

Creating and Interpreting Graphs

Graphs are a great way to give information to another person. They turn that information into lines, bars, or pictures. People use them to learn about different types of information.

Vocabulary

Data	Information that is used to create a graph.
Interpret	To "read" the data of a graph.
Title	Explains what the graph is representing.
Label	Explains what each axis of the graph represents.
X - axis	The horizontal line on the bottom of the graph.
Y - axis	The vertical line on the left side of the graph.
Key	Explains what each symbol of a pictograph is worth.

Three Types of Graphs

Line Plots

Pictographs

Bar Graphs

Line Plots

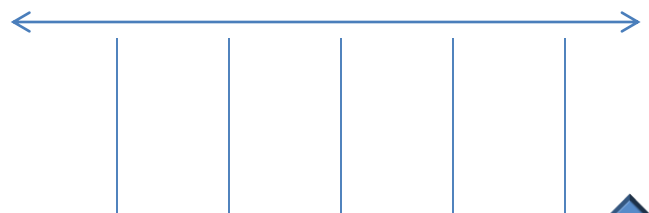
Line plots are very simple ways to represent data. They usually use X's to represent the number of people or objects that fall into certain categories. The categories are always listed on the bottom. The X's are on the top. Sometimes the X's can represent more than one piece of data.

Use this data to fill out the categories and data for the line plot below.

- 3 kids like cats
- 2 kids like birds
- 5 kids like dogs
- 3 kids like rabbits.
- 1 kid likes snakes

Use tally marks to gather data about favorite holidays.

- Christmas _____
- Halloween _____
- Easter _____
- Thanksgiving _____
- Valentine's Day _____



Pictographs

Pictographs are slightly more complex than line plots. They represent data with pictures. Sometimes the pictures look like the topic that the graph covers. Other times they are simple shapes. The biggest importance about pictographs is the fact that the pictures can be cut in half to represent half the data. They also use keys.

Tally Chart	Frequency Chart
P.E.	
Music	
Library	

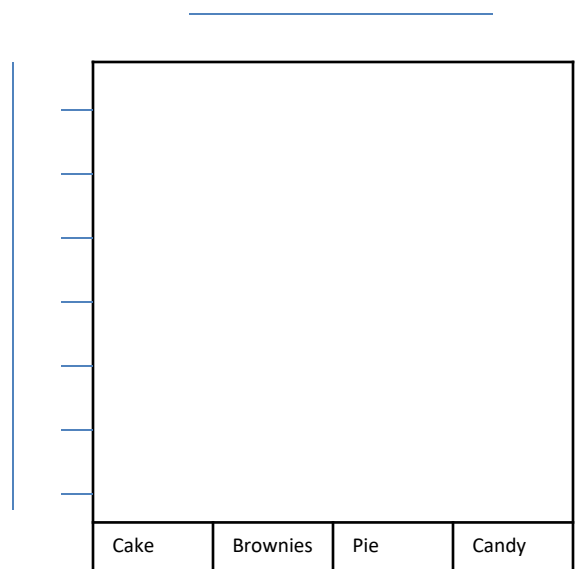
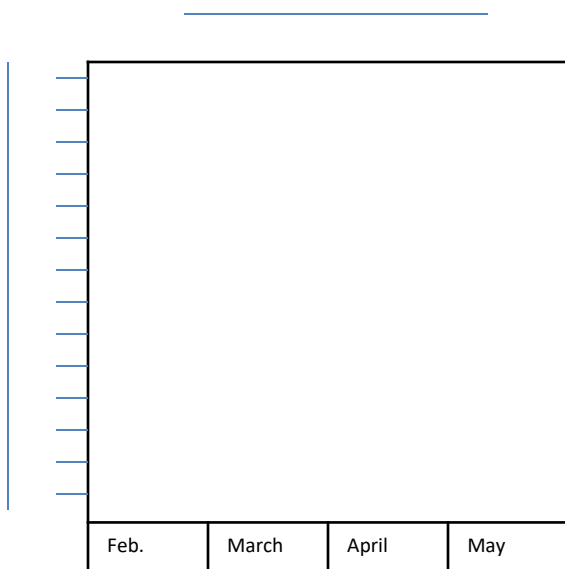
Tally Chart	Frequency Chart
Math	
Reading	
Writing	

Student's Favorite Special	
P.E.	
Music	
Library	
Key	○ = 2 students

Student's Favorite Subject	
Math	
Reading	
Writing	
Key	☺ = 5 students

Bar Graphs

Bar Graphs are one of the most common graphs used in the world. Sometimes they can be challenging to read though. You will have to be ready to show your estimating skills when creating and interpreting bar graphs.



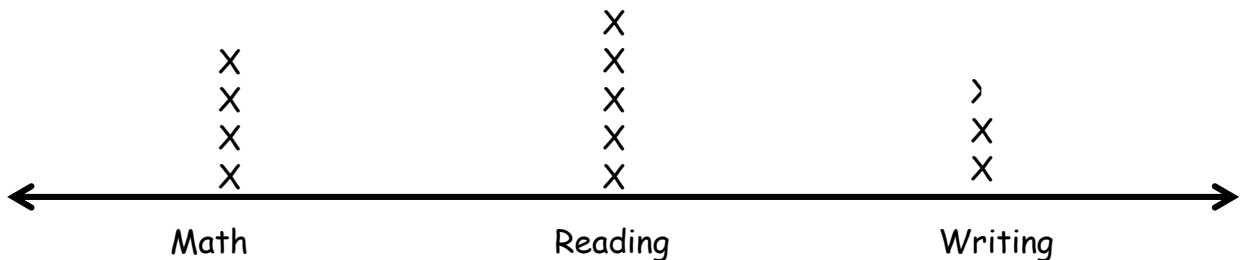
Scaled Data for Graphs

We have learned how to gather data and represent in in graphs, charts, and plots. We have also learned how to interpret the data from charts that are given to us. But what happens when we have too much data for our graph to handle? This is where scaling comes in.

Vocabulary	
Data	A piece of information that you can use.
Graph/Chart/Plot	An organized representation of data.
Scale	Representing data in a way that makes it easier to interpret.
Key	A list or note that explains a graph's symbols or scale.

Interpreting a Scaled Line Plot

Here is a scaled line plot that shows the favorite subjects of a class of students.



Each X = 4 students

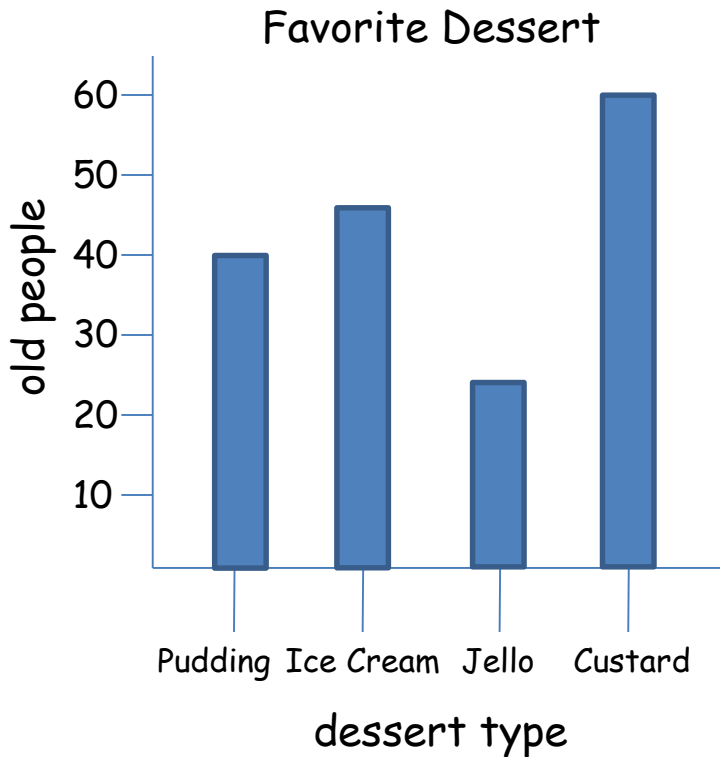
Use the above plot to answer the following questions:

1. How many students like math? _____
2. How many students like writing? _____
3. How many more students like reading more than math? _____
4. How many students voted on a favorite class in total? _____

Reflection: How are scaled line plots similar and different to regular line plots?

Interpreting a Scaled Bar Graph

Here is a scaled bar graph that shows the favorite desserts of a group of old people.



Use the above plot to answer the following questions:

1. About how many old people like ice cream? _____
2. How many old people like custard? _____
3. How many more old people like pudding more than jello? _____
4. Jeff looked at two data points and noticed that they added to 100. Which data points was he looking at? _____ and _____

Reflection: How are scaled bar graphs similar and different to scaled line plots? What tricks did you learn to help you interpret scaled bar graphs?