

Section 2.1 – Types of Graphs

- Graphing provides us with a way of visualizing **DATA**
- We will discuss a few here and put more focus on Bar/Line/Circle Graphs

The first three we will look at are:

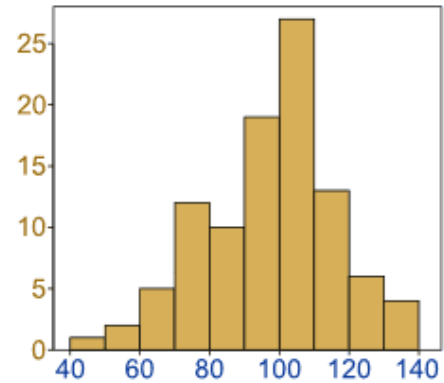
Pictographs: A way of showing data using images

Pictographs have been used since the beginning of human civilization. Examples have been found as early as 3000BC in Egypt and Mesopotamia.

Favorite cookie	
Cookie	Number of students
Peanut butter	● ● ● ● ●
Chocolate chip	● ● ● ●
Ginger snap	● ●
Animal cracker	● ● ●
Each ● = 2 cookies	

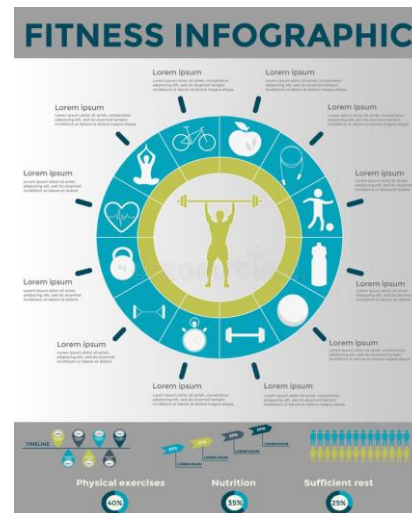
Histograms: Similar to a Bar Graph, made up of bars of info that represent continuous data, broken into bars that represent groups of ranges

Histograms, as a bar graph, is a way of showing information that represents continuous data without having to use a line graph.



Infographic: Graphic representation of information, data, knowledge etc. They play a critical role in marketing and advertising.

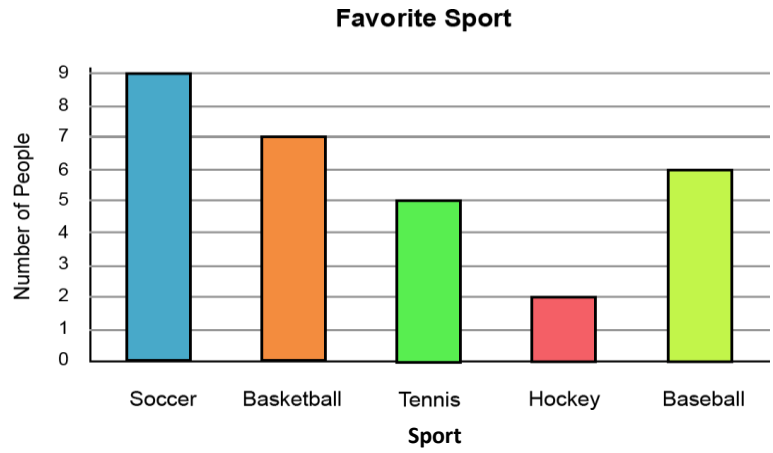
Infographics focus heavily on images to catch attention and portray information clearly, they still involve written information, but the images help to get the message out



The next three graphs we will look at in more detail.

Bar Graph: A graph of data, discrete in its topics, that represents the data using bars

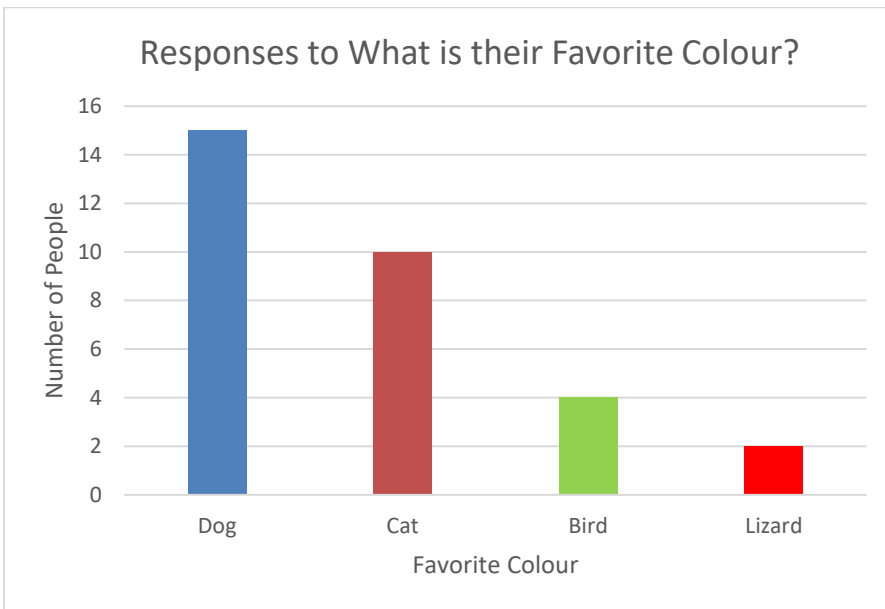
- You can see the Bar's represent discrete data (different concrete possibilities)
- The graph has a title and the axis are labeled



Example: Graph the following data as a bar graph

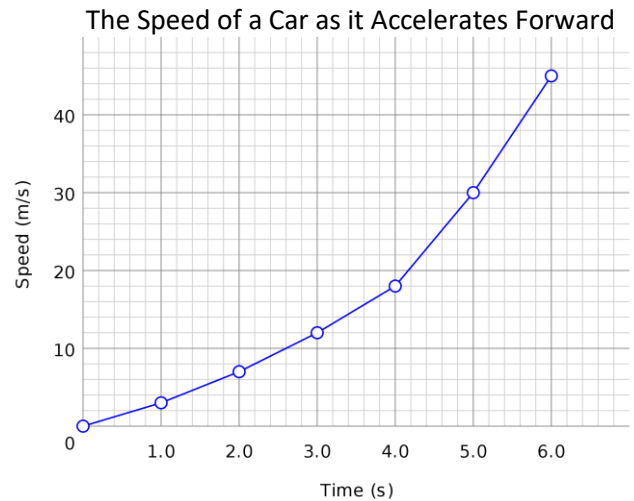
Solution:

<i># of people</i>	<i>Favorite Colour</i>
7	Red
5	Blue
12	Purple
9	Green



Line Graph: A graph that shows data, represented continuously, which means there isn't a break in the data

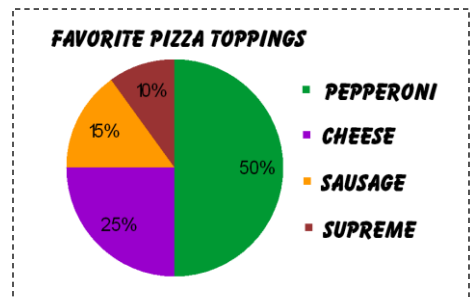
- You can see the x – axis represents time, which can be pin-pointed to any point. That is what we mean by continuous data.
- If the line graph is in fact continuous we can interpolate and extrapolate for the graph



Circle Graphs: The hardest to produce by hand. The data needs to be analyzed and broken down into a percentage, then the percentage needs to be multiplied by 360 so that we have partitions of the 360° circle. We start with an arbitrary radius and measure the corresponding angles from there.

Example: Given the following information, make a circle graph to display it.

# of People	15	10	4	2	7
Pets	Dog	Cat	Bird	Lizard	Other



Solution:

Total Number of People Surveyed: 38

Need a percentage of 360°

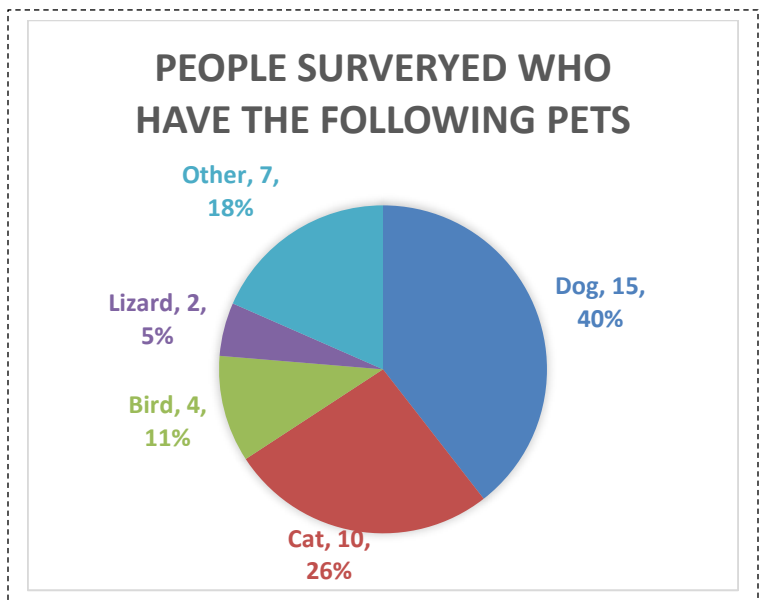
Dog: $\frac{15}{38} = 0.395 = 40\% \rightarrow 0.395 * 360 = 142^\circ$

Cat: $\frac{10}{38} = 0.263 = 26\% \rightarrow 0.263 * 360 = 95^\circ$

Bird: $\frac{4}{38} = 0.105 = 11\% \rightarrow 0.105 * 360 = 38^\circ$

Lizard: $\frac{2}{38} = 0.053 = 5\% \rightarrow 0.053 * 360 = 19^\circ$

Other: $\frac{7}{38} = 0.184 = 18\% \rightarrow 0.184 * 360 = 66^\circ$



Section 2.1 – Practice Problems

The following can and should be made of separate pieces of paper.

1. Create a Pictograph of your choice
2. Create an Infographic of your choice
3. Using the following data create both a Bar Graph and Circle Graph by hand

Students were asked what their favorite course was in school. The answers were as follows.

<i>Math</i>	<i>Physics</i>	<i>Science</i>	<i>AutoBody</i>	<i>Band</i>	<i>Woodwork</i>	<i>Criminology</i>
6	4	8	10	7	3	5