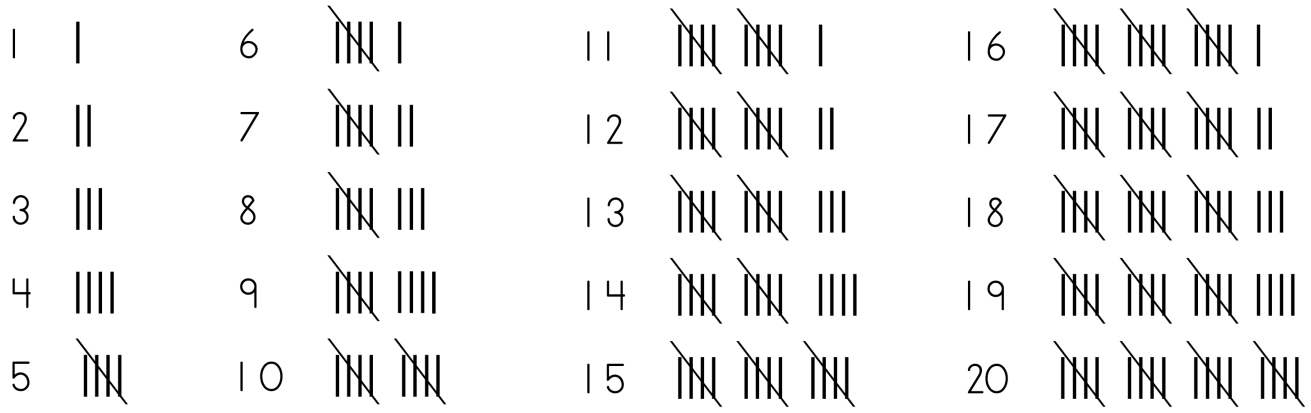
Tally Marks

When you use tally marks, you can only use four lines in a row, with one line for "one," two lines for "two," three lines for "three," and four lines for "four." To show "five," put a slash diagonally through four lines. Tally marks are useful when keeping track of slowly-changing information. Since cowboys used tallies to keep track of their cattle, I think of cows slowly moving through a gate and a cowboy sitting on a fence, making one mark for each cow passing beneath him. Alternately, perhaps you are on a trip, and you want to count red cars that you pass. Each time you pass a red car, you make a line until you get to the fifth one, and then you make a slash. Look at the chart below to see how to represent the numbers from 1 to 10. Then study the examples as we convert from tally marks to a numeral and then from a numeral to tally marks.

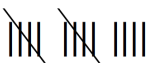


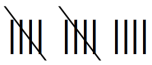
Example 1

Change the numeral 7 to tally marks

$7 = 5 + 2$ 

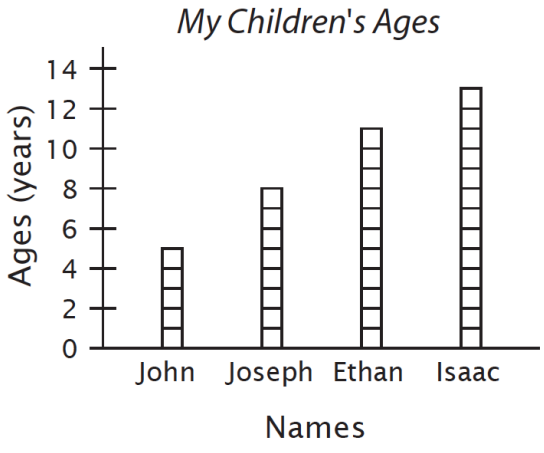
Example 2

Change  to a numeral

 $5 + 5 + 4 = 14$

Bar Graphs and Line Graphs

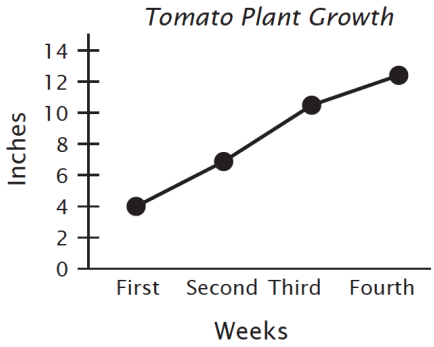
A bar graph is used to compare number values. When making a bar graph, use your bars to represent the values. To make this lesson real and practical, choose from the following list of ideas or make up some of your own. Compare the amount of money earned in a week, rainfall, how fast you grow, temperature, home runs of your favorite baseball team, or the number correct on your assignments. Make it REAL. If I were to compare the ages of four boys, the graph might look like this. Notice that a graph always has a title.



The objects, or data, are on the bottom and labeled. The scale is on the left. For greater numbers, let each block or unit represent 5, 10, or 100.

Line Graphs

A line graph is used to show change over time. This graph shows how much a tomato plant grew during the month of June.



As you record your own data, you should choose bar graphs for information that compares separate pieces of data, such as the amount of money different people earn in a week. A line graph is best for data that changes gradually over time, such one person's change in height. Information may also be recorded using pictures or dots to indicate how many times a certain number occurs. These kinds of graphs are called picture graphs and dot plots. Look for graphs in newspapers and other textbooks your students might be using.

Finding a Percentage

In a previous lesson you changed a fraction to a decimal by placing the tenth overlay on top of it. You can go a step further and place the other tenth overlay on top of the first one at a 90° angle. In Figure 1, 2/5 is changed to 4/10 and to 40/100. Notice that 4/10 = 0.4 and 40/100 = 0.40.

Figure 1

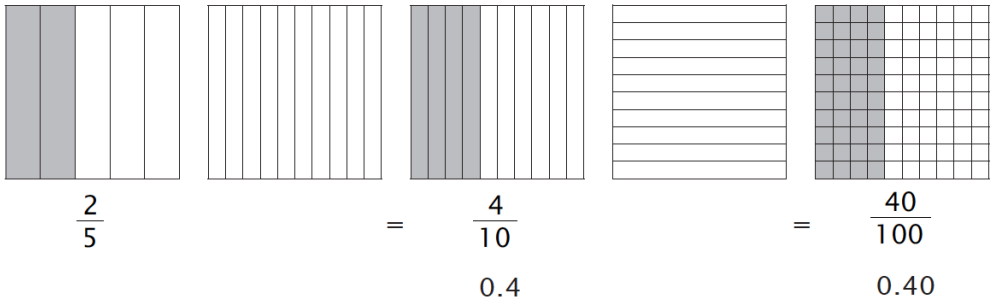


Figure 2 shows how you might think of the change from a fraction to a percentage. The one and the two zeros from the number 100 were changed into a percent sign. This completes the change from the fraction (2/5) to a decimal (0.4) and then to a percentage (40%).

Figure 2