

## Rules for Graphing By Hand

1. Put a date, your name, and your partners' names at the top.
2. Use Graph Paper! Make axes using a ruler.
3. The origin of the graph is in the bottom left corner of the graph.
4. The scale is even so that each box represents the same value. NOTE: The vertical scale can be different from the horizontal scale.
5. Make a tick mark on the axis for the location of each number for your scale.
6. Label the axes with words and units.
7. Title the graph. You can always use: Vertical axis name vs. Horizontal axis name.
8. Plot the points. Make the dots big enough to see but not enormous.
9. Decide if the origin (0, 0) should be a point on your graph.
10. **If the data appears curved**, sketch a smooth curve through the points. **DO NOT CONNECT THE DOTS!!**

### The remaining steps apply to data that appears to form a straight line (linear data)

11. Draw a best fit line USING A RULER! DO NOT CONNECT DOTS!!
12. Calculate the slope of your best fit line by selecting two points from the best fit line. Pick two points that are reasonably spaced (one near the beginning of the line and one near the end). **Do not use data points.**
13. Circle the points you are using for the slope and label the ordered pair using units.
14. On a corner of the graph calculate the slope. Include units on all values.
15. Describe the physical meaning of the slope and the physical meaning of the y-intercept if there is a physical reason for not using the point (0, 0) on your graph.