

STEM *Sims*TM

Data Analytics

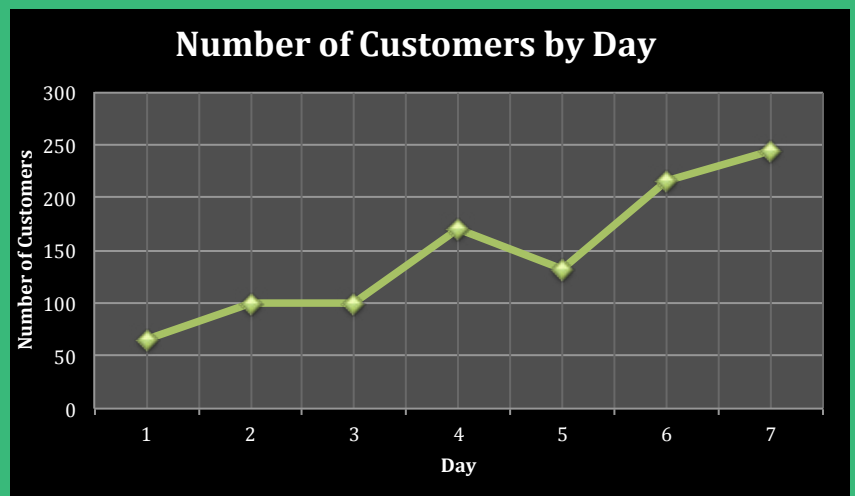


Data Analytics

**Do you need an idea for a scientific study?
Try out one of our ideas or make one of your own.**

Start right now learning the basics about how businesses use the science of data analytics to make conclusions about raw data. Take the following brief quiz to see how much you already know about data analytics and data analysis. See the bottom of page 4 to check your answers.

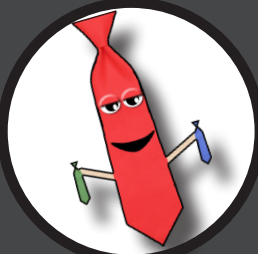
1. Which of the following tools can be used in data analytics?
 - a. bar graphs
 - b. pie charts
 - c. scatter diagrams
 - d. all of the above
2. One way that a business can gather data on its customers is through:
 - a. advertising flyers.
 - b. customer loyalty programs.
 - c. TV commercials.
 - d. actor spokespersons.
3. By analyzing its customer data, Harrah's Entertainment, Inc. (Harrah's casino) discovered that its best customers were the ones that:
 - a. frequently stayed at the casino hotel.
 - b. spent more than \$500 per visit.
 - c. played slot machines.
 - d. none of the above.
4. Google Analytics provides data on which keywords are used to find a website.
 - a. true
 - b. false
5. Using the line graph (right), what was the number of customers for Day 5?
 - a. 125.
 - b. 135.
 - c. 155.
 - d. none of the above.



Too Much Information!

Here's a challenge for you to try. Imagine that you and a group of your classmates are going on a trip together. In order to recognize the members of your group, your shirts must be the same color. You have been tasked with figuring out what color the shirts should be based on the group's favorite color. Collect data from your classmates by asking each of them their favorite color. Then, create a bar graph that displays their color choices and the amount of times each color was selected.

A description of a bar graph, the symbols used, and an example appear on page 4.



Extension

Create a decision tree that describes how you would choose the color of the shirts if there is a tie for the most popular color.

Data Analytics

What is a bar graph?

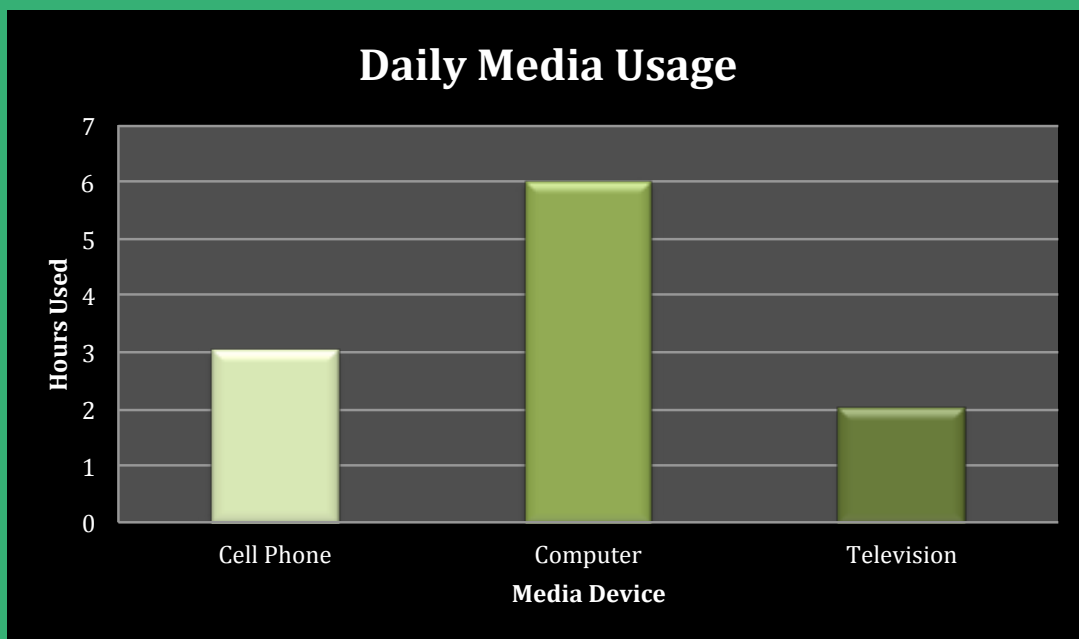
A bar graph is a visual tool that uses rectangular bars to display information. The bars can be displayed either horizontally or vertically. The length of each bar represents the frequency or value of the data it is describing. Bar charts are useful for comparing data, and they are easy to read.

What are the different parts of a bar graph?

A bar graph has a title, two axes (x axis and y axis), axis labels, and the bars.

Bar graph example

The following image is a simple bar graph that describes how much time a student spends a day using different media devices.



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Answers: 1) d. Bar graphs, pie charts, and scatter diagrams can all be used in data analytics. 2) c. When customers use loyalty rewards cards, businesses can gather valuable data on what customer's buy, where they buy, and the average amount of money they spend. 3) c. Harrah's discovered that its best customers were the "low-rollers" who spent less than \$500 a visit, and they did not typically stay overnight in the hotel. 4) a. true. 5) b. The line graph shows that the amount of customers on Day 5 was between 125 and 150 customers, so the answer is 135.

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