

## 5.5 Exercises

### Basic Concepts

1. What are some methods of displaying measurements other than traditional axes?
2. What are the limitations of multivariable graphs?
3. What is Gapminder?

### Exercises

4. Navigate to the Gapminder Trendalyzer tool in a web browser to answer the following questions. Make sure the  $x$ -axis is set to *Adjusted GDP per capita*, and the  $y$ -axis is set to *Life Expectancy*.
  - a. By looking at the graph for the year 2015, do you notice any patterns in the data?
  - b. The American Civil War is arguably the most discussed event in American history. It is, by far, the bloodiest war the United States has ever experienced. An estimated 650,000 to 750,000 soldiers died during the Civil War, more than the American casualties from both World Wars, Korea, Vietnam, Iraq, and Afghanistan combined. Between the years 1860 and 1864, how much did the life expectancy in the United States decrease?
  - c. In 1918, the entire world experienced a notable change. Describe what happens on the Gapminder graph in the year 1918. What was the cause of the worldwide event? Hint: Use a search engine to do some research.
  - d. In the early 1990s, oil reserves were discovered in Equatorial Guinea which lead to a massive boost to the national GDP per capita, and it has remained one of the highest in Africa ever since.
    - i. From 1990 to 2008, how much did Equatorial Guinea's GDP per capita increase?
    - ii. How much did its life expectancy increase from 1990 to 2008?
    - iii. In 2008, how does the life expectancy of Equatorial Guinea compare to countries with a similar GDP per capita?

### Technology

To learn how to use the Gapminder Trendalyzer tool, please visit [stat.hawkeslearning.com](http://stat.hawkeslearning.com) and navigate to **Discovering Statistics and Data, Fourth Edition > Technology Instructions > Gapminder Trendalyzer**.