

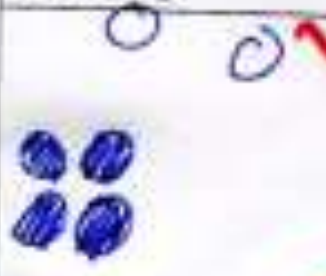

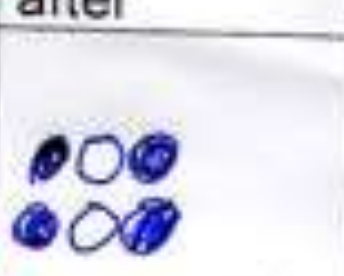
Homework tonight: Gear Sheet (Review 2)

Purpose :

Practice particle pictures for the test tomorrow.

Warmup:  
copy

Rusting metal, gets heavier and larger as it rusts  
● = iron    ○ = oxygen

before	after	after
		

① DON'T MAKE PARTICLES CHANGE SIZE

② DON'T CHANGE NUMBER OF PARTICLES

③ PARTICLES CANNOT APPEAR OR DISAPPEAR

Test tomorrow

What to study everything in notes and homework since September 2.

Office Hours

I'm here today after school until 4:30.

I'm here at all lunches, the whole lunch.

Are elements on the test? No.



Name \_\_\_\_\_

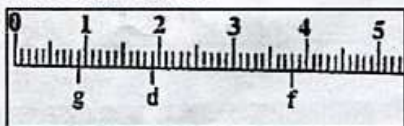
Date \_\_\_\_\_

**ANSWERS**

Tutors! Adults! Help this young chemist by visiting <http://genest.weebly.com> with any smart phone

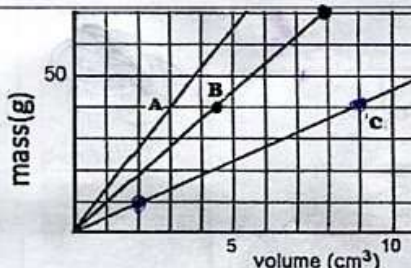
- Our first big test is this Thursday, September 24, 2015
- For a **complete** review, go re-do old homework and notes from Sept 2 to Sept 21.

1. Write the measurement for each letter. *Always make the last digit zero when the hairline hits the mark dead center.*



G 0.90      D 1.90      F 3.80

2. Answer questions for these lines.  
**Line A has been done below for you as an example.**



<p>For Line A</p> <ul style="list-style-type: none"> <li>• Calculate the slope of Line A</li> </ul> $\frac{\Delta y}{\Delta x} = \frac{40-15}{3-1} = \frac{25}{2} = 12.5 \frac{\text{grams}}{\text{cm}^3}$ <ul style="list-style-type: none"> <li>• Write a "For every..." sentence.</li> </ul> <p>For every 2 cm<sup>3</sup> there are 25 grams          [or, also you could say "For every cm<sup>3</sup> there are 12.5 grams"]</p>	<p>3. For Line B</p> <ul style="list-style-type: none"> <li>• Calculate the slope of Line B</li> </ul> $\frac{\Delta y}{\Delta x} = \frac{70-40}{8-4.5} = \frac{30 \text{ g}}{3.5 \text{ cm}^3} = 8.6$ <ul style="list-style-type: none"> <li>• Write a "For every..." sentence.</li> </ul> <p>For every 3.5 cm<sup>3</sup> there are 30 grams. ← "1" ALSO OKAY          ← "8.6" ALSO OKAY</p>	<p>4. For Line C</p> <ul style="list-style-type: none"> <li>• Calculate the slope of Line C</li> </ul> $\frac{\Delta y}{\Delta x} = \frac{40-10}{9-2} = \frac{30 \text{ g}}{7 \text{ cm}^3} = 4.3$ <ul style="list-style-type: none"> <li>• Write a "For every..." sentence.</li> </ul> <p>For every 7 cm<sup>3</sup> there are 30 grams ← "1" ALSO OKAY          ← "4.3" ALSO OKAY</p>
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5. What is the answer, to the correct number of significant figures of each

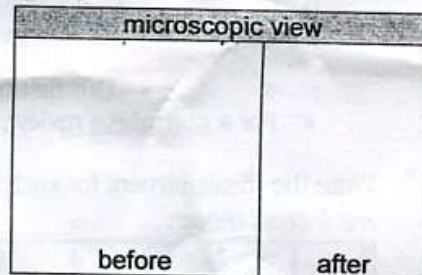
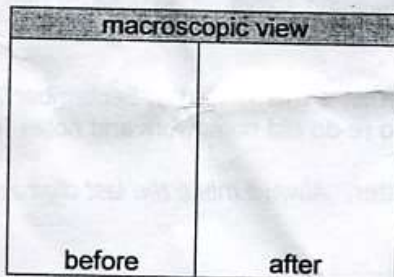
a.  $83 \times 0.7 = 58.1 \approx 60$   
 one sig fig

b.  $83 + 0.7 = 83.7 = 84$   
 round to the "ones" place

6. The Law of Conservation of Mass says that mass must stay the same during a change [if mass seems to go up or down, you overlooked some part].  
**IMPORTANT** In problems #7 - #9, pay special attention to have the number of particles in the microscopic before and after explain the weight change that is described in each case.

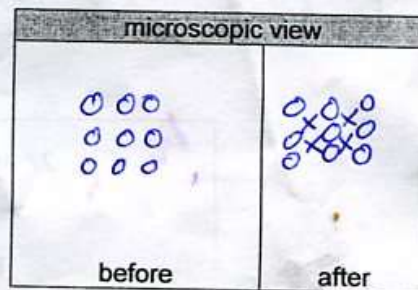
7. Bending a straight wire into a 90° angle  
 [Your drawing should explain why the total mass stays the same.]

Symbols that I used:



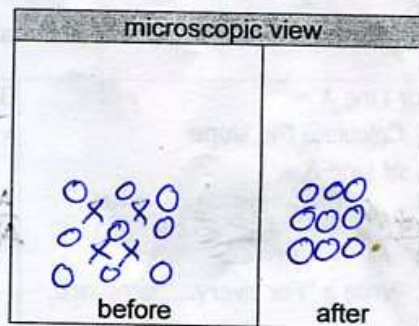
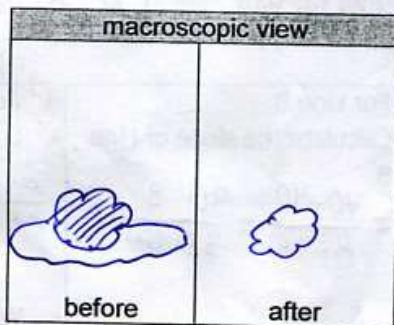
8. a cotton ball on the ground, before and after a rain storm [Your drawing should explain why the total mass increases.]

Symbols that I used:  
 O = cotton  
 X = water

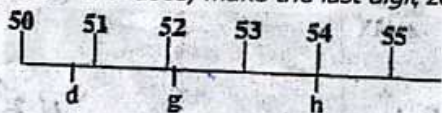


9. before: a wet cotton ball on the ground, after: same cotton ball after six hours in the sun [Your drawing should explain why the total mass decreases.]

Symbols that I used:



10. Write the measurement for each letter. Estimate between marks when the hairline doesn't hit dead center. If it does, make the last digit zero.

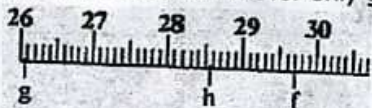


D 50.7

G 52.1

H 54.0

11. Write the measurement for only g, h, & f in these blanks



G 26.08

H 28.56

F 29.70

# MASS CHANGES NOTES

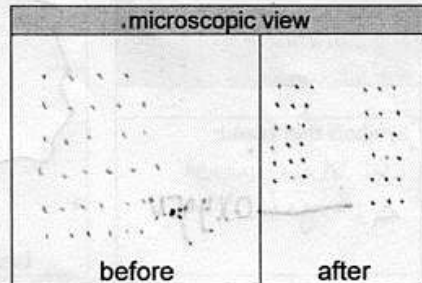
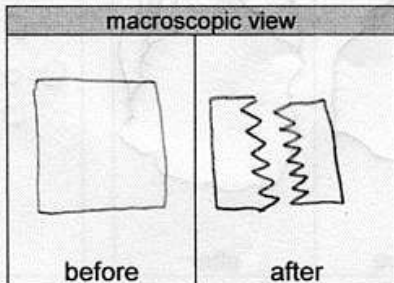
DUE AT THE BELL

Name Eliette Soler ☆  
 Period 6th

A. Tearing paper in half  
 [Your drawing should explain why the total mass stays the same.]

Instructions: Tear a piece of paper in half down the middle.

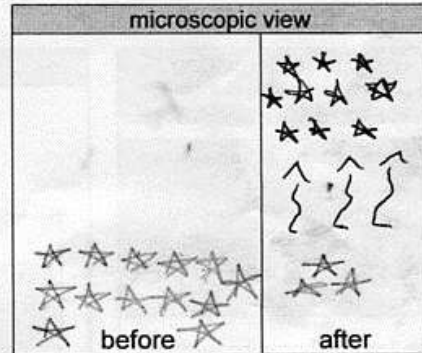
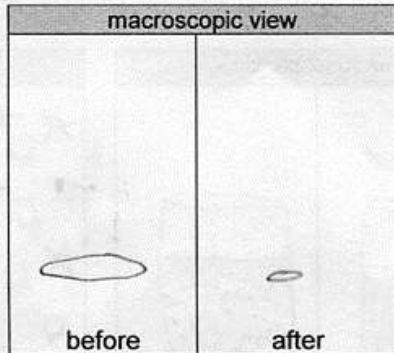
Symbols that I used:  
 • = paper particle



B. A teardrop, evaporating from the floor  
 [Your drawing should explain why the total mass decreases.]

Instructions: Shed a tear. Watch it evaporate for a minute.

Symbols that I used:  
 ☆ = H<sub>2</sub>O    ○ = tear

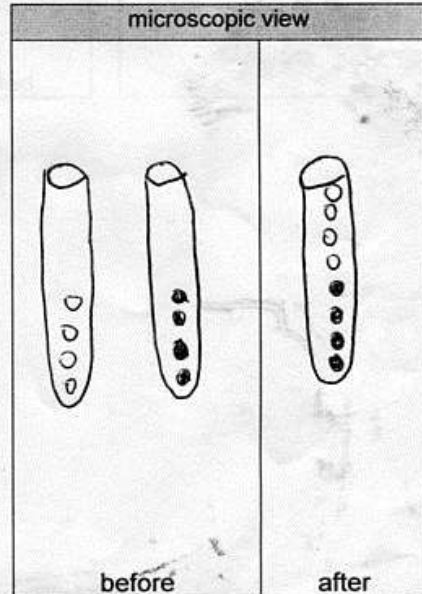
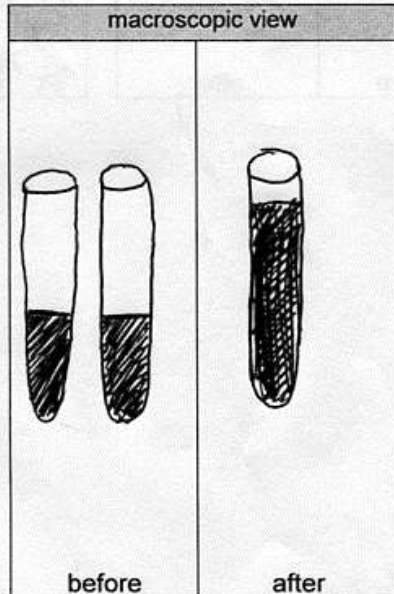


C. A 'Precipitate' forming  
 [Your drawing should explain why the total mass stays the same.]

Instructions: At Lab Station Three, put CaCl<sub>2</sub> from the brown bottle into a test tube, about an inch deep. Into the other test tube place Na<sub>2</sub>CO<sub>3</sub>, 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:  
 ■ = chemicals  
 ○ = chem. particles  
 CaCl<sub>2</sub>

● = Na<sub>2</sub>CO<sub>3</sub> particles

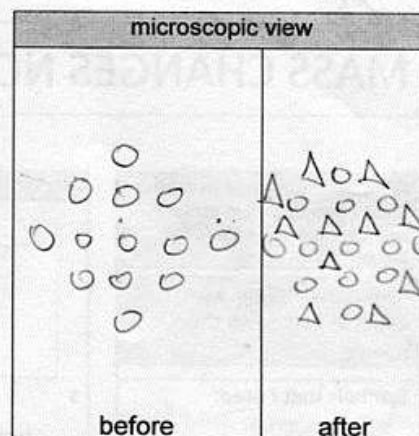
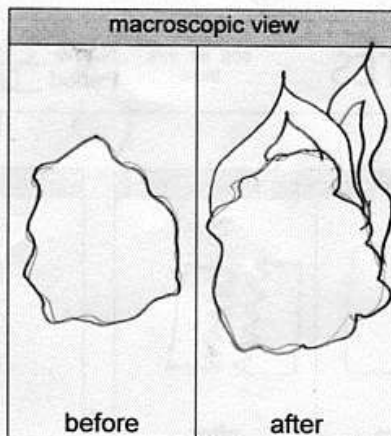


D. A 'Precipitate' burning  
 [Your drawing should explain why the total mass increases.]

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

Symbols that I used:

O: Steel wool  
~~○~~: ~~oxygen~~ OXYGEN

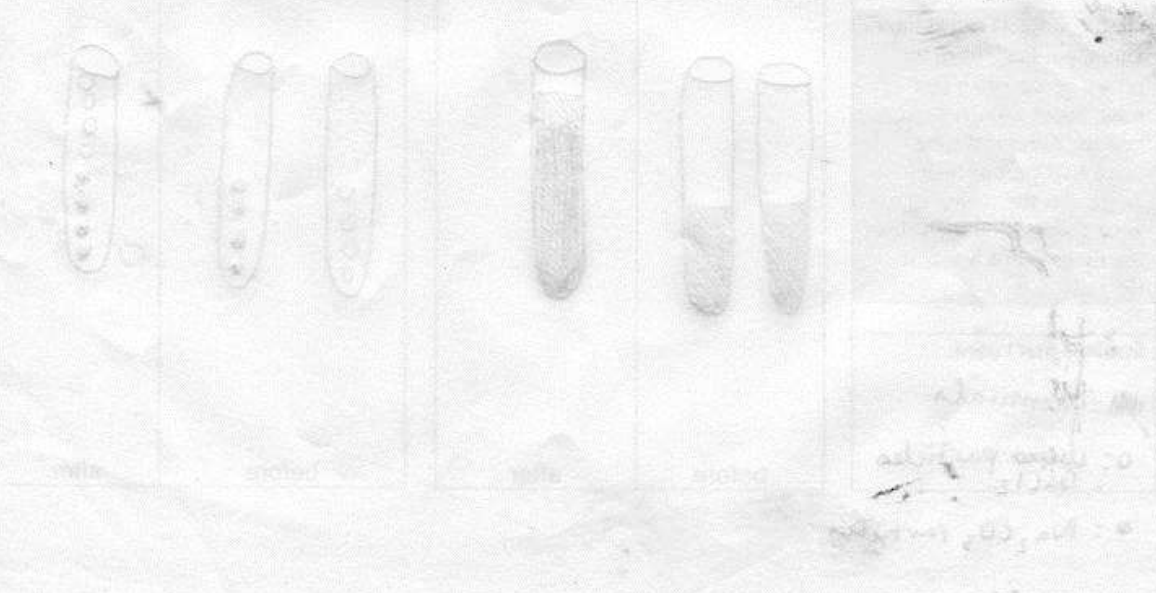
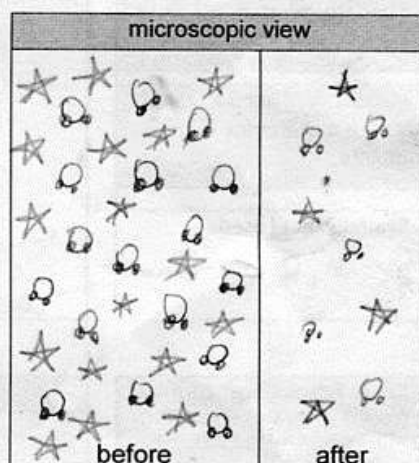
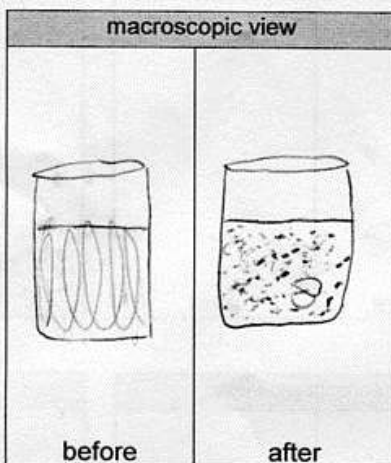


E. Alka Seltzer fizzing  
 [Your drawing should explain why the total mass decreases.]

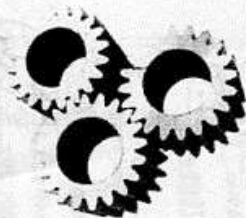
Instructions: At Lab Station Six, get your flask more than half full of water. Drop half of a Alka Seltzer tablet into the flask. Let it fizz for a minute.

Symbols that I used:

○ = H<sub>2</sub>O  
 \* = oxygen



Review #2  
EHS Chemistry  
Mr. Genest



Name Fernanda

Date \_\_\_\_\_

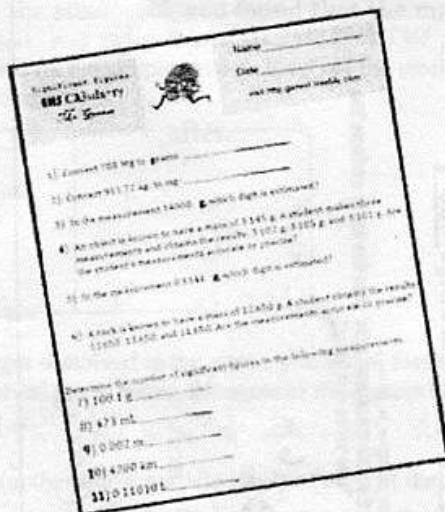
Tutors! Adults! Help this young chemist by visiting <http://genest.weebly.com> with any smart phone

I wish there were an easy way to know what's on the test...

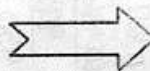


Illustration: Bill Watterson

There IS a way to know what's on the test. Have you noticed that the quizzes have large chunks of material taken directly from the worksheets you just finished?



The Tuesday Homework



The Friday Quiz

- Our first big test is this Thursday, September 24, 2015
- This review sheet does **not** contain every word and skill we learned. It can't. For a **complete** review, go re-do old homework and notes from Sept 2 to Sept 21.

metric conversions  
**ENS CA3** sds + try  
 50% 30% 20%

Name \_\_\_\_\_  
 Date \_\_\_\_\_  
 visit <http://www.genest.weebly.com>



Sorry  
 BLURRY!  
 Warm up: Convert 788 Mg to g

→ look up the original  
 COW BOY SHEET  
 BLENDER SHEET

Convert the following measurements using your metric glue in (or the image at <http://www.genest.weebly.com>)

- 1200 mL =  $\frac{1.200}{1}$  L
- 1g =  $\frac{0.001}{1}$  kg
- 1000 m =  $\frac{1.000}{1000}$  km
- 34 mm =  $\frac{0.034}{1000}$  km
- 0.99 kg =  $\frac{990}{1000}$  g
- 1200 mL =  $\frac{1.000}{1}$  L
- 307 g =  $\frac{0.307}{1000}$  kg
- 43.5 g =  $\frac{0.0435}{1000}$  kg
- 9.08 L =  $\frac{9080}{1000}$  mL
- 0.45 kg =  $\frac{450}{1000}$  g

Compare each pair below using <, >, or =  
 Label: Convert ONE of the measurements into the same units as the OTHER measurement. Then write <, =, or >

- 0.58 mm  $\odot$  6 m  
 58 cm  $\odot$  5 m
- 3.5 L  $\ominus$  3500 mL  
 3.5 L
- 31 mg  $\odot$  5g  
 (5000 mg)

EMILY HART FRODO BAGGINS  
**ENS CA3** sds + try  
 50% 30% 20%



Name \_\_\_\_\_  
 Date \_\_\_\_\_  
 visit <http://www.genest.weebly.com>

ONLINE  
 Determine the number of significant figures in the following measurements. Or write 'infinite' if there are infinite significant figures

- 1) 100.1 g Four
- 2) 473 mL three
- 3) 0.002 m one
- 4) 4200 km two
- 5) 330 mL of Pepsi two

6) Circle any things below that have INFINITE significant figures.  
 one student weighs 88.5 kg and the other weighs 90.0 kg  
 1 meter is the same as 100 cm  
 1 dozen daisies is 12 daisies  
 East High School contains 3,449,339 bricks  
 There are 28 students in the room

- Round each of the following to 3 significant figures.
- 13) 23.15 g 23.2
  - 14) 16.2455 m 16.2
  - 15) 93.45 cm 93.5
  - 16) 21.15 cm 21.2

Determine the number of significant figures in the following measurements. Or write 'infinite' if there are infinite significant figures

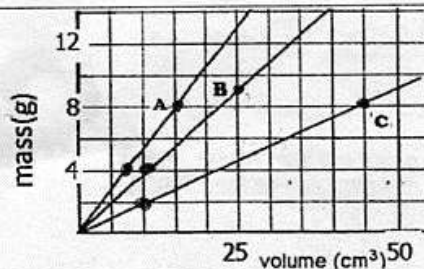
- 7) 0.00020 two
- 8) 0.420 cm four
- 9) 0.40,002 m six
- 10) 10,000 s one
- 11) 190.60 g five
- 12) 1.0004230 g eight

Round each of the following to 3 significant figures.

- 17) 1.2793 kg 1.28
- 18) 0.10625 0.106
- 19) 0.0037486 m 0.00375
- 20) 0.01245 s 0.0125
- 21) 0.10652 g 0.107



Answer questions for these lines.



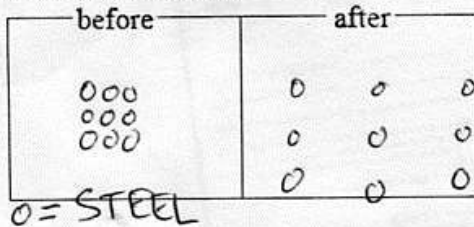
TYPO!

<p>1. For Line A</p> <ul style="list-style-type: none"> <li>Calculate the slope of Line A</li> </ul> $\frac{\Delta y}{\Delta x} = \frac{8-4}{15-7} = \frac{4 \text{ grams}}{8 \text{ cm}^3}$ <ul style="list-style-type: none"> <li>Write a "For every..." sentence.</li> </ul> <p>For every 8cm<sup>3</sup> there will be 4 grams.</p>	<p>2. For Line B</p> <ul style="list-style-type: none"> <li>Calculate the slope of Line B</li> </ul> $\frac{\Delta y}{\Delta x} = \frac{9-4}{25-10} = \frac{5 \text{ grams}}{15 \text{ cm}^3}$ <ul style="list-style-type: none"> <li>Write a "For every..." sentence.</li> </ul> <p>For every 15cm<sup>3</sup> you will have 5 grams.</p>	<p>3. For Line C</p> <ul style="list-style-type: none"> <li>Calculate the slope of Line C</li> </ul> $\frac{\Delta y}{\Delta x} = \frac{8-2}{45-10} = \frac{6 \text{ grams}}{35 \text{ cm}^3}$ <ul style="list-style-type: none"> <li>Write a "For every..." sentence.</li> </ul> <p>For every 35cm<sup>3</sup> there are 6 grams.</p>
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4. When we pulled the steel wool apart, you found that the mass was unchanged. But, when you heated the steel wool, you found that the mass increased. Explain.

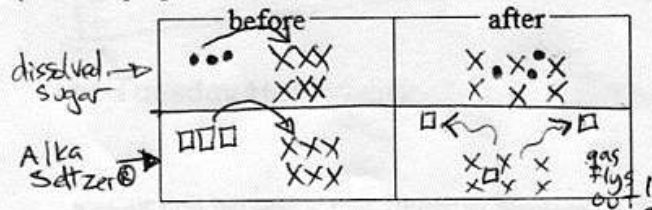
Pulled apart still has the same particles of iron, so no change. Burned steel wool adds oxygen atoms to the iron so mass increased.

5. Draw diagrams (at the simple particle level) of the steel wool before and after the change.



6. When the sugar dissolved in the water, you found that the mass remained unchanged. When the Alka-Seltzer dissolved in the water, the mass of the system changed. Explain.

Dissolved sugar still has same # of atoms. Alka Seltzer, some atoms bubble off as escaped gas.



X = water  
 ● = sugar  
 □ = alka seltzer [first its a tablet, then becomes a bubble of gas]