

Welcome! Please get your ISN from
your shelf and have a seat!
Then complete this warm-up in your
Google classroom!!

Sep 7-8:10 AM

WWK

independent variable - variable that we
change - always goes on the x-axis
(time)

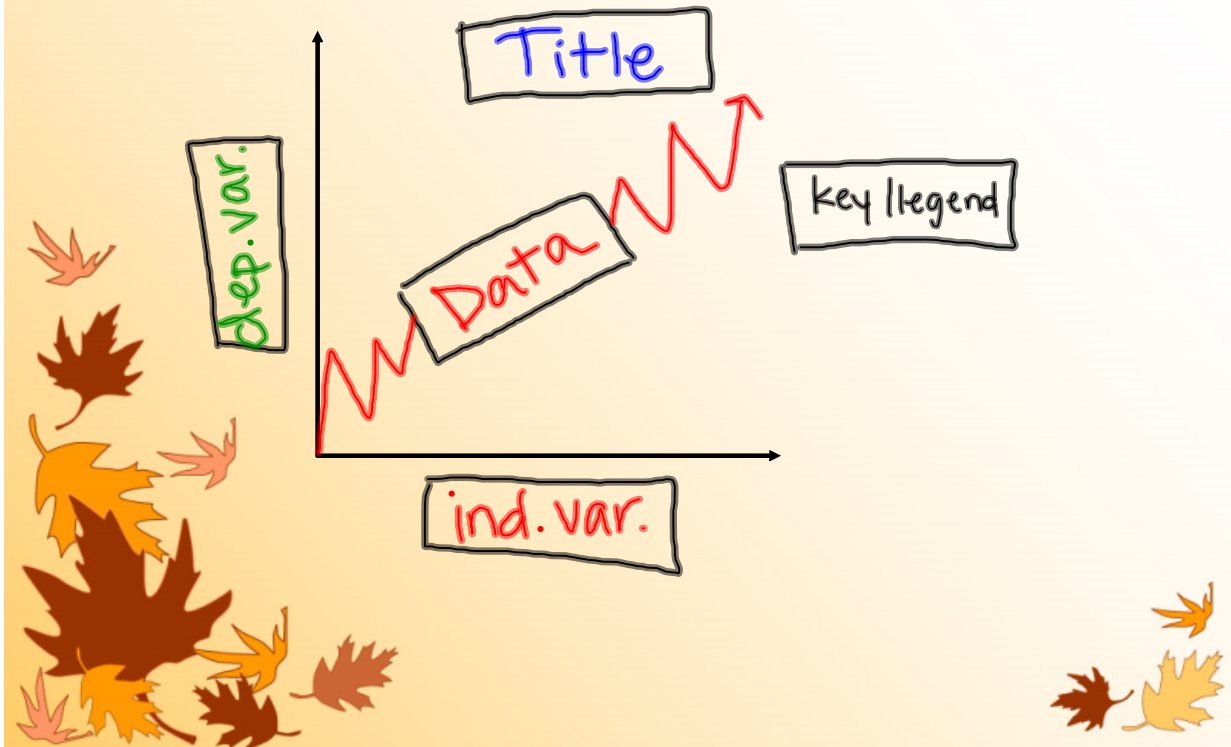
dependent variable - variable that we are
observing/testing/measuring - always on
the y-axis.

interpolate - prediction made within
the given data range.

extrapolate - prediction made outside
the given data range.

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TOC Pg 29-30 Types of Graphs



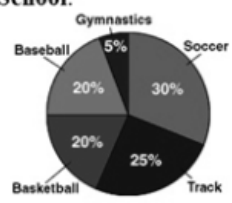
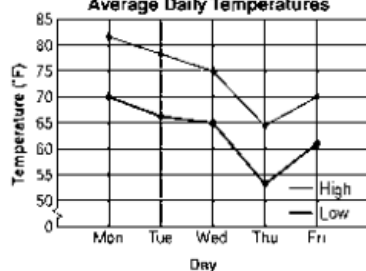
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TOC Pg 29-30 Types of Graphs

Type of Graph	Example	When do I want to use this kind of graph?
<p>A <u>bar graph</u> presents data so that comparisons of different items can be made</p>		<ul style="list-style-type: none"> Used to compare the <u>frequency</u> of data Use a bar graph when you want to <u>compare</u> 2 or more sets of data
<p>A <u>line graph</u> presents data on one item so that <u>changes</u> and trends <u>over time</u> can be identified and comparisons can be made</p>		<ul style="list-style-type: none"> Use when you have <u>continuous</u> data Use when you want to show <u>change over time</u>

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TOC Pg 29-30 Types of Graphs

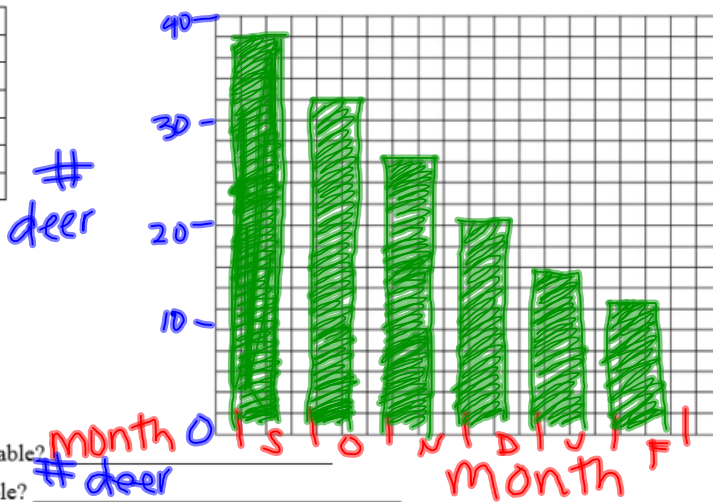
<p>A <u>pie graph</u> shows how <u>parts</u> are related to the <u>whole</u></p>	<p>Most popular sports at Cove Elementary School.</p> 	<ul style="list-style-type: none"> Use when you want to show how a <u>total</u> amount of data is <u>divided</u> into parts Can be used to show <u>percentages</u> Use when you have <u>3</u> to <u>7</u> categories
<p>A <u>double line graph</u> is a line graph used to compare <u>2</u> sets of data</p>	<p>Average Daily Temperatures</p> 	<ul style="list-style-type: none"> Useful to <u>compare</u> how two things <u>change over time</u> Each set of data is graphed <u>separately</u> but on the same grid A <u>key/legend</u> identifies the sets of data

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Examples pg 29

A. Graph the following information in a **BAR graph**. Label and number the x and y-axis appropriately.

Month	# of deer
Sept	38
Oct	32
Nov	26
Dec	20
Jan	15
Feb	12



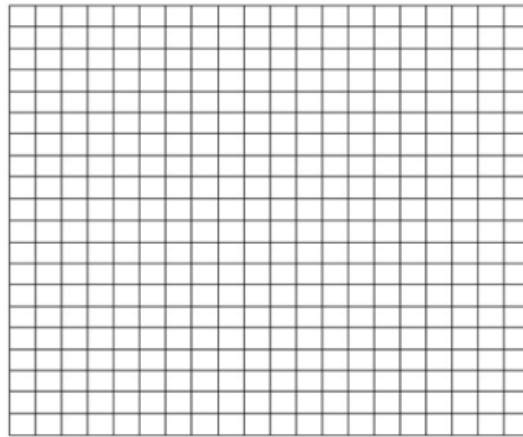
1. What is the independent variable? month
2. What is the dependent variable? # deer
3. What is an appropriate title? _____
4. What is the average number of deer per month? _____

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Examples pg 29

B. Graph the following information in a **LINE graph**. Label and number the x and y-axis appropriately.

# of Days	# of Bacteria
1	4
2	16
3	40
4	80
5	100
6	200



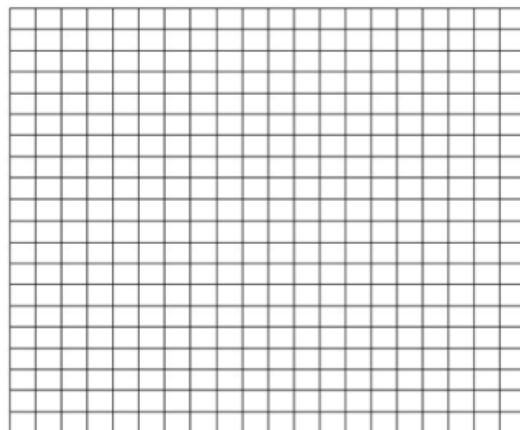
1. What is the independent variable? _____
2. What is the dependent variable? _____
3. What is an appropriate title? _____

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Examples pg 29

C. Graph the following information in a **BAR graph**. Label and number the x and y-axis appropriately.

# of Hours of Study	Grade
0	20
2	60
4	70
6	80
8	90
10	100



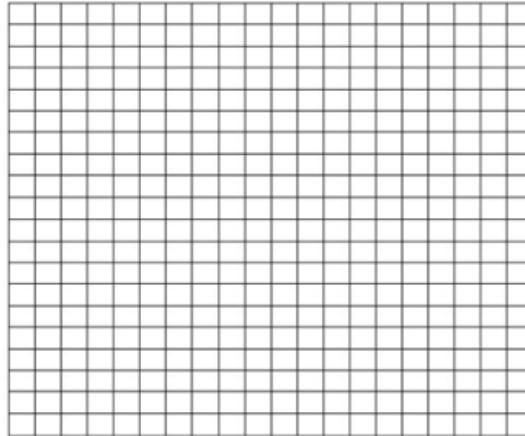
1. What is the independent variable? _____
2. What is the dependent variable? _____
3. What is an appropriate title? _____
4. What was the average grade earned? _____

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Examples pg 29

D. Graph the following information in a **LINE graph**. Label and number the x and y-axis appropriately.

Temperature	Enzyme Activity
0	0
20	10
30	15
40	20
50	8
60	5
70	0



1. What is the independent variable? _____
2. What is the dependent variable? _____
3. What is an appropriate title? _____

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Graphing Practice

Practice Problem #1

Background: The thickness of the annual rings indicates what type of environmental situation was occurring the time of the tree's development. A thin ring usually indicates a rough period of development such as lack of water, forest fires, or insect infestation. On the other hand, a thick ring means a prosperous period of development. Use the information from the data table below to create a proper scientific graph and to answer the corresponding questions.

Age of Trees (in years)	Average Thickness of Annual Rings in Forest A (millimeters)	Average Thickness of Annual Rings in Forest B (millimeters)
10	20	24
20	24	28
30	30	35
35	34	38
50	41	45
60	46	51

1. What is the dependent variable? _____
2. What is the independent variable? _____
3. What was the average thickness of annual rings for 40 year old trees in Forest A? _____
4. What is it called when you make predictions within given data, such as made in question #3? _____
5. What was the mean thickness of annual rings for all trees found in Forest B? _____
6. Based on the data shown, what can be concluded about the comparative health of Forest A & B? _____
7. What type of relationship (constant, direct, or indirect) exists between the age of trees and the average thickness of the tree's rings? Explain. _____

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Practice Problem #2

Background: Clams were placed into various temperatures of water. Use the information in the data table below in order to create a proper scientific graph and to answer the corresponding questions.

Water Temperature (°C)	Number of Developing Clams
15	72
20	92
25	120
30	140
35	99
40	72
45	36
50	0

1. What is the dependent variable? _____
2. What is the independent variable? _____
3. What is the optimum temperature for clam development? _____
4. What is the mean number of clams per sample? _____
5. Approximately how many clams would be developing in 10 degree Celsius water? _____
6. What is it called when you make predictions about data not yet recorded, such as the prediction we made in question number 5? _____

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Practice Problem #3

Background: Natalie sets out to run 15 kilometers. Every 30 minutes she checked her pedometer to determine how far she had run. Use the data below to create a proper scientific graph and to answer the corresponding questions.

Time (minutes)	Total Distance (km)
0	0
30	6.8
60	10.1
90	12
120	13.3
150	15

1. What is the dependent variable? _____
2. What is the independent variable? _____
3. How many kilometers had Natalie run after 40 minutes? _____
4. What was Natalie's average speed (in kilometers per hour) over the course of her run? _____
Use the formula $\text{Speed} = \text{Distance} / \text{Time}$

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WWK

8. observation- a fact based on
your 5 senses.





9. inference- an explanation or
interpretation of an observation

Sep 12-10:43 AM



Sep 12-10:47 AM

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- ___ 1. The boy is in the water.
 - ___ 2. The weather is cold.
 - ___ 3. The tree branch is broken.
 - ___ 4. If the boy crawled out of the water the goat would butt him.
 - ___ 5. The boy fell off the branch.
 - ___ 6. A goat is standing by the pond.
 - ___ 7. The branch will fall on the boy's head.
 - ___ 8. The boy fell off the rocks.
 - ___ 9. There is a sailboat in the water.
 - ___ 10. The sailboat belongs to the boy.
 - ___ 11. The goat will soon leave the pond.
 - ___ 12. The tree by the pond has no leaves on it.
 - ___ 13. There are three rocks in the pond.
 - ___ 14. The tree by the pond is dead.
 - ___ 15. If it rains leaves will grow on the tree.
 - ___ 16. The goat butted the boy into the pond.

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