



# Graphing

Date:

## Data

-Individual facts, statistics, or items of information.

•Generated from \_\_\_\_\_, \_\_\_\_\_ or research.

•How do we convey (**Experimental Data**) to others?

1)**Results Section of lab reports** (\_\_\_\_\_).

2)\_\_\_\_\_ (**Visual/Organizer**).

3)\_\_\_\_\_ (**Visual**).

Time in minutes	Temperature (in °C)
0	5
10	26
20	45
30	61
40	74
50	80
60	85

What is the dependent variable?

What is the independent variable?

# Graphs

•A \_\_\_\_\_ (visual) showing the relationship between sets of numbers, or topics, that represents how one set depends or changes with another.

•Different graphs can show different things.

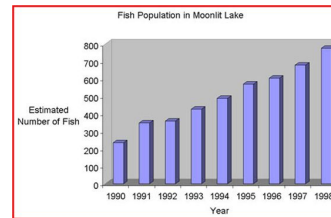
Examples...

→ \_\_\_\_\_

•Used to show \_\_\_\_\_ between \_\_\_\_\_ that may be “fixed” in time or space.

•A “snap shot”.

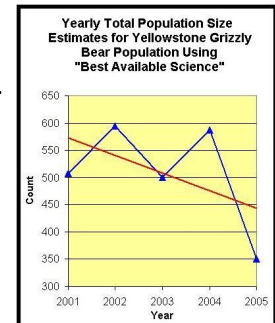
•Bars can help to give a sense of \_\_\_\_\_.



→ \_\_\_\_\_

•Used to show relationships, such as \_\_\_\_\_.

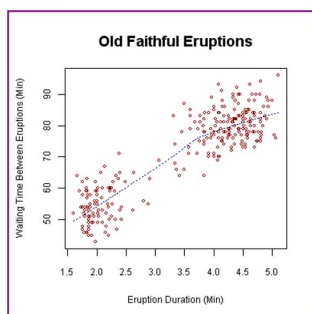
• \_\_\_\_\_ or given variable.



→ \_\_\_\_\_

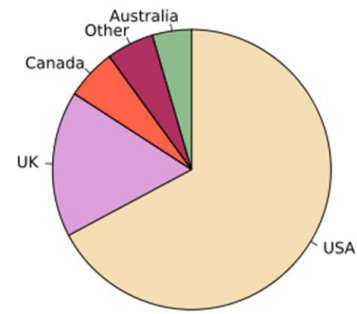
•Points \_\_\_\_\_ between to axis (the variables).

•Add **trendlines** to see \_\_\_\_\_ in the data.



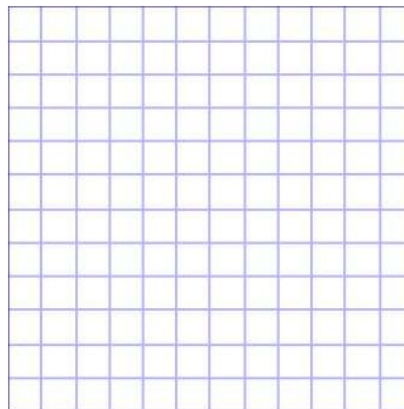
→ \_\_\_\_\_

- A \_\_\_\_\_ chart that illustrates relative magnitudes or frequencies (Example \_\_\_\_\_)



## How Do You Draw a Graph?

- Important skill, \_\_\_\_\_ it means you \_\_\_\_\_ a graph.
- Remember, it's a \_\_\_\_\_ expression, or picture, of data.



## How To Make a Graph?

1) Determine your \_\_\_\_\_.

-Rule of thumb: \_\_\_\_\_ Variable is \_\_\_\_\_ axis, and \_\_\_\_\_  
Variable is \_\_\_\_\_ axis.

Isle Royale Populations								
Year	Wolf	Moose	Year	Wolf	Moose	Year	Wolf	Moose
1982	14	700	1988	12	1,653	1994	15	1,800
1983	23	900	1989	11	1,397	1995	16	2,400
1984	24	811	1990	15	1,216	1996	22	1,200
1985	22	1,062	1991	12	1,313	1997	24	500
1986	20	1,025	1992	12	1,600	1998	14	700
1987	16	1,380	1993	13	1,880	1999	25	750

SOURCE: Isle Royale National Park Service

2) Calculate your number line (\_\_\_\_\_).

### Independent Variable

Largest X Value = 1999 (End Date)

Smallest X Value = 1982 (Begin Date)

Number of Units = \_\_\_\_\_

### Dependent Variable A

Largest Y Value = 25 (Highest Pop.)

Smallest Y Value = 11 (Lowest Pop.)

Number of Units = \_\_\_\_\_

### Dependent Variable B

Largest Y Value = 2400 (Highest Pop.)

Smallest Y Value = 500 (Lowest Pop.)

Number of Units = \_\_\_\_\_

Year	Wolf	Moose	Year	Wolf	Moose	Year	Wolf	Moose
1982	14	700	1988	12	1,653	1994	15	1,800
1983	23	900	1989	11	1,397	1995	16	2,400
1984	24	811	1990	15	1,216	1996	22	1,200
1985	22	1,062	1991	12	1,313	1997	24	500
1986	20	1,025	1992	12	1,600	1998	14	700
1987	16	1,380	1993	13	1,880	1999	25	750

SOURCE: Isle Royale National Park Service

3) Plot your number line(s). [Independent V.]

-Determine the space for your number line.

$$=12$$

-Divide the number line increment, by the space.

$$=17/12=1.41888$$

- Just round up....

So...Each box is 1.5 years

-Plot data.

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4) Plot your number line(s). [Dependent V.s]

-Do the same thing for the Y variables.....

$$-\text{"A"} = 14/12 = 1.1666 = \mathbf{1.5 / \text{box}}$$

$$--\text{"B"} = 1900/12 = 158.333 = \mathbf{200/\text{box}}$$

5) Plot Your Data. Connect the Lines.

6) Label your axis (Labels **AND** Units!)

7) Add Title.

8) Add Legend (and other features as needed).

