

## **Inquiry Master 4.1**

### **Suggestions for Making a Graph**

1. Give each graph a title that describes the data being displayed.
2. Cover as much space in the graph as possible with plotted data. Leave enough space along the axes for labels, even-scale divisions, and units of measure.
3. Label horizontal and vertical axes with a description of the data being plotted and the units of measure.
4. Plot the independent variable (the data being controlled) on the horizontal, or  $x$  axis, and the dependent variable on the vertical, or  $y$  axis.
5. Set the scale for each axis with even divisions, letting the highest measured value in the data fit on the axis.
6. Make sure all spaces on the  $x$  and  $y$  axis scales are equal, even if they are not marked in the same intervals.
7. Make scaling of the axes start from zero at the intersection of the axes (called the origin) and increase in value, moving right on the  $x$  axis and upward on the  $y$  axis.
8. Plot the location of each data point on the graph with a small dot.
9. To account for some natural variability in data values, place small circles around the data to make it easier to join points with smooth curves.

Name: \_\_\_\_\_

Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Student Sheet 4.1

### Measuring the Energy Stored in a Battery

**Directions** Following the steps in the Student Guide, collect and record your data in Table 1.

**Table 1 Charging Time and Length of Time Flashlight Stays On**

Time Batteries Are Charged (s)	My Partner and I: Time Flashlight Stays On (s)	Class Average: Time Flashlight Stays On (s)
30		
60		
120		
240		

**Directions** Construct a graph using the class average data you recorded in Table 1.

Title: \_\_\_\_\_

