

SCIENCE PLANNER: WEEK OF 1.8.20



OBJECTIVES FOR THE WEEK:

<https://evanscca.weebly.com/>

Physics : WHAT do we need to be successful in Physics?

Chemistry: WHAT do we need to be successful in Chemistry?

DAILY AGENDA – (SUBJECT TO CHANGE)

DAY	Honors Physics	Honors Chemistry
Mon 1.6	Teacher Workday	Teacher Workday
Tues 1.7	Teacher Workday	Teacher Workday
Wed 1.8	<p>Basic math quiz (ungraded) Student information online: https://docs.google.com/forms/d/e/1FAIpQLScJHTPTGxT-k7XeuKvkuGcMWUGfXN0HYu1qjrFJnrm-Xr6xKA/viewform?usp=sf_link 1st day information Graphing intro. and pg 6 *HW= upload parent form, graphs 1, 4, 5, and 7, student information online.</p>	<p>Basic math quiz (ungraded) Student information online: https://docs.google.com/forms/d/e/1FAIpQLScJHTPTGxT-k7XeuKvkuGcMWUGfXN0HYu1qjrFJnrm-Xr6xKA/viewform?usp=sf_link 1st day information Graphing intro. and pg 6 *HW= upload parent form, graphs 1, 4, 5, and 7, student information online.</p>
	<p>EXTRA INFO: http://stokedaboutscience.com/wp-content/uploads/2014/08/The-5-parts-of-a-graph3.pdf</p>	

Thurs 1.9	Short Graphing Quiz Significant figures, scientific notation, metrics, and conversion https://www.youtube.com/watch?v=gtwyWKnmI *HW= pg 10-12 of packet (conversions), fix basic math quiz	Short Graphing Quiz Significant figures, scientific notation, metrics, and conversion https://www.youtube.com/watch?v=gtwyWKnmI *HW= pg 10-12 of packet (conversions), fix basic math quiz
Fri 1.10	HAND IN PARENT SHEETS Metrics and sigfigs quiz Dimensional ANALYSIS DAY! *HW= Pg 15 #1-25 show ALL work and UNITS!!!, and plot 5 data points into a google graph and submit to schoology. Make a graph in google sheets: https://www.youtube.com/watch?v=Rnq107QMonU	HAND IN PARENT SHEETS Metrics and sigfigs quiz Dimensional ANALYSIS DAY! *HW= Pg 15 #1-25 show ALL work and UNITS!!!, fix and submit new graph into schoology (handout).

beginners: google sheets: <https://www.youtube.com/watch?v=a8vbY2DqhlQ>

Time (seconds)	Distance (meters)
10	22.3
20	40.5
30	59.8
40	80.4
50	103.7

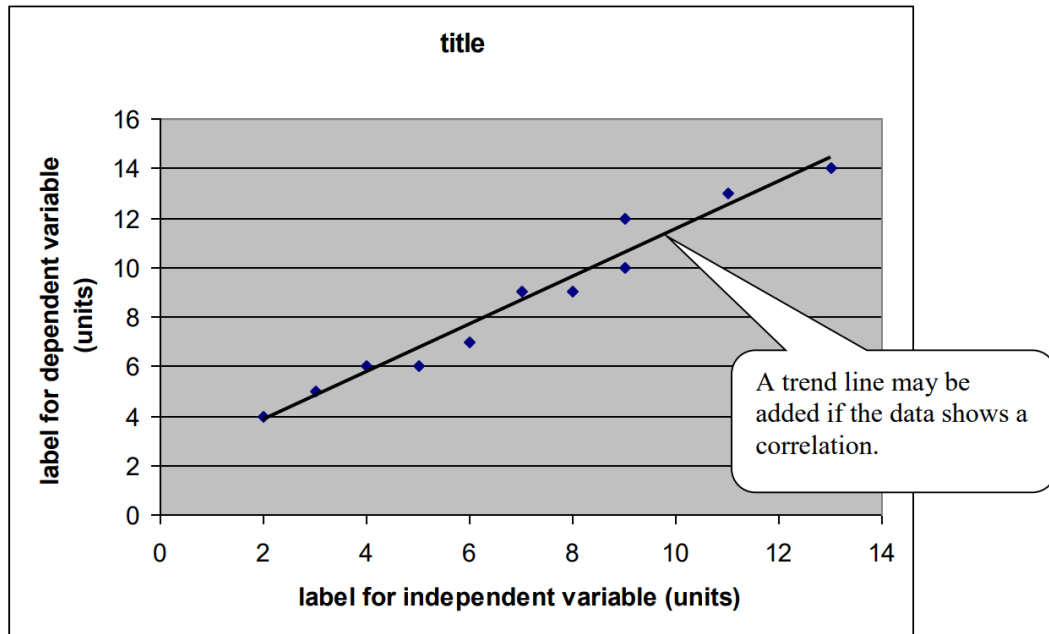
you can use any, this is just a suggestion for a straight line graph.
:)

WARM UP QUESTIONS

MON	
TUES	
WED	Basic math quiz
THU	Basic graphing quiz
FRI	Basic sigfig quiz

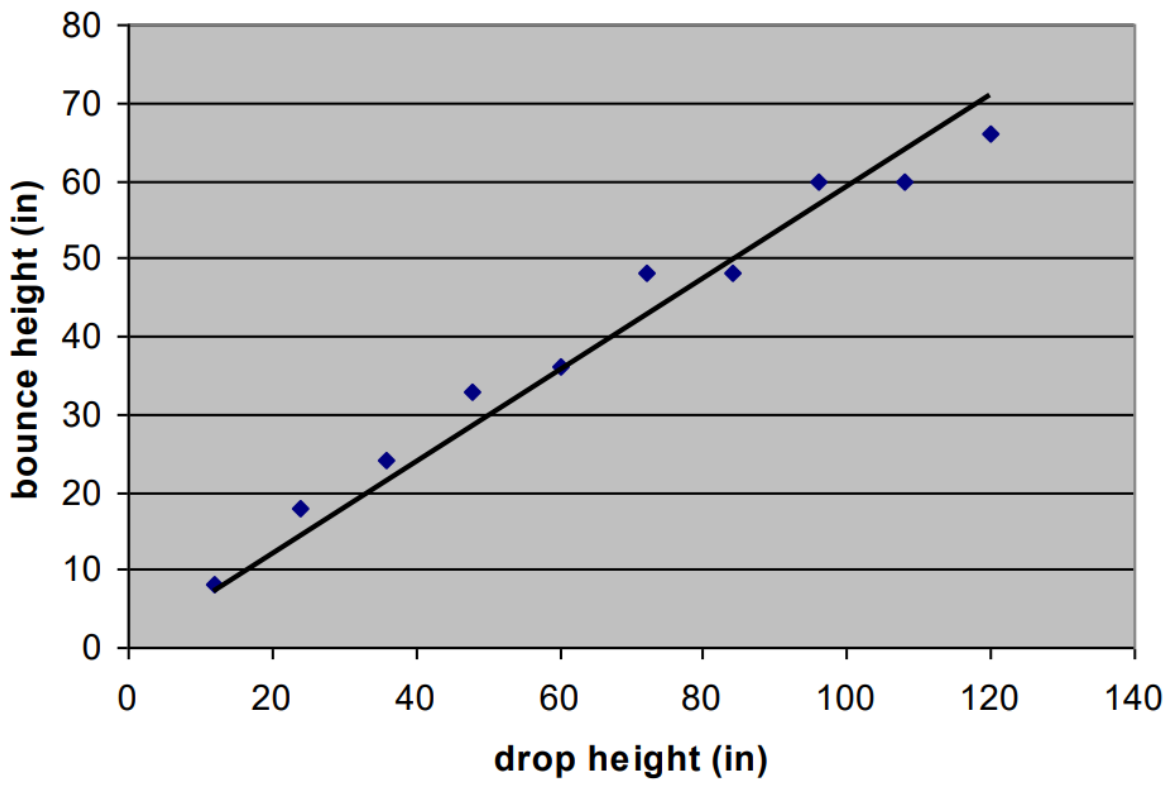
The 5 Parts of a Graph

Basic Format of Graph:

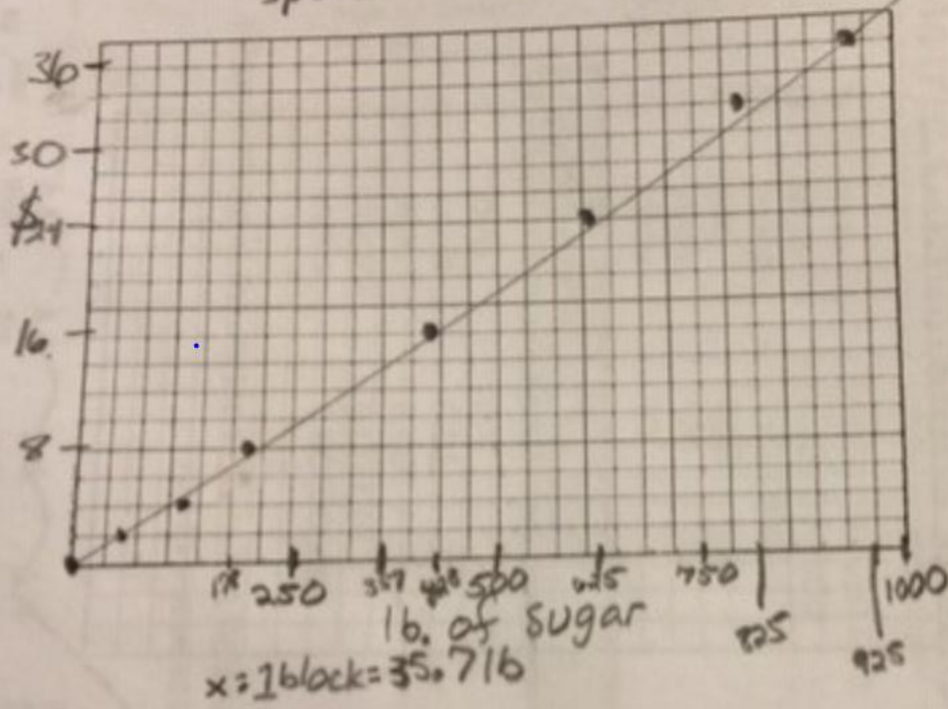


1. **Axis labels:** Normally you plot the independent variable (the one over which you have control, the inputs) on the horizontal axis (x-axis) and the dependent variable (the one you are measuring, the outputs) on the vertical axis (y-axis). Write a short descriptive label that represents each axis. The label is written vertically from the bottom up.
2. **Units:** Write the units in parenthesis after the axis label—often this is an abbreviation.
3. **Intervals:** Choose intervals that make it easy to read and so the data occupies the majority of the graph. You can include a break in the axis if there is a large gap between zero and the data points. Be careful not to exaggerate the variations in the data if you do this.
4. **Data:** Plot the data points on the graph. You do not normally connect the dots. Decide whether the origin (0,0) is a valid data point. If the data points show a correlation you may add a trend line (line of best fit) or a smooth curve that represents the overall pattern. If it's linear, this typically can be added by using a ruler and "eyeballing" it. A trend line is a nice way to illustrate the basic relationship between the two variables. You may need to find the equation of the trend line.
5. **Title:** Choose a title for the graph that uniquely identifies it. The title should not just repeat the labels, but add information specific to what the data represents.

**drop height vs bounce height
for a rubber ball off a tile floor**



\$ spent vs. lb sugar



Graphs # 1, 4, 5 + 7

<https://www.openspaceproject.com/>

EM spectrum
kinetic energy
simultaneity
escape speed

$\vec{F}_g = -9.8m$
Galileo
Ampere
 $4\pi^2mr$

impulse
Forces
friction
projectile motion
blackbody radiation
 $F = \frac{T^2}{\text{photon}}$

$h = 6.63 \times 10^{-34} \text{ J} \cdot \text{s}$
solenoid
inertia
inelastic collision

Physics

force field
Newton
Hooke
Electric potential
Tycho Brahe
Paradox
rest mass

$\Delta E_g = mg\Delta h$
Quantum Theory
Hawking
Normal force
relativistic motion

$c = 2.998 \times 10^8 \text{ m/s}$
particle-wave duality
artificial gravity

$E = mc^2$
Huygens
binding energy
 $p = \frac{mv}{\sqrt{1-\frac{v^2}{c^2}}}$

Answers:

1. $2.00 \text{ kg} (1000 \text{ g} / 1 \text{ kg})(1 \text{ lb} / 454 \text{ g}) = 4.41 \text{ pounds}$
2. $0.50 \text{ quarts} (946 \text{ mL} / \text{quart}) = 470 \text{ mL}$
3. $1.00 \text{ km} (1000 \text{ m} / 1 \text{ km})(100 \text{ cm} / 1 \text{ m})(1 \text{ inch} / 2.54 \text{ cm}) = 3.94 \times 10^4 \text{ or } 39,400 \text{ inches}$
4. $3.45 \text{ km} (1000 \text{ m} / 1 \text{ km})(100 \text{ cm} / 1 \text{ m})(1 \text{ inch} / 2.54 \text{ cm})(1 \text{ ft} / 12 \text{ in}) = 11,300 \text{ or } 1.13 \times 10^4 \text{ feet}$
5. $5.00 \text{ mile} (1760 \text{ yds} / 1 \text{ mile})(3 \text{ ft} / 1 \text{ yd})(12 \text{ in} / 1 \text{ ft})(2.54 \text{ cm} / 1 \text{ in})(1 \text{ m} / 100 \text{ cm})(1 \text{ km} / 1000 \text{ m}) = 8.05 \text{ km}$
6. $72.5 \text{ miles} (1760 \text{ yds} / 1 \text{ mile}) = 1.28 \times 10^5 \text{ or } 128,000 \text{ yards}$
7. $979 \text{ cc} (\text{cc} = \text{mL})$
8. $-15.5^\circ\text{C} + 273 = 258\text{K}$
9. $315\text{K} - 273 = 42^\circ\text{C}$
10. 86°F
11. $8383 \text{ L} (1 \text{ kL} / 1000 \text{ L}) = 8.383 \text{ kL}$
12. $0.783 \text{ m} (100 \text{ cm} / 1 \text{ m}) = 78.3 \text{ cm}$
13. $252 \text{ mm} (1 \text{ m} / 1000 \text{ mm}) = 0.252 \text{ m}$
14. $2.52 \times 10^4 \text{ mL} (1 \text{ L} / 1000 \text{ mL}) = 25.2 \text{ L}$
15. $0.123 \text{ m} (1000 \text{ mm} / 1 \text{ m}) = 123 \text{ mm}$
16. $23.5 \text{ g} / 3.5 \text{ mL} = 6.7 \text{ g/mL}$
17. $9.29 \text{ mL} (0.793 \text{ g/mL}) = 7.37 \text{ g}$
18. $14.5 \text{ g} (\text{mL} / 0.828 \text{ g}) = 17.5 \text{ mL}$
19. $2.88 \text{ m} (1 \text{ km} / 1000 \text{ m}) = 2.88 \times 10^{-3} \text{ km}$
20. $4.56 \times 10^{-3} \text{ L} (100 \text{ cL} / 1 \text{ L}) = 4.56 \times 10^{-1} \text{ or } 0.456 \text{ cL}$
21. Since density of water = 1.000 g/mL: $0.0204 \text{ kg} (1000 \text{ g} / \text{kg})(1 \text{ mL} / 1 \text{ g})(\text{L} / 1000 \text{ mL}) = 0.0204 \text{ L}$
22. $0.0333 \text{ L} (1000 \text{ mL} / \text{L})(19.32 \text{ g} / \text{mL}) = 643 \text{ g}$
23. $2.00 \text{ mL} (2.16 \text{ g} / \text{mL})(1000 \text{ mg} / \text{g}) = 4320 \text{ mg}$
24. $9.85 \times 10^{-2} \text{ L} (1000 \text{ mL} / 1 \text{ L})(0.802 \text{ g} / \text{mL}) = 79.0 \text{ g}$
25. $0.497 \text{ g} (100 \text{ cg} / 1 \text{ g}) = 49.7 \text{ cg}$
26. $2.49 \times 10^3 \text{ mg} (1 \text{ g} / 1000 \text{ mg})(100 \text{ cg} / 1 \text{ g}) = 249 \text{ cg} \text{ or } 2.49 \times 10^2 \text{ cg}$
27. $0.258 \text{ L} (1000 \text{ mL} / 1 \text{ L}) = 258 \text{ mL}$
28. $0.987 \text{ kg} (1000 \text{ g} / 1 \text{ kg}) = 987 \text{ g}$ then divide by $4.52 \times 10^2 \text{ mL} = 2.18 \text{ g/mL}$
29. $5.25 \text{ mg} (1 \text{ g} / 1000 \text{ mg})(1 \text{ mL} / 11.53 \text{ g Cu}) = 4.55 \times 10^{-4} \text{ mL}$

1	A bag of apples contains 6 green apples and 8 red apples. What is the approximate percentage green apples?
	(a) 43% (b) 57% (c) 60% (d) 75% (e) 80%

2	Which of the following values is consistent with 9.17%? (a) 0.917 (b) $\frac{9.17}{1000}$ (c) 0.0917 (d) 9.17×10^2 (e) 91.7×10^{-2}
3	A reaction requires 4 min 15 sec to complete. Which of the following is a correct representation of that time period? (a) 55 sec (b) 4.25 min (c) 0.0625 hr (d) 245 sec (e) 4.15 min
4	If $A = \frac{b+0.5f}{t}$, what does f equal? (a) $\frac{2At}{b}$ (b) $At - \frac{b}{0.5}$ (c) $\frac{tAb}{0.5}$ (d) $\frac{0.5-b}{A} \times t$ (e) $\frac{At-b}{0.5}$
5	If $6p - 3 = 8p - 9$, then $p =$ (a) -6 (b) -3 (c) 3 (d) $-\frac{6}{7}$ (e) $\frac{6}{7}$
6	What is the value of $8 + 3 \div 3 - 2$? (a) 11 (b) 1.33 (c) 15 (d) 7 (e) 1.67
7	What is the value of $(2a^3)^2$? (a) $4a^6$ (b) $2a^6$ (c) $2a^5$ (d) $2a^9$ (e) $4a^3$
8	If $0.04x = 20$, then $x = ?$ a) 2.2 b) 0.8 c) 500 d) 80
9	If $\frac{3}{x} = 100$, then $x = ?$ a) 0.30 b) 300 c) 33.3 d) 0.03
10	If $5 = \frac{100}{x}$, then $x = ?$ a) 20 b) 25 c) 500 d) 50

Name	
Date	Period

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 2 ○○○○○ 12 ○○○○○
 3 ○○○○○ 13 ○○○○○
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Test: A ○ B ○ C ○ D ○
 Version: A ○ B ○ C ○ D ○
 Get this form and more at: ZipGrade.com

Name	
Date	Period

ABCDE ABCDE
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 Version: A ○ B ○ C ○ D ○
 Get this form and more at: ZipGrade.com

<http://bit.ly/2WJ4VIt>
physics notes

Time studying (min)	Grade (%)
40	42%
15	19%
5	9%
30	33%
45	48%
60	63%
80	84%
85	86%

Next: As a group, nominate the idea you've discussed that you think would be the most interesting to everyone else in the class.

Start to sketch it out on a poster. Make a visual representation of your ideas. Remember this is a rapid prototype, just something to quickly convey the idea. Feel free to jot down ideas or sketches in the spaces below.

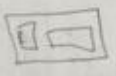
Brainstorming and Notes

People had to buy newer cars for the safety and other features how they don't have for

it can pick features from other car companies



problems:
Car companies will lose revenue from consumers who buy the car for the technology.



- This object is an attachment that will go inside other model cars to emulate the technology they have. * Individual can pick the features they want

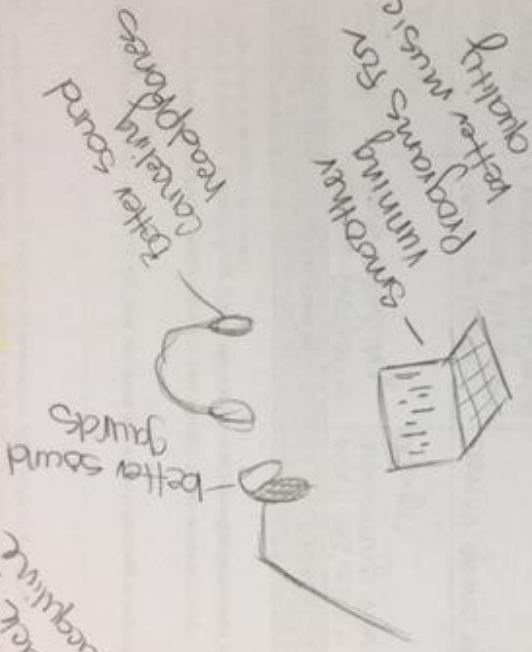
This product allows you to maintain your older car but with new technology

Danny Cameron/Hirby

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Brainstorming and Notes

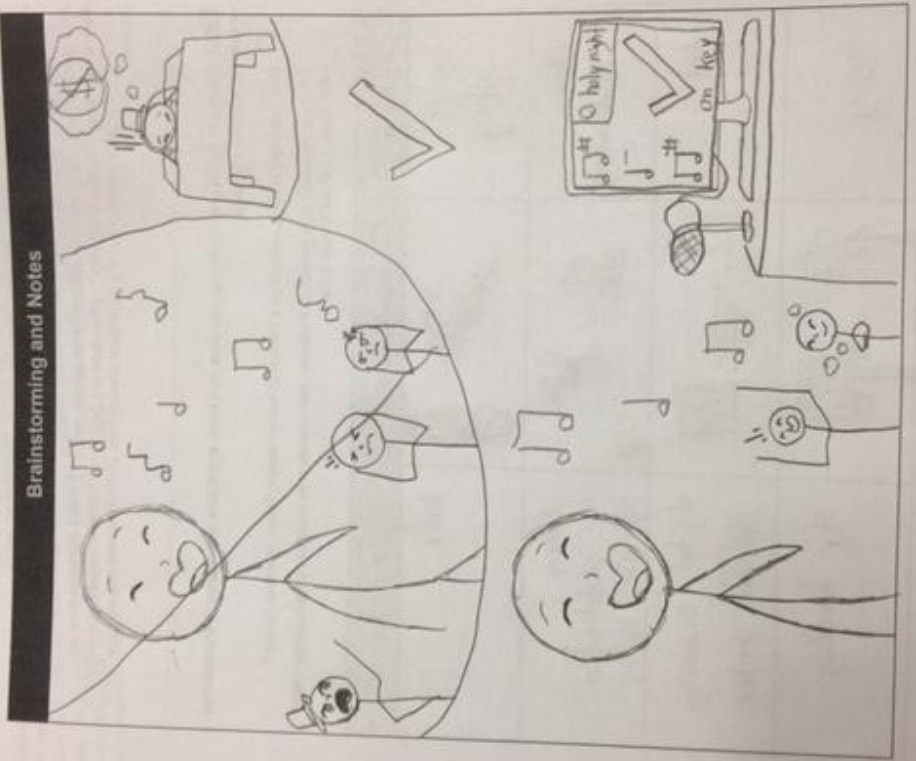
Back M.
Capitline



- With better technology the music quality would be much better and make it easier to record with better mics/headphones etc...
- Music quality wasn't as good before these new advances in equipment were made.
- Newer technology - less activity - more money spent.

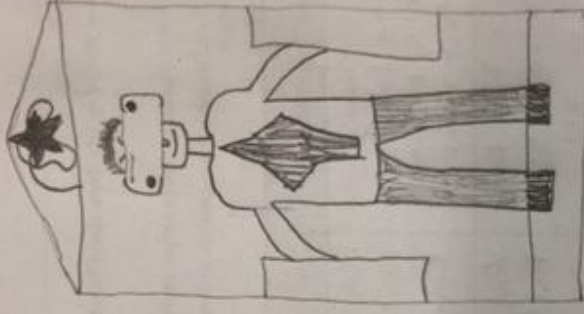
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Kelsey W, Rosie Y, Blake H

VR BOX



It makes it life-like

Mason, Bryson, Josh

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Brainstorming and Notes

