Demographics:
Effect of GNP on Population Statistics for Selected Countries

The table below provides some demographic information for several countries of various stages of development.   Data like these can be used to determine if relationships exist between different measures of development.   In this activity we will see if a relationship exists between the wealth of a country and the other measures in the table.

Table 1: Population Statistics for Selected Countries

Country	Infant Mortality per 1000 Live Births	Life Expectancy F	M	Total fertility Rate 1980	2013	2009 Per Capita GNP (US$)
Argentina	13.4	79.1	71.6	3.4	2.2	18,600
Brazil	23.6	76.1	68.8	4.3	1.8	12,100
Canada	4.8	82.9	78.3	1.7	1.6	43,100
China	23.0	74.8	71.3	3.3	1.7	9,800
France	4.2	84.3	77.8	1.9	2.0	35,700
Germany	4.3	82.1	76.5	1.5	1.4	39,500
India	55.0	66.4	63.2	4.8	2.5	4,000
Jamaica	13.6	75.2	70.0	4.0	2.3	9,000
Japan	3.2	86.1	79.0	1.8	1.4	37,100
Nigeria	109.5	46.4	47.3	6.9	6.0	2,800
Philippines	23.1	73.9	69.5	5.5	3.1	4,700
Russia	16.6	72.6	61.8	1.9	1.6	18,100
Saudi Arabia	18.8	75.3	70.9	7.3	2.7	31,300
Sierra Leone	160.3	44.1	41.0	6.5	4.8	1,400
South Korea	4.1	82.2	75.0	2.8	1.3	33,200
Sri Lanka	11.0	76.2	68.8	3.8	2.3	6,500
United States	6.3	80.8	75.6	1.8	1.9	52,800

1. Most developing countries do not offer any old age pension for their citizens.   What other reasons are there for wanting a large family?
2. In some cultures, parents are expected to live with the family of their son when they become too old to live on their own.   What effect might this have on the parents' desire to have more children if the first child is female?
3. In some cultures, families have to pay large dowries to the men who marry their daughters.   What influence might that have on how parents regard female children?

4. In general, what has happened to total fertility regardless of per capita GNP?
5. On graph paper, put per capita GNP on the horizontal axis and 2009 total fertility on the vertical axis. Graph the data for each country.   Now draw a single line (it doesn't have to be straight) which follows the path of the data the best.   This is called a line of best fit.
6. Are there any countries which do not seem to follow the trend of the others?   Can you suggest reasons why they may deviate?
7. On a new graph, plot both infant mortality and life expectancy (use either male or female) against GNP. To do this you simply make a vertical axis on each side of the graph.   Draw a line of best fit for each. You can use different colors to distinguish the two sets of data. Comment on the trend.

Table 2: Total Fertility Rate and Income in Brazil 1970

% of average income earned by family head	Total	Urban	Rural
below 50	8.19	7.6	8.74
50-100	2.66	2.62	2.9
100-200	2.22	2.25	2.1
over 200	1.83	1.82	-

8. From the data in Table 2, describe the pattern that emerges between the total fertility and income in Brazil.   Draw a bar graph showing rural and urban total fertility rate on the same graph.   Put income on the horizontal axis and fertility on the vertical axis.   Describe the relationship.
9. Name some factors that contribute to "quality of life" in Canada and describe how they might contribute to lower total fertility.
10. Imagine yourself in the position of a person your age in a developing country.   What family planning choices and pressures would you face?   What choices would you make?
11. Think about the pressures or interests that make people want or not want to have children.   How do they differ between our country and a typical developing country?