



Population Growth



Essential Question: *What will the world's population be in 2100?*

Overview

In the last activity, you saw a video showing the world's population growth over time. As of 1999, the world's population reached 6 billion. It has surpassed that number today. How did our population become so large? Is the world's population increasing at a steady rate? To answer these questions, you will calculate population growth rates using world population data.

Population growth rates (PGR) show a percentage of change in the population over a given time. The PGR reflects the emigration and immigration into a given area and the total number of births and deaths in that area during a period of time. The population growth rate gives scientists a better picture of population trends.

In this activity, you will determine the current world population growth rate and predict the population for 2100. Since you are using world population data, your PGR values will reflect only birth and death rates over a period of time.

Materials

For each group:

- graph paper
- ruler

Procedure

1. Make a line graph of the “World’s Population” data shown on the next page.
* *Note that the population value for the year 2050 is a projected number.*
2. Use the formula below to calculate the population growth rate (PGR) for the years 1800–2050.

The PGR is calculated by the increase in the world's population during a specified time and divided by the population at the start of that specified time.

$$\frac{\text{Current Year} - \text{Previous Year}}{\text{Previous Year}} \times 100\% = \text{PGR}$$

Example calculation to find the PGR for years 1800-1850:

$$\frac{1211 - 900}{900} \times 100\% = 35\%$$