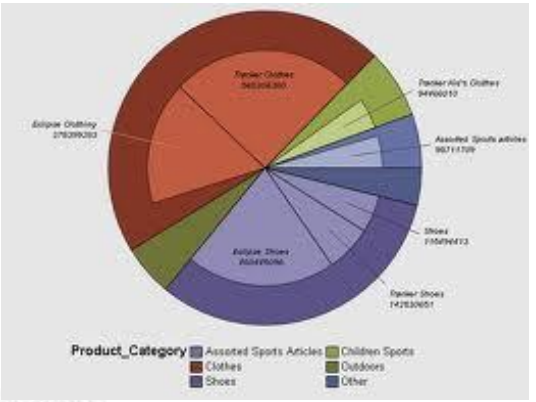
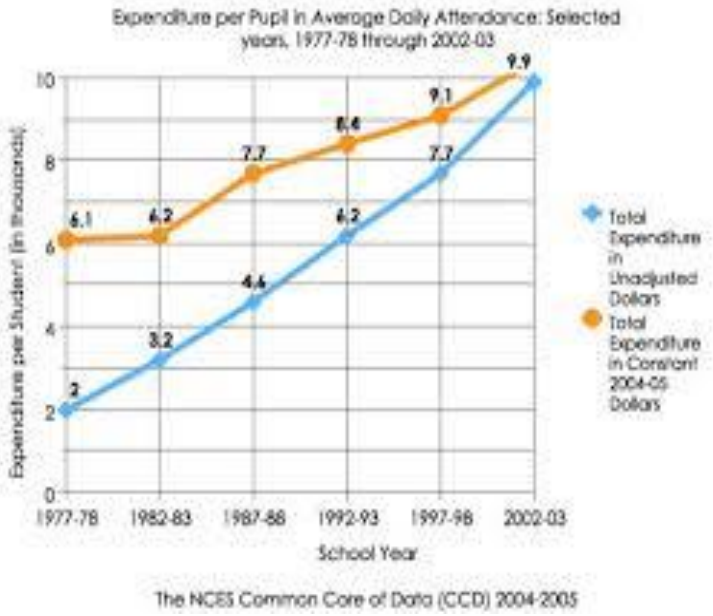
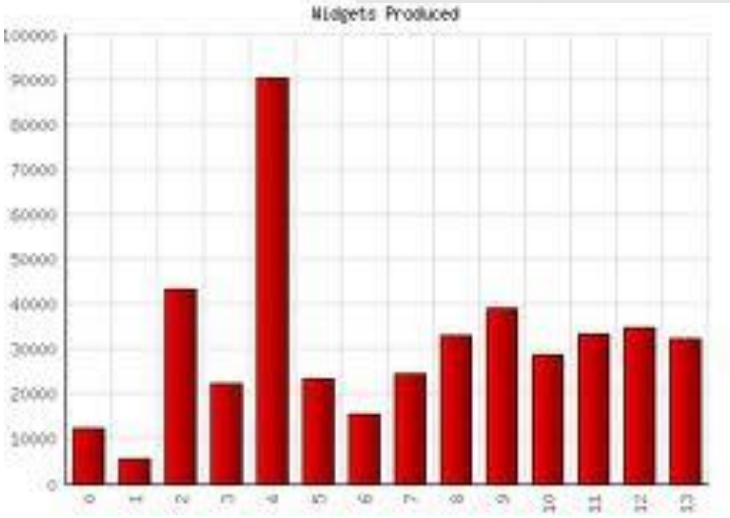
GRAPHING







- Use the variables of an experiment to draw and label a graph.
- Analyze and interpret information presented in a graph.

What does a good graph have?

1. A scientific and descriptive **TITLE** that tells us what we are looking at.

Examples of Good Titles:

Height vs. Foot Length

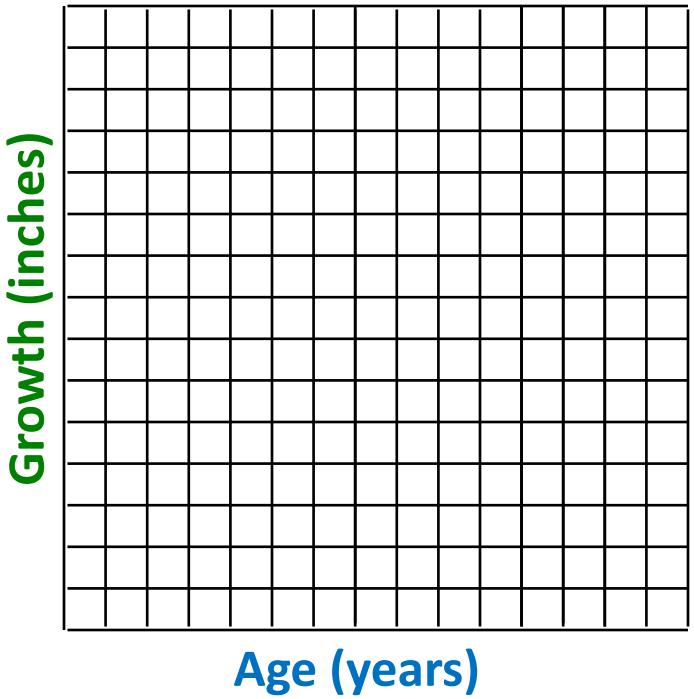
Weight vs. Amount of Food

Time vs. Number of Deer

Plant Height vs. Amount of Light

What does a good graph have?

2. A **LABELED** X-axis and labeled Y-axis with **UNITS.**



- Y-axis- DEPENDENT VARIABLE
  - (Vertical axis)
- X-axis- INDEPENDENT VARIABLE
  - (Horizontal axis)

What does a good graph have?

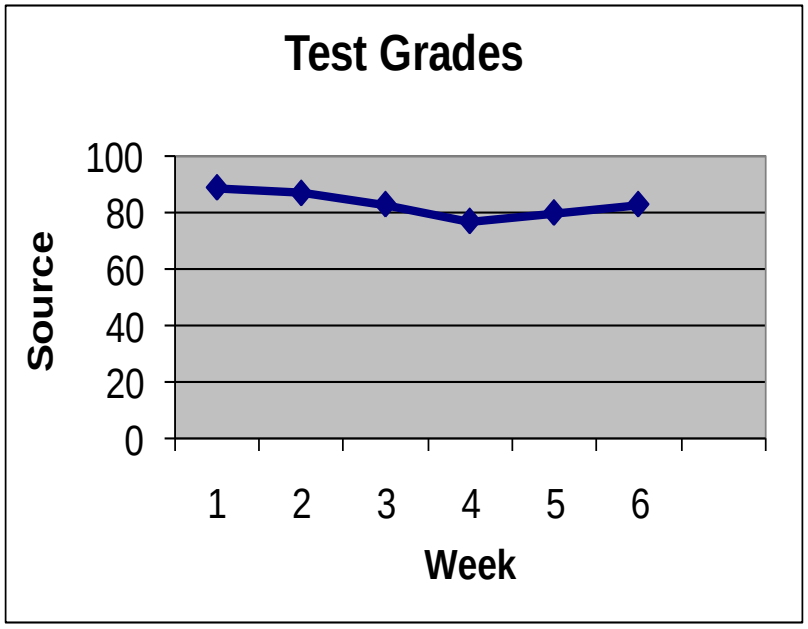
3. **INTERVALS** and **SCALING** – it is important to make sure the intervals on the X and Y axis are always equal.

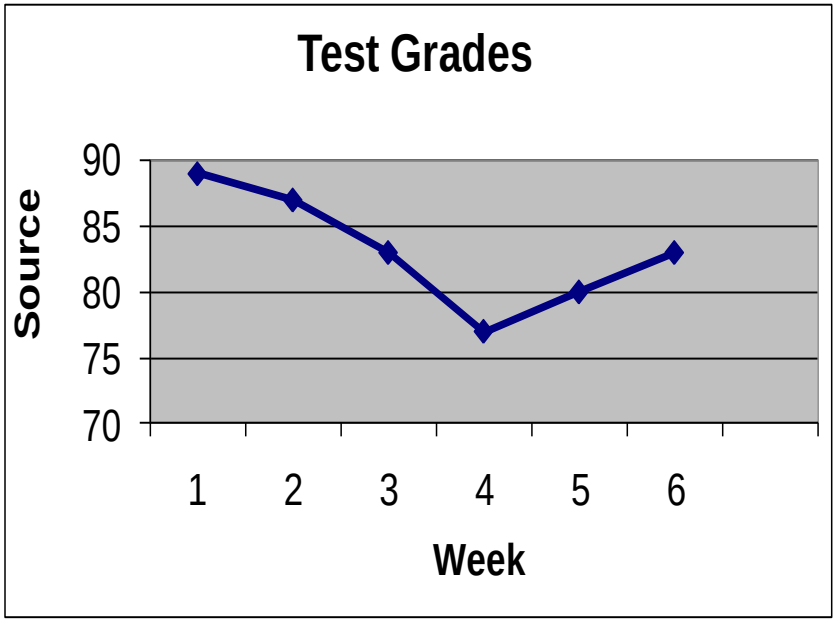
- Always use an interval that uses up the **entire** graph!

Good Multiples to Use:

-Multiples of **1**: 1,2,3,4,5…
-Multiples of **2**: 2,4,6,8,10…
-Multiples of **5**: 5,10,15,20,25…
-Multiples of **10**: 10,20,30,40,50…

What does a good graph have?



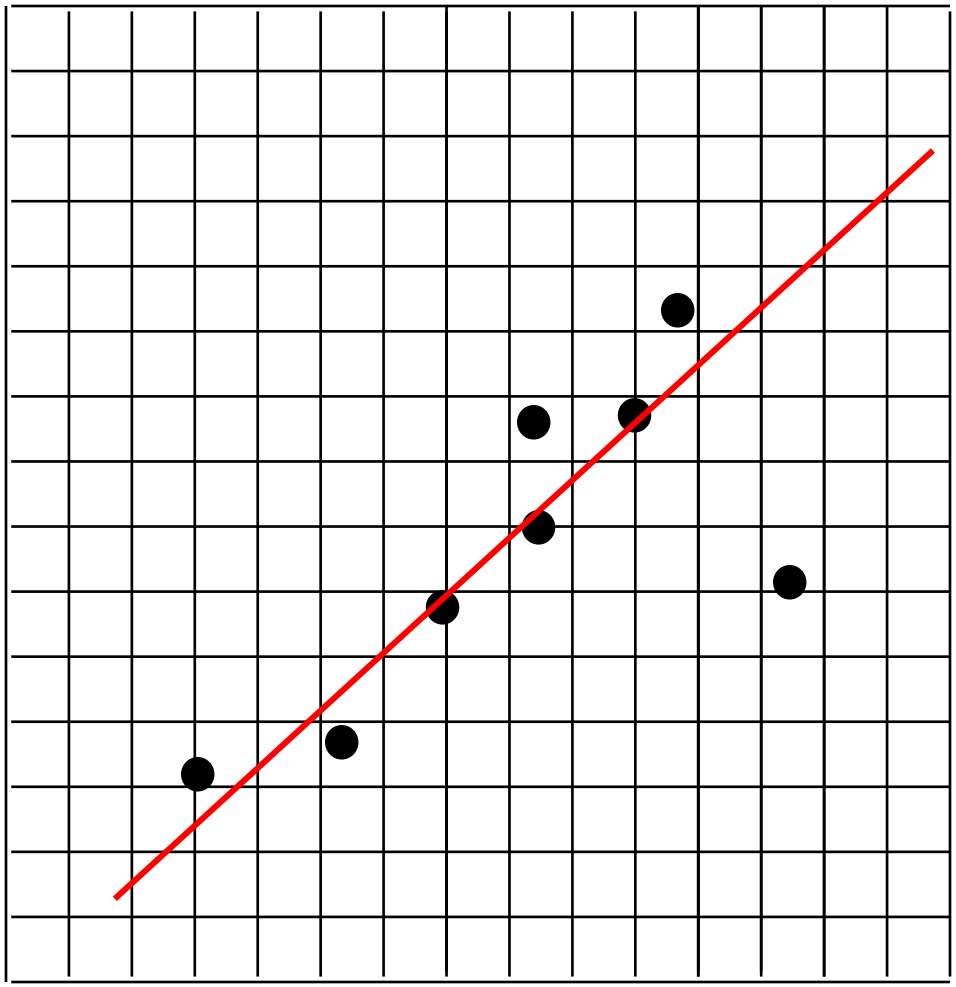


Scaling your graph can make a big difference in determining overall trends.

What does a good graph have?

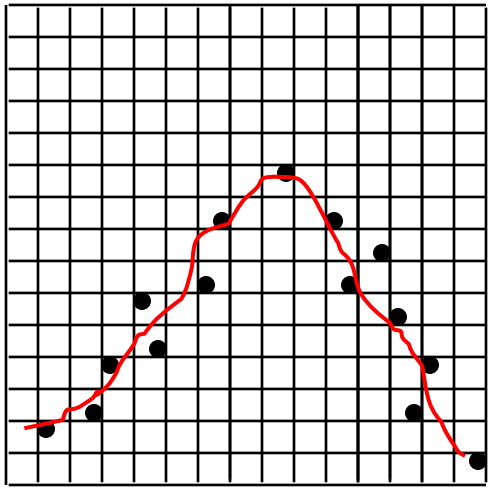
4. A **BEST FIT LINE** (if possible) is helpful to summarize the graph

- A line is a summary of what's happening in the graph.
- This line can be straight or curved.
- This line does not have to intersect with each point on your graph, it should represent the general trend.

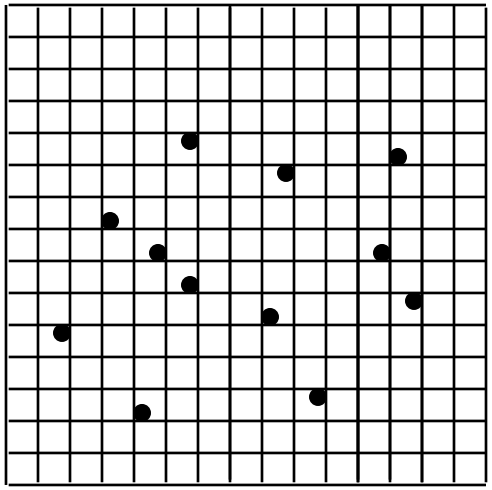


More best fit lines…

Remember, we are looking for a **pattern**!



This best fit line is curved…



No best fit line for this graph…there is no pattern!

What does a good graph have?

1. A scientific and descriptive **TITLE** that tells us what we are looking at.

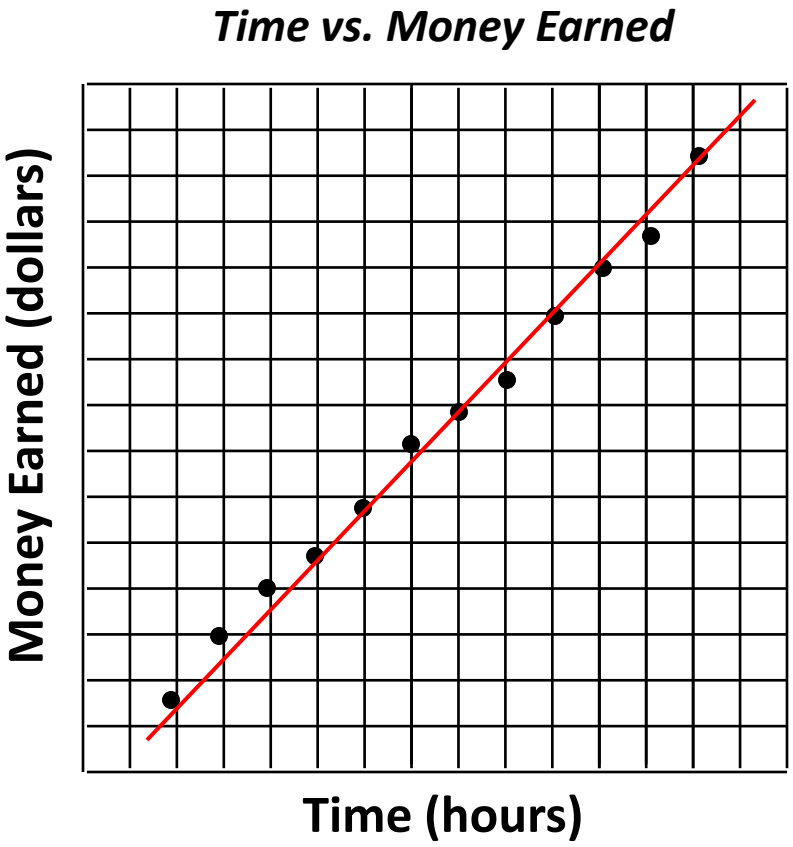
2. A **LABELED** X-axis and labeled Y-axis with **UNITS.**

3. **INTERVALS** and **SCALING** – it is important to make sure the intervals on the X and Y axis are always equal.

4. A **BEST FIT LINE** (if possible) is helpful to summarize the graph

5. Some graphs may also need:
   - -Key
   - -Data Labels

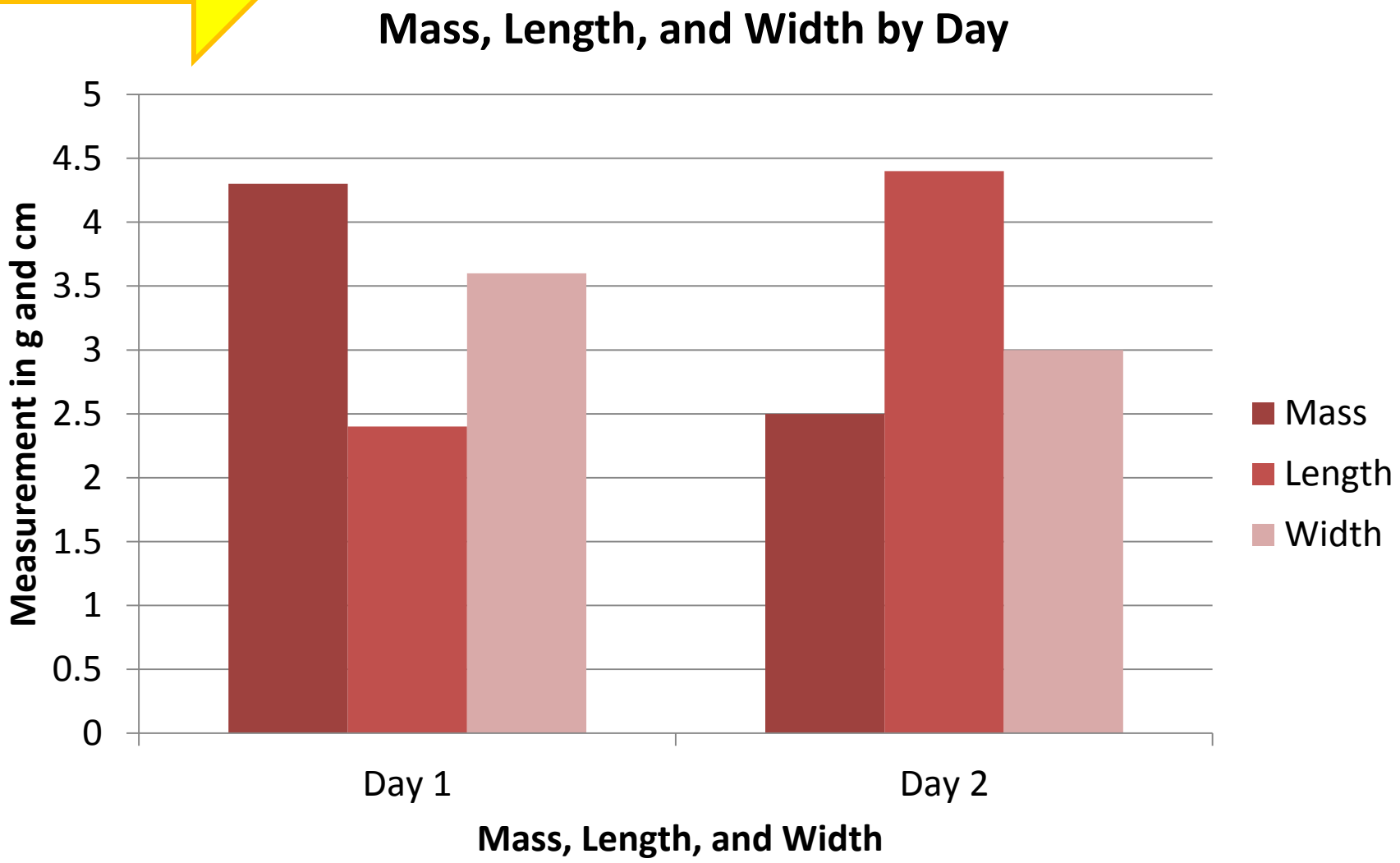
THE "PERFECT" GRAPH…



Title, labeled axes, correct points AND a best fit line!

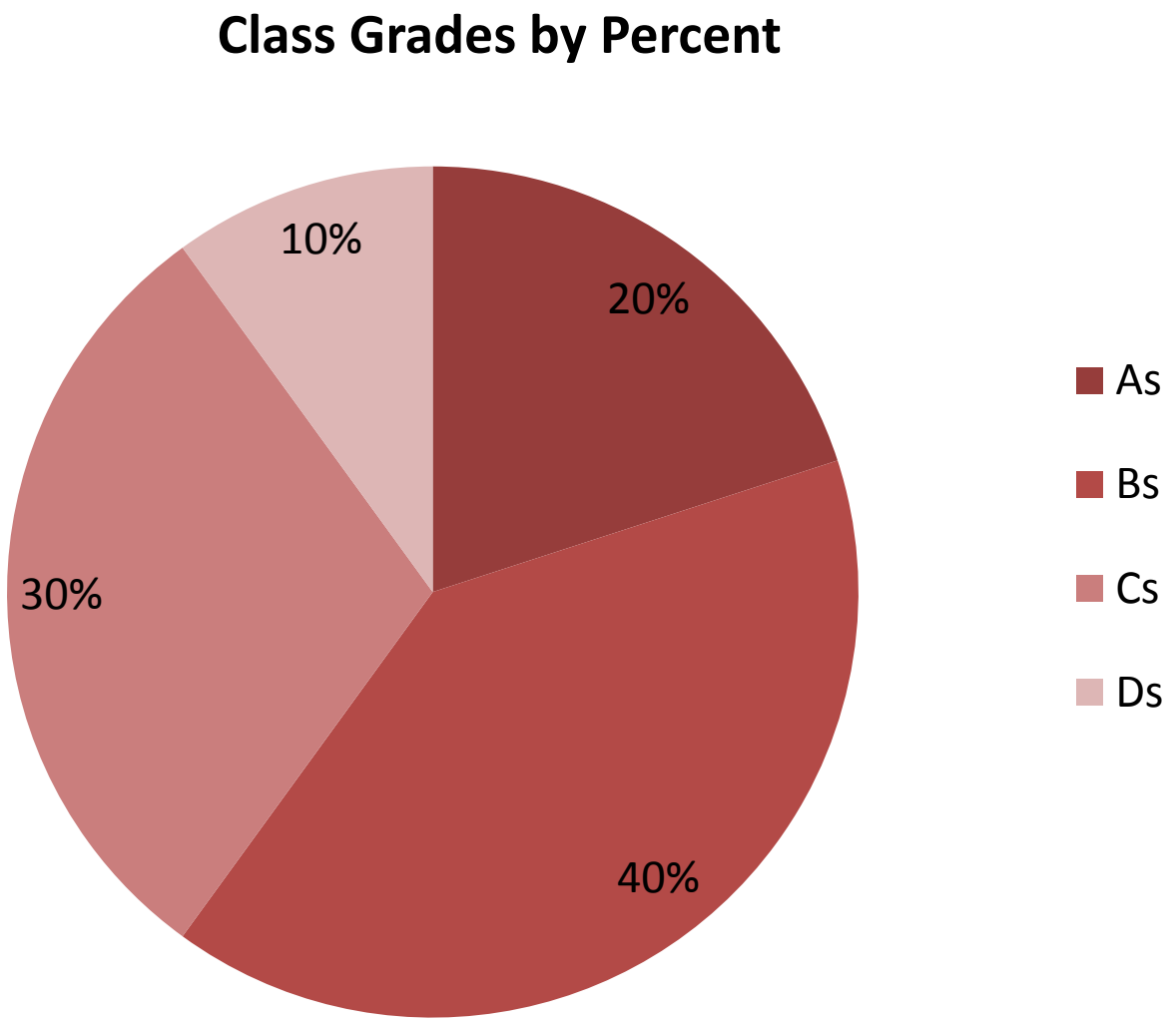
Great for comparing data!

Bar Graphs



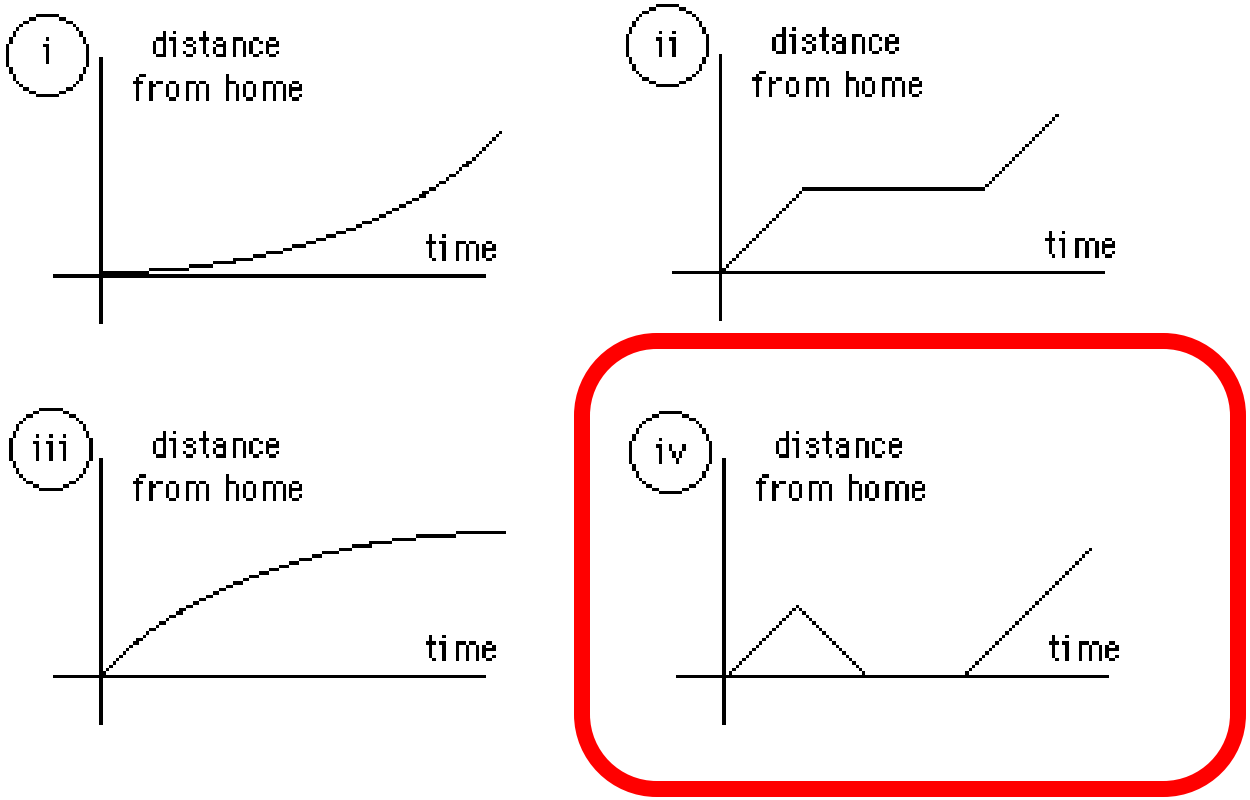
Great for showing parts of a whole!

Pie Charts



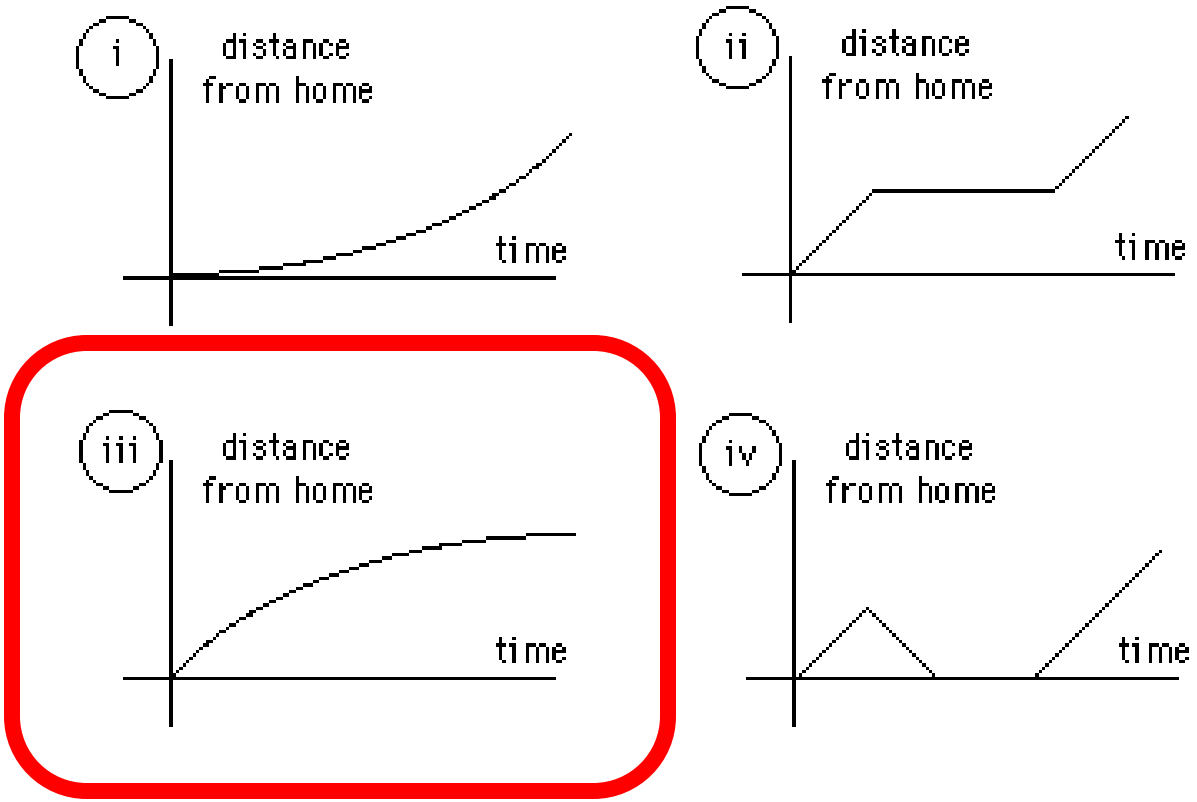
Identify the graph that matches the following story.

I had just left home when I realized I had forgotten my books so I went back to get them.



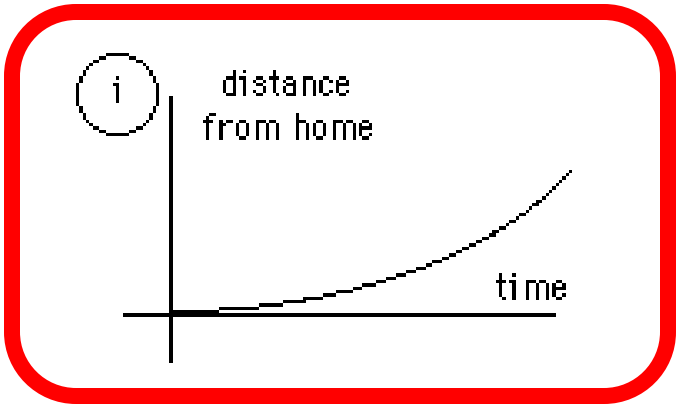
Identify the graph that matches the following story.

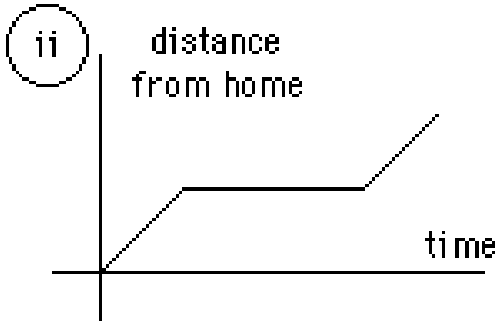
Things were going fine until I had a flat tire.

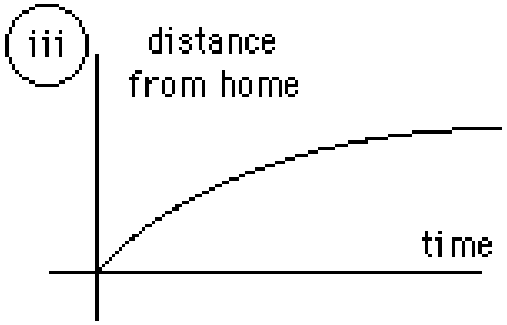


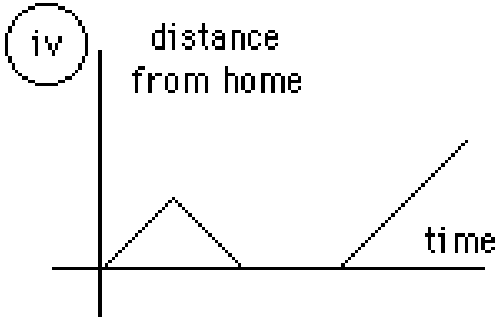
Identify the graph that matches the following story.

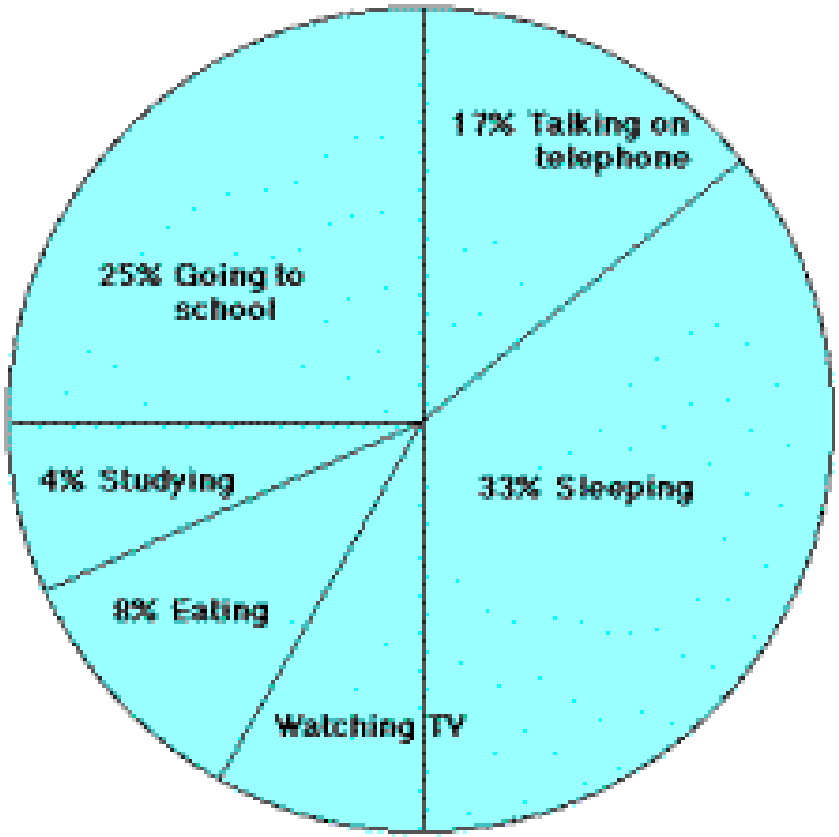
I started out calmly, but sped up when I realized I was going to be late.











- What percent of the day is spent watching TV?
- How many hours are spent sleeping?
- What activity takes up the least amount of time?
- What activity takes up a quarter of the day?
- What two activities take up 50% of the day?
- What two activities take up 25% of the day

Answer the following on a separate sheet of paper:

1. How is a graph similar to a data table?
2. Does a steep curve on a graph represent a RAPID or SLOW rate of change?
3. What is the advantage of using multiple lines on a line graph?
4. Why is it important to have all parts of a graph clearly labeled?