Based on **pages 2, 4 and 5** of *How life changed in Victorian times*

Plotting population changes

The data on populations provided on page 2 of the student book can be used to prepare graphs to compare population changes before and during the Victorian times.

Graph 1: The population in the sixteenth to eighteenth centuries

Prepare the axis of the graph in the following way:

Mark out along the bottom of the graph from 1570 to 1750 in ten year intervals.

Mark up the left hand side 0 to 7 million in 1 million intervals.

When you plot the data from page 2 note that you are only plotting six points and that before the days of the census they do not occur at regular intervals along the bottom of the graph. For example there are thirty years between 1600 and 1630 and forty years between 1630 and 1670.

Graph 2: The population in the nineteenth century

Prepare the axis of the graph in the following way:

Mark out along the bottom of the graph from 1801 to 1901 in ten year intervals.

Mark up the left hand side 16 to 43 million in 1 million intervals.

When you plot the data from page 2 note that you do not use the data for 1911.

1. Look at graph 1 and describe how the population changes over the period.

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2. Look at graph 2 and describe how the population changes over the period.

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3. How does the population change in late Tudor times 1570–1600 compared with the population change in late Victorian times 1871–1901?

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Teacher's sheet

Plotting population changes

Age range

- Years 5/6 (SP6/7).

Resources

Copies of the worksheet. A4 sheets of graph paper with two millimetre squares. The area of the graph paper should be 18 cm x 28 cm.

Using the worksheet

People can sometimes get a better idea about how population changes by changing data in a table into a graph. Students have to use graph-making skills in other areas of the curriculum and this can be used to support that work. The suggested graph paper has been selected as it allows large graphs to be plotted accurately.

For graph one the X axis should be 14 cm high beginning at zero and rising to seven million with each million of the population separated by ten 2 mm squares.

The Y axis should be the full width of the paper – 18 cm. It should begin in 1570 with five 2 mm squares separating each ten year mark up to 1750.

The students may need reminding that the data is plotted at irregular intervals along the Y axis.

For graph 2 the X axis should be 27 cm high beginning at sixteen million and rising to 43 million, each million separated by five 2 mm squares.

The Y axis should begin at 1801 and run to 1901. Each ten year mark separated by five 2 mm squares.

Older students only

The students may respond to question 1 by saying that the population rises steadily for sixty years then rises less at a lower rate for forty years, then the rate of growth increases steadily again.

They may respond to question 2 by saying the population rises sharply for forty years then the rate of increase slows down for ten years, then rises sharply again.

The students may respond to question 3 by saying that the population rises steadily from just over 4.1 million to 4.8 million in late Tudor times and rises sharply from 31.6 million to 41.6 million in late Victorian times. Keen students with calculators may tell you that the late Tudor population increased at the rate of 23,333 people per year while the late Victorian population increased at a rate of 333,333 people per year.

Outcomes

The students can:

- Plot graphs from data in a table.
- Describe the shape of graphs.
- Compare information conveyed by two graphs.
- Appreciate the great increase in population in Victorian times.