MASS CHANGES NOTES

DUE AT THE BELL

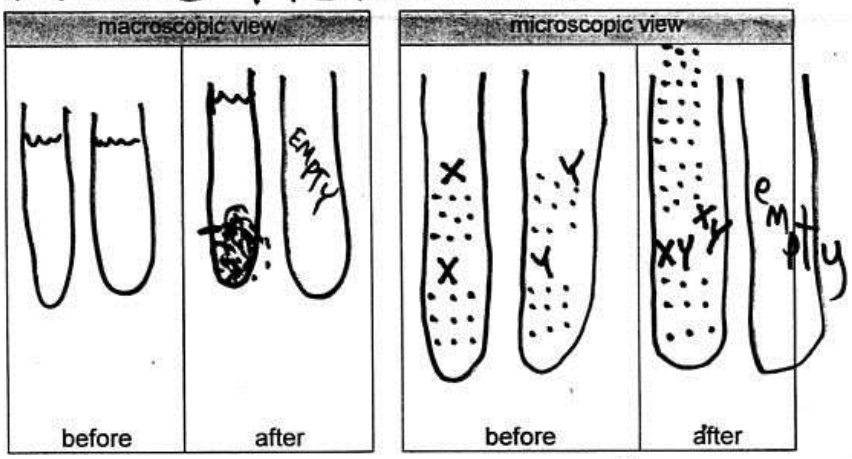
Name _____
Period _____

Purpose: WHAT IS THE MOST IMPORTANT RULE IN DRAWING PARTICLE PICTURES?

a. A 'Precipitate' forming
[Your drawing should explain why the total mass **stays the same**.]

Instructions: At Lab Station Three, put $CaCl_2$ from the brown bottle into a test tube, about an inch deep. Into the other test tube place Na_2CO_3, one inch deep. Mix the tubes. Draw what you see and then clean the tubes with a brush at the sink.

Symbols that I used:



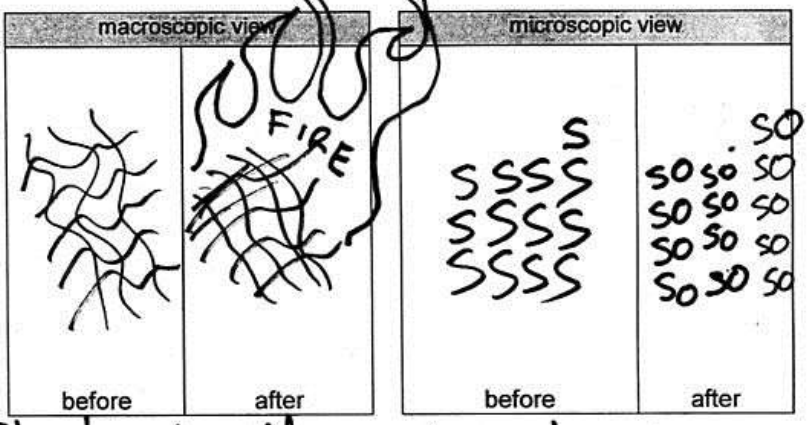
How did the mass change? THE MASS DIDN'T CHANGE

Why? BECAUSE NOTHING ENTERED OR LEFT

B. Burning Steel wool
[Your drawing should explain why the total mass **increases**.]

Instructions: At Lab Station Four, fluff some steel wool, hold it in tongs. Light it on fire with a match.

Symbols that I used:
steel = S
OXYGEN = O



How did the mass change? After burning, the wool was heavier.

Why? More matter entered the system.

ANSWERS

Using slope units in an equation:

EHS CA3MISTRY

Mr. Genest

Name

Date AN

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Round each number to the nearest hundred.

1) 9,551 9600

2) 5,379 5400

3) 1,425 1400

6) 7,474 7500

7) 6,326 6300

8) 9,984 10000

↳ discarding this, round up

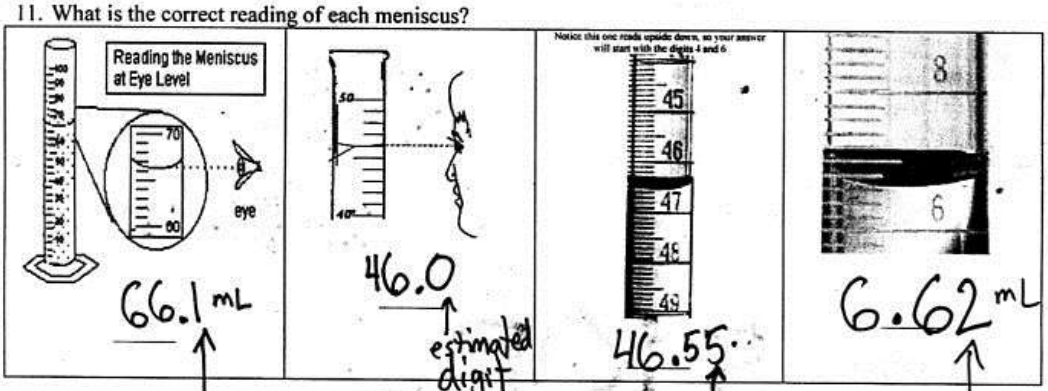
9. Multiply: 2.300 x 0.0440 and then write the answer to the correct number of significant figures. The rules for this are in Friday's notes or at genest.weebly.com.

$0.1012 \approx$ Round to three SIG FIGS 0.101

10. Divide: 5379 / and then write the answer to the correct number of significant figures. The rules for this are in Friday's notes or at genest.weebly.com.

OOPS! TYPO

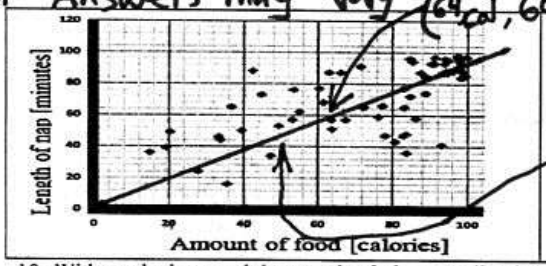
11. What is the correct reading of each meniscus?



slope $= \frac{\Delta y}{\Delta x} = \frac{48 \text{ min}}{50 \text{ calories}} = 0.96 \frac{\text{min}}{\text{cal}}$

12. The graph below is for an experiment where animal naps were measured after the organism consumed a light meat. Assuming that 0, 0 is one of the points on this graph, make a best fit line that includes 0,0. Calculate the slope of the line. Include units. [Hint: the units will be something / something]

Your Answers may vary (64 cal, 60 minutes)



9. With just your finger and the graph, predict the number of minutes the animal would sleep if it consumed 50. calories.

On my graph 50 cal : 48 minute

Your graph may be slightly different.

10. With a calculator and the equation below, predict the number of minutes the animal would sleep if it consumed 140 calories (remember sig figs).

use your answer from above

$$\frac{140 \text{ calories}}{1} \times \frac{48}{50} \frac{\text{minutes}}{\text{calories}} = 134 \text{ minutes}$$

must have these units

yours may vary

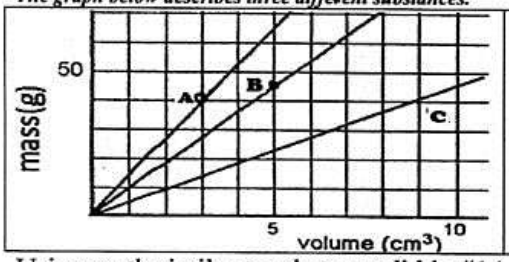
11. With a calculator and the equation below, estimate the ampunt of food the animal ate if it slept 188 minutes.

$$\frac{188 \text{ minutes}}{1} \times \frac{50 \text{ calories}}{48 \text{ minutes}} = 195.8 \approx 200 \text{ calories}$$

12. With a calculator and the equation below, predict the number of minutes the animal would sleep if it consumed 140 calories (remember sig figs).

$$140 \text{ calories} \times \left(\frac{48 \text{ minutes}}{50 \text{ calories}}\right) = 130 \text{ minutes}$$

The graph below describes three different substances.



17. Calculate the slope of Substance A. Include units

$$\frac{\Delta y}{\Delta x} = \frac{40-0}{3-0} = 13 \frac{g}{cm^3}$$

18. Calculate the slope of Substance B. Include units $\frac{\Delta y}{\Delta x} = \frac{45-0}{5-0} = 9 \frac{grams}{cm^3}$

Using math similar to what you did in #14 - #16, calculate the following.

19. What would be the mass of 9.00 grams of A? (Remember sig figs; round your answer!)

TYPO SKIP

$$9.00 \text{ grams} \times \left(\frac{\quad}{\quad}\right) = \quad \text{gram}$$

20. What would be the volume of 224 grams of B? (Remember sig figs; round your answer!)

$$224 \text{ grams} \times \left(\frac{1 \text{ mL}}{9 \text{ grams}}\right) = 25 \text{ mL}$$

Review #1

EHS CA3mIs+ry

Mr. Genest

Name_____

Date_____

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1. Divide: 5379 / 2.7 and then write the answer to the correct number of significant figures. The rules for this are in Friday's notes or at genest.weebly.com.

2. In another experiment, a researcher measured how long a candle burned compared with the grams of wax inthe candle. She determined that for every 2.4 grams of wax the candle burned an additional 16.3 minutes. With a calculator and the equation below, predict the number of minutes the candle would burn if it contained 140 grams of wax. (remember sig figs).

FOR EVERY 2.4 GRAMS WAX, 16.3 minutes goes BY

$$\frac{140\ grams}{1} \times \frac{16.3\ minutes}{2.4\ grams} = 950.83 \approx 950 \text{ MINUTES}$$

TWO

3. With a calculator and the equation below, estimate the amount of grams the candle should weigh if you wish it to burn for 188 minutes.

$$\frac{188\ minutes}{1} \times \frac{2.4\ grams}{16.3\ minutes} = 27.68 \approx 28 \text{ grams}$$

4. With a calculator and the equation below, predict the number of minutes the candle would burn if it contained 363.2 grams of wax (remember sig figs).

$$363.2\ grams \times \left(\frac{16.3\ minutes}{2.4\ gram}\right) = 2466.7$$

rounds to 2500 minutes

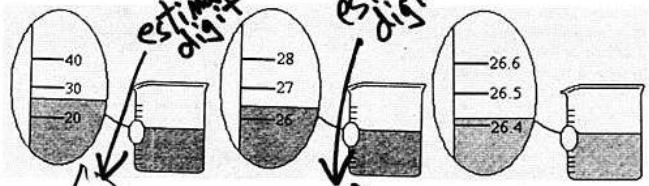
answer to #4

G	?	?	M	?	?	k	?	?	?	c	m	?	?	μ	?	?	n	?	?	p
giga			mega			kilo			base		centi	milli			micro			nano			pico

5. Convert 70.1 Mg to grams: _____

this part below here is from notes a few days ago. I'm just sticking it here because people seemed to need to see it again. Remember to always write all the digits that are from the black lines. AND THEN, ESTIMATE ONE MORE DIGIT AND WRIT4E THAT. Many people missed this on the RR track homework.

Purpose: How _____ (you write...)



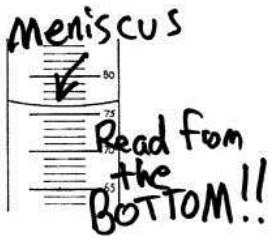
27 26.4 26.43

Rule 1: If it's right on the line add a zero.

Rule 2: If it's between lines estimate a 1,2,3,4,5,6,7,8,9

What is the curve called?

Meniscus



76.0

estimated digit