

China and India Population Lab - Chapter 5

In this lab, you will compare the populations of China and India.

Collecting the Data

For both countries, you will find populations for every five years since 1950, plus a projection for the current year.

1. Go to <http://www.census.gov/ipc/www/idb/tables.html>.
2. Under “Select one table,” select “001 Total Midyear Population, Area, Density.” Under “Select output type:”, select “Display Mode”. Then, click the “Submit Query” button.
3. Under “Variable groups”, select “Population”. Under “How to aggregate”, select “Treat each region separately (all countries selected individually constitute a region)”. Under “Aggregated output options”, select “Country data only”. Select “China” from the country list. Under “Year Selection,” enter 1950 into the “From” box, enter the current year into the “To” box, and enter 5 into the “By” box. Then click “Submit.”
4. Record the data or print the screen.
5. Repeat steps 1-3 for India.

Analyzing the Data

1. Include tables of data for China's populations and India's populations.
2. Define the variables for your models. [Hint: Describe the units of the variables.]
3. Which variables are the independent variables? Which variables are the dependent variables? If you round the data, describe how.
4. Use a graphing calculator to draw scattergrams of the data. Copy the scattergrams on paper. For both countries, discuss whether a linear or an exponential function is a better choice of model. Explain.
5. For both countries, find an equation of a model.
6. For both countries, use a graphing calculator to graph your model and your scattergram in the same viewing window. Also graph your model and scattergram by hand. How well does your model fit the data?
7. Which country has the larger current population? Use your models to estimate the difference in the current populations.
8. Use "intersect" on a graphing calculator to predict when the populations will be equal.
9. Go to www.census.gov/ to find an estimate of the current world population. Use a model to predict when India's population will reach that size. Use a model to predict when China's population will reach that size. Explain in terms of the types of functions used to model the populations why the two results are so different.
10. Use your models to predict when the sum of the populations of China and India will reach the current world population. Explain how you found your result.