide copies of the activity sheet 'Isle of Man population' and ask the children to create charts to display the data. Then they can choose another island off the UK coast and find the appropriate population data, make charts to display the data and compare this with the Isle of Man data.

Swansea's population growth

	A	B
1	**Year**	**Population**
2	1801	21,338
3	1931	206,558
4	1941	205,194
5	1951	203,854
6	1961	214,834
7	1981	223,260
8	1991	233,145
9	2001	223,293
10	2010	231,300

Teachers: please note that the statistics for populations for 2010 given in this activity are estimates based on best data available.

Bar chart of Swansea's population growth