

ORGANIZING AND ANALYZING DATA

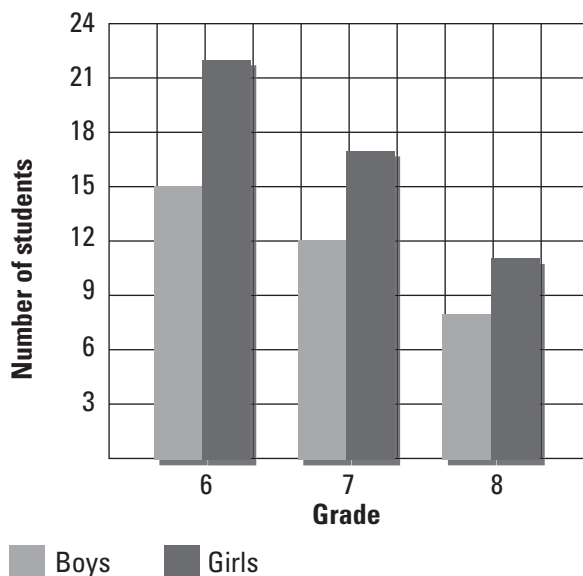
Making Bar Graphs

Graphs are useful for presenting information in a way that is easy to interpret. A bar graph is a type of graph in which the lengths of the bars are used to represent and compare data. A numerical scale is used to determine the lengths of the bars. Bar graphs should be used to compare data from distinct experimental conditions that do not depend on each other. Double bar graphs are useful for displaying two different sets of similar information.

How to make a bar graph:

- Place the dependent variable on the vertical axis, or y -axis.
 - Place the independent variable on the horizontal axis, or x -axis.
 - Choose a numerical scale for the dependent variable on the y -axis. The top of the scale should have a value greater than the highest value in the data. Use equal increments along the scale.
 - Draw and label the axes. Mark intervals on the y -axis according to the scale you choose.
 - Draw a bar for each data value. Use the scale to decide how long to make each bar. Label each bar.
 - Be sure to give your graph a number and a title.
 - When you make a double bar graph, use different colors or patterns within the bars to distinguish the different sets of data.
 - Be sure to include a key to indicate what the different colors or patterns mean.
1. Use the information presented in the double bar graph below to complete the data table.

Figure 1. Music Lesson Participation



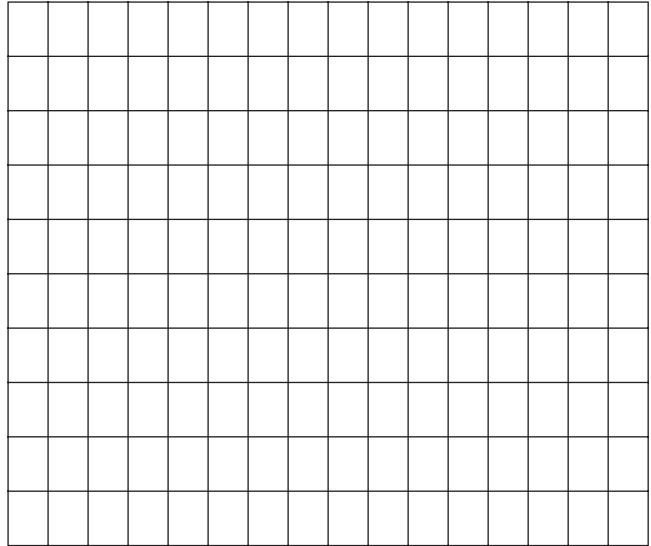
| Grade Level | Number of Boys | Number of Girls |
|-------------|----------------|-----------------|
| 6th | | |
| 7th | | |
| 8th | | |

Name _____ **Period** _____ **Date** _____

2. Use the grid to create a double bar graph from the data in the table. Don't forget to add a number and a title to your graph.

Table 1. Participation in Sports

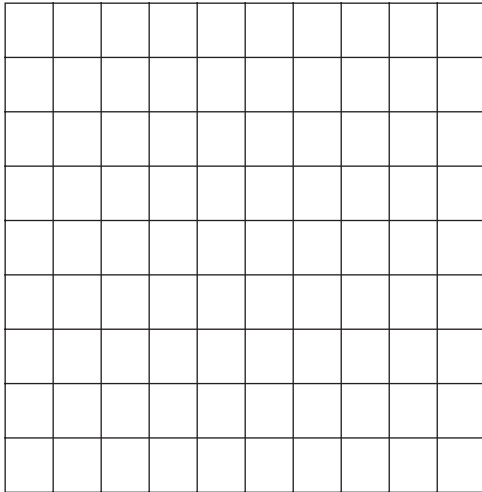
| Sport | Number of Boys | Number of Girls |
|------------|----------------|-----------------|
| Soccer | 27 | 25 |
| Baseball | 24 | 25 |
| Football | 20 | 6 |
| Basketball | 18 | 14 |
| Tennis | 7 | 11 |



3. Use the grid to create a double bar graph from the following fundraiser data.

Table 1. Fundraising Results

| Fundraiser | Income (\$) | Expenses (\$) |
|-------------------|-------------|---------------|
| Car wash | 85 | 25 |
| Pancake breakfast | 153 | 87 |
| Bake sale | 75 | 9 |



Challenge List the advantages and disadvantages of presenting information in a bar graph instead of a data table.
