



Population Growth in Australia

Year	Australian population	Queensland population
1905	4,033	531
1915	4,969	685
1925	6,003	845
1935	6,756	971
1945	7,430	1,085
1955	9,312	1,359
1965	11,505	1,659
1975	13,969	2,072
1985	15,901	2,597
1995	18,071	3,265

Task A Here are the data for Australia and Queensland over the past 100 years or so (in thousands). Plot a time series graph of the Australian population against time.

Task B When was the population growing fastest? Slowest?
What do you predict the population size to be in 2005?

Australia's population is forecast to increase to a likely 23 million by 2021, equivalent to creating one extra city the size of Sydney, with its attendant demands on resources, infrastructure and services.

Can you extend your graph to 2021 and make a prediction?

Why / Why not?

Task C Draw a graph for the numbers of Queenslanders and Australians. Comment on the changes you notice.

Extension task

If country A has a population of 30 million in 1980 and it grows by 1.5 million a year, what should the population be in 20 years time? How did you work this out? Can you write an expression for the expected population in n years time?

Country B also has a population of 30 million but is growing by 3.5 % each year. What should be the population of country B in n years time?

Draw a graph to show how these populations are increasing and use it to find out how long it will be before the two populations are the same size again.