

# MONDAY AUGUST 29<sup>TH</sup>

Quizzes I.1 & I.2 today!

Turn in Pendulum Lab today! (if you haven't already!)

## Starter:

Do wounds heal faster when they are covered by Band-Aids?

Given this question, what are the independent, dependent, and three controlled variables?

Give a possible control group and possible experimental group.

# 1.3 CREATING & ANALYZING GRAPHS

## Today's Objectives:

I can create an accurate graph given an experiment's variables and collected data

I can analyze a graph by either writing or identifying a statement to describe a graph and make an inference from the data

# CREATING A GRAPH

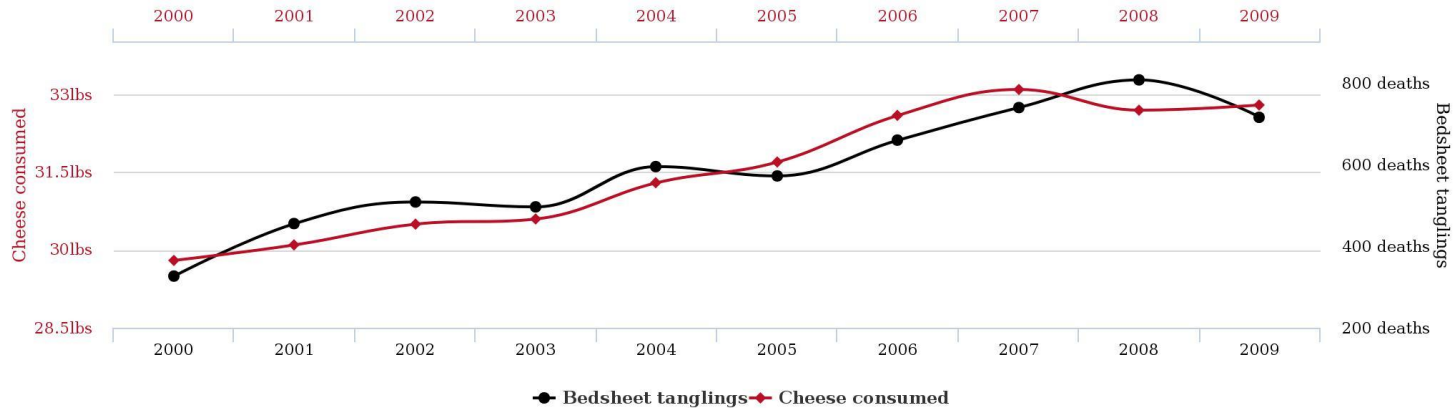
## Why do we need graphs?

To illustrate and visual piles of numbers from data tables!

**Per capita cheese consumption**

correlates with

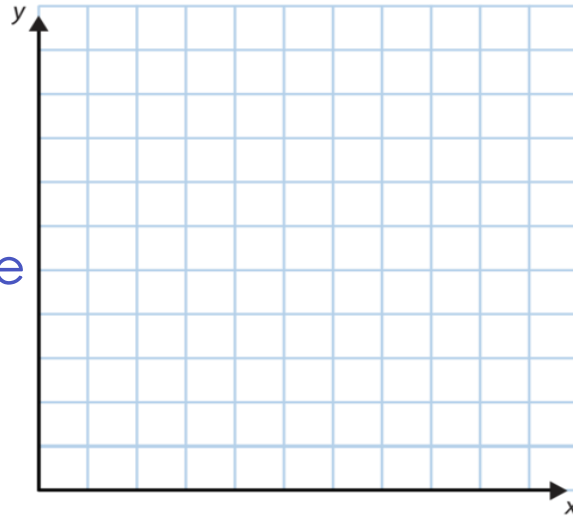
**Number of people who died by becoming tangled in their bedsheets**



# CREATING A GRAPH

Y-Axis:

- Commonly  
DEPENDENT variable



X-Axis:

- Commonly  
INDEPENDENT variable
- OR time

•Don't forget to title your x and y axes!•

# CREATING A GRAPH

## Titling Graphs:

Title should describe outcome of the graph

Rule of thumb:

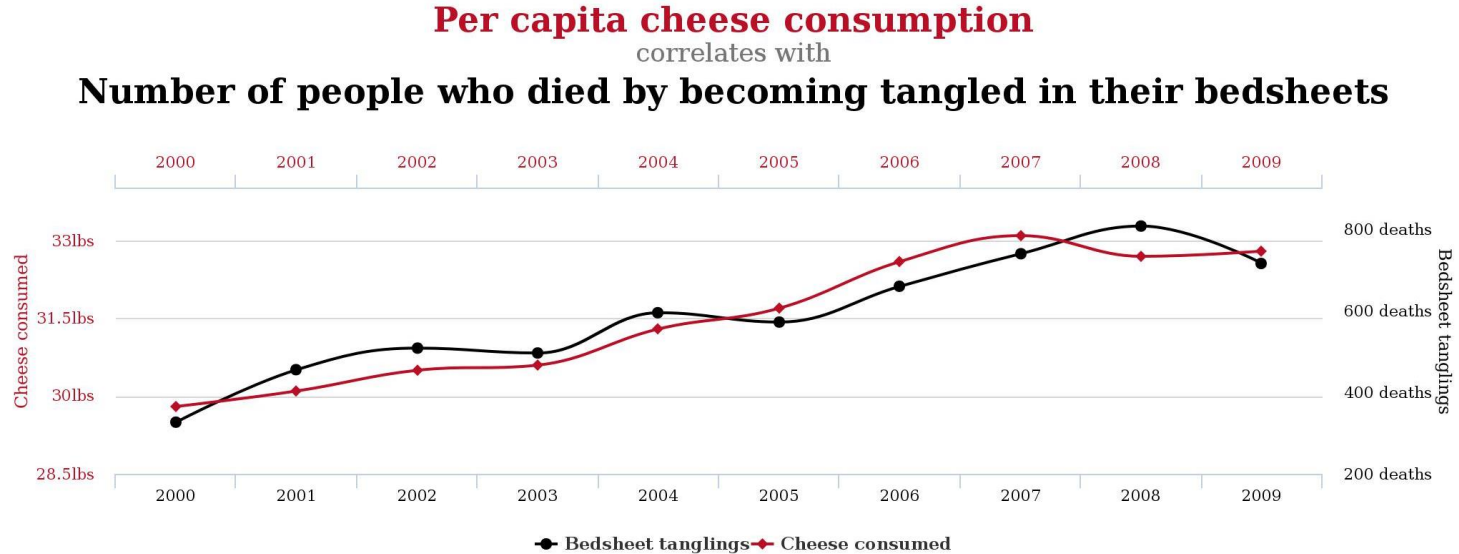
Affect of independent var. on dependent var.

Example: \*Use your pendulum lab graph...

Affect of string length on # of pendulum swings

# CREATING A GRAPH

## Affects of Cheese on Bedsheet Deaths



# WHICH ONE: BAR OR LINE GRAPH?

## Line Graphs:

Use for CONTINUOUS data

(dependent variable is on a number line)

Example:

Pendulum string length

Height, weight, temperature, mass, volume, etc.

# WHICH ONE: BAR OR LINE GRAPH?

## Bar Graphs:

Use for DISCRETE data

(dependent variable is categories)

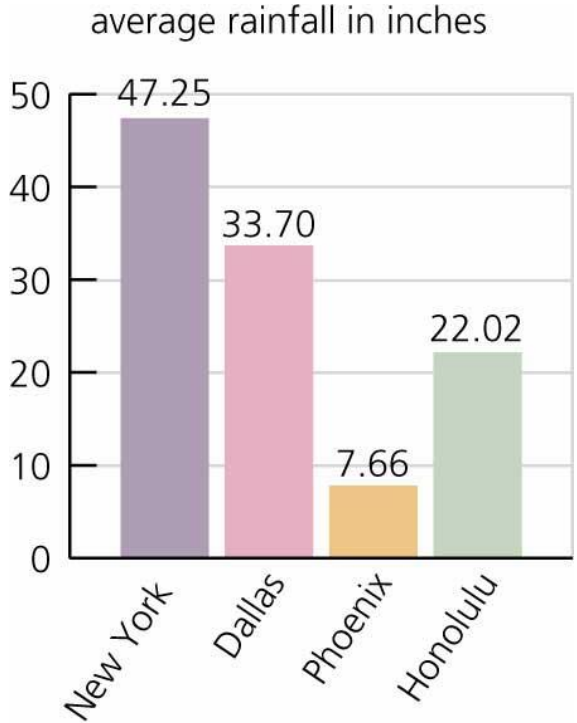
Example:

Male/female, apples/oranges

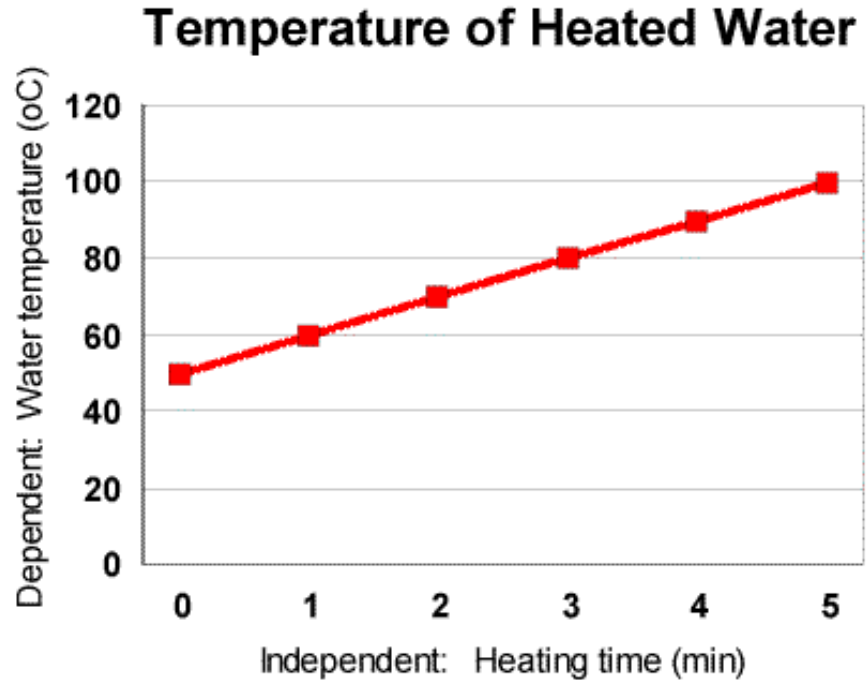
Sometimes numbers - like shoe sizes



# WHICH ONE: BAR OR LINE GRAPH?



Academy Artworks



# GRAPHS SHOW TRENDS & RELATIONSHIPS

## Inverse Relationship:

If one variable increases,  
the other variable decreases

## Direct Relationship:

If one variable increases,  
the other variable increases

# GRAPHS SHOW TRENDS & RELATIONSHIPS

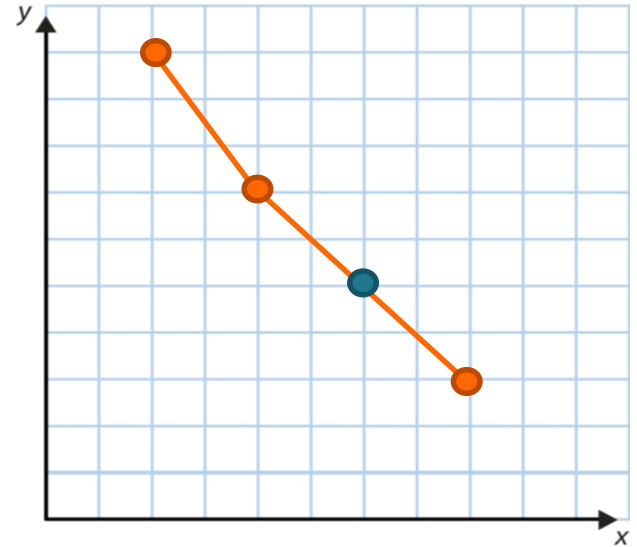
1. As you exercise more, your risk for heart disease decreases.
2. As the diameter of a pipe increases, the flow of water through the pipe also increases.
3. The higher your temperature, the higher your perspiration rate.
4. The farther I drive, the less distance I have to reach my destination.

# MAKING GRAPH INFERENCES

## Interpolating Data:

“INTER” means inside your data set  
Inferring what graph may look  
like inside your data set

Length of String	# of Pendulum Swings
10cm	100
20cm	70
40cm	30

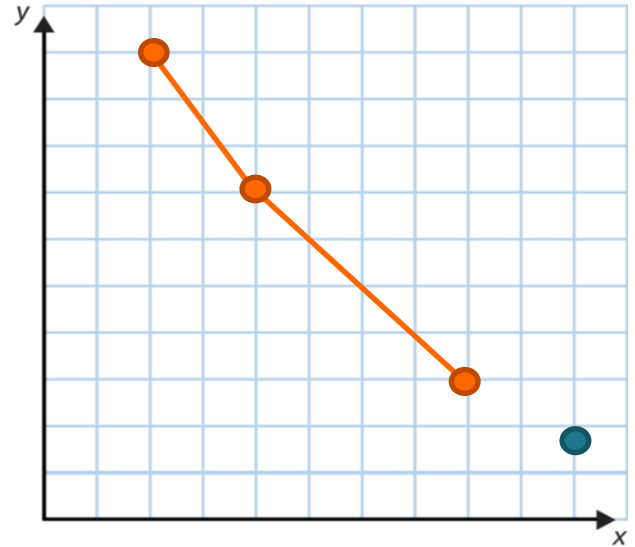


# MAKING GRAPH INFERENCES

## Extrapolating Data:

“EXTRA” means outside your data set  
Inferring what graph may look like  
outside your data set

Length of String	# of Pendulum Swings
10cm	100
20cm	70
40cm	30



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