Unit 2

Class Work

NAME

10/5/13

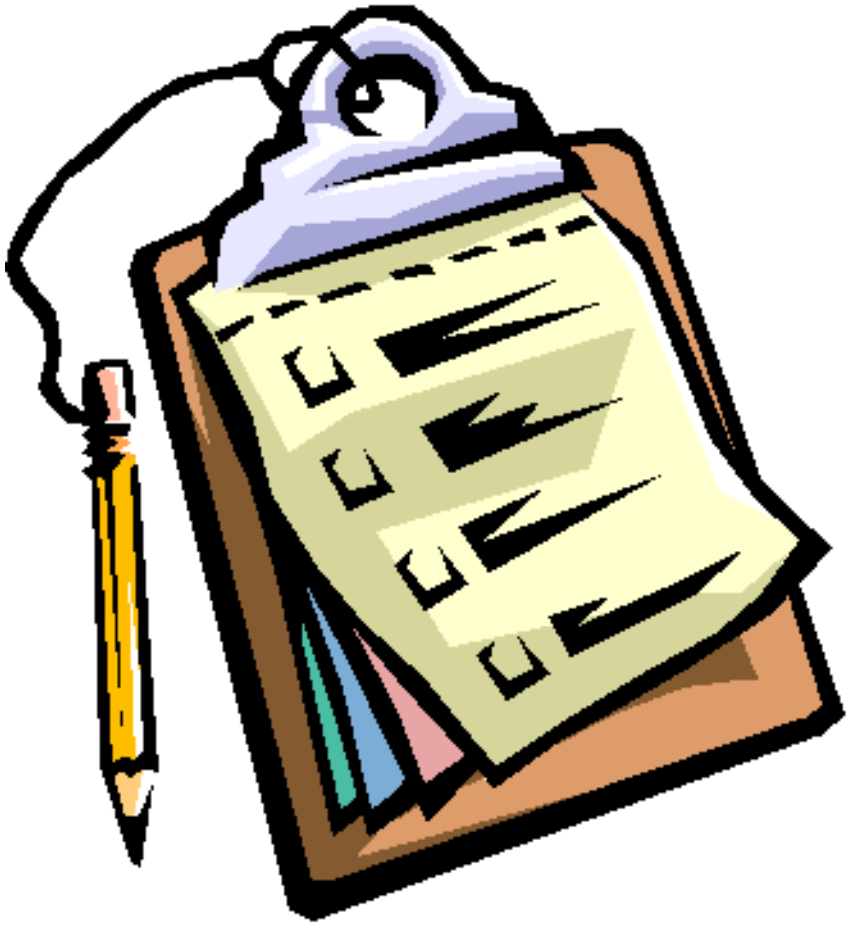
2.3 Conservation of Mass

SPARK

1. Name two physical changes that occur in your morning routine
2. Name two chemical changes that occur in your morning routine
3. Choose one change. How do you know that it is chemical or physical?

Agenda:

- SPARK
- Objective
- Video
- Conservation of Mass
- Lab!
- Homework



Objectives

SWBAT use evidence to prove mass is conserved during a phase change

Refresher

- Sort the following words to fit into or between each of the categories below:

constant shape, constant volume, changing shape, changing volume, melting, freezing, evaporation, and condensation, fast moving particles, vibrating particles, particles far apart, particles close together

SOLID	LIQUID	GAS

Video

- What is dry ice?
- As you are watching the video, describe what you're seeing.
- Discuss: Is the amount of gas produced by the sublimation equal to, greater than, or smaller than mass than the original block of dry ice?

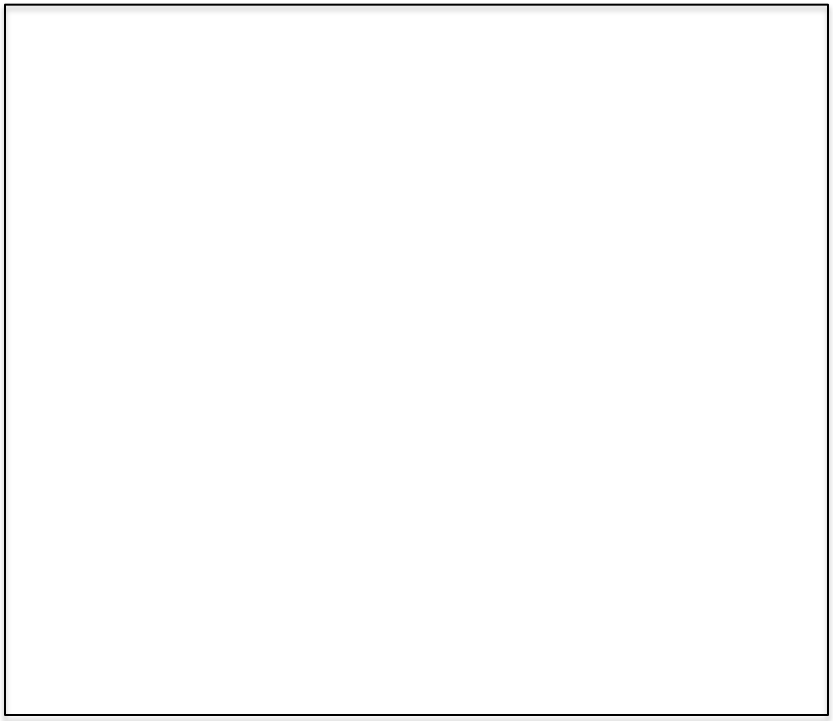
Law of Conservation of Mass

- Can anything disappear?
- When water evaporates, where does it go?
- When a candle is burning, why does the mass of the wax decrease?

Let’s discover this for ourselves!

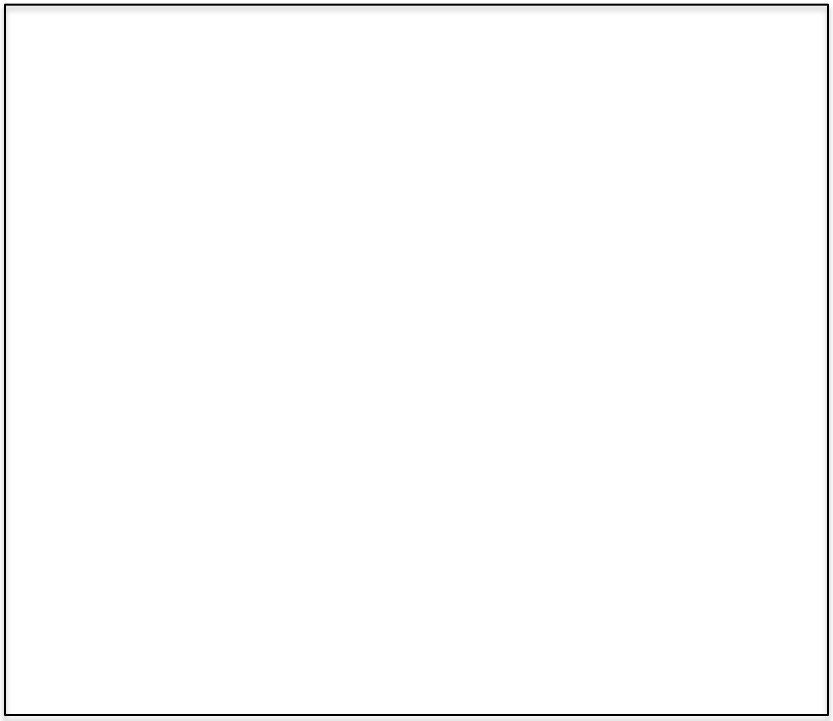
Lab

- **STEP 1:** Draw a particle diagram of the chocolate in the solid phase:



Lab

- **STEP 1:** Draw a particle diagram of the chocolate in the solid phase:



Initial Prediction:

- Based on your picture, will the liquid chocolate have the same mass as before, less mass or more mass?

- Why?

SHARE OUT!

Our big question: Is mass conserved during a phase change?

- How can we test this?

Let's Think About This

- Was there any mass created or destroyed?
- Does the prediction show mass being created or destroyed?

Law of Conservation of Mass

- Matter is never created nor destroyed (it only changes form)

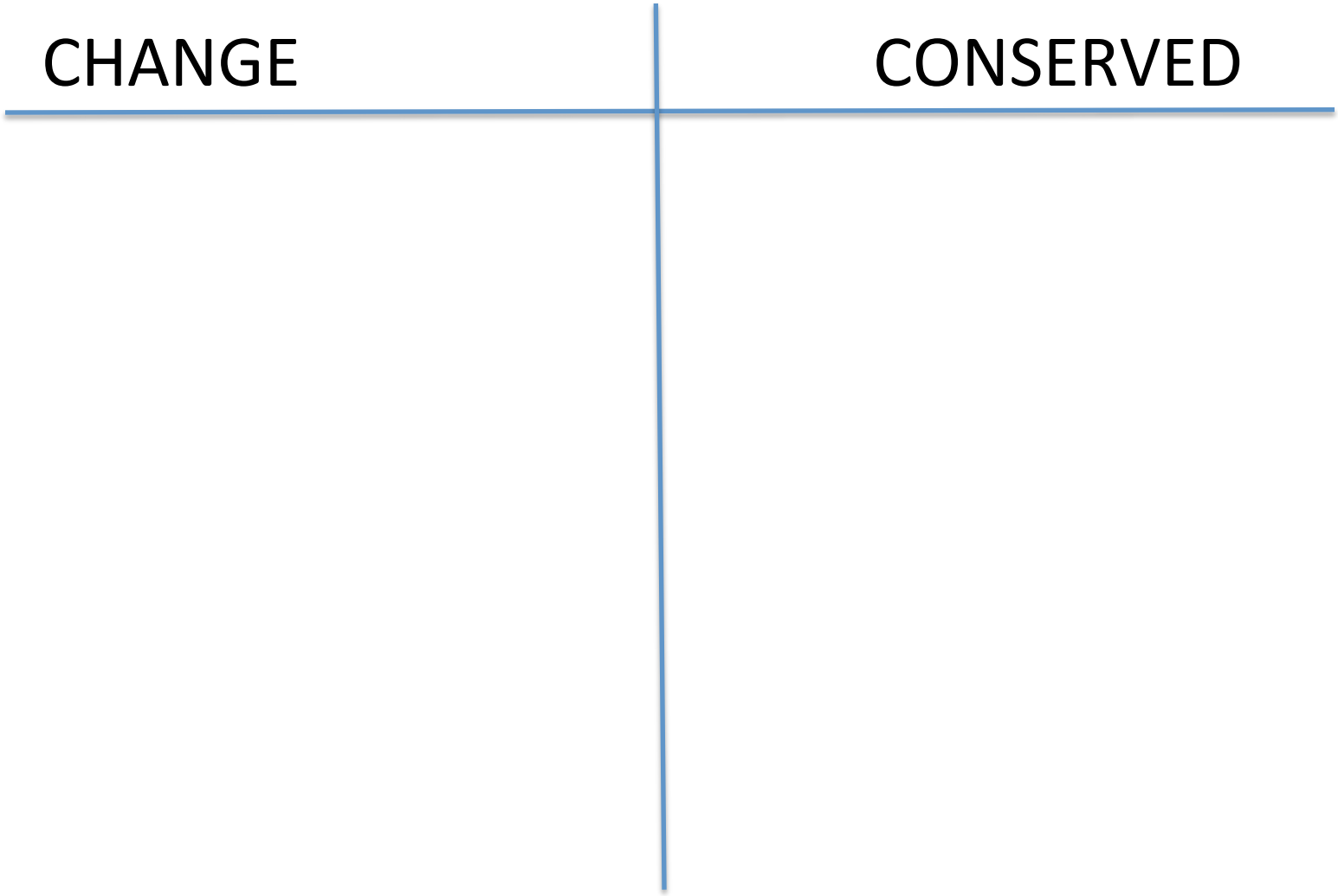
“Ex nihilo nihil fit.”

Principium cuius hinc nobis exordia sumet,

nullam rem e nihilo gigni divinitus umquam

Lucretius

T-chart



Repeat!

Extending our Thinking! Think-Write-Pair-Share

What does this mean?

- 1-2 minutes of thinking
- 3-4 minutes of writing
- 2 minutes talking to your partner
- 3 minute class discussion

Think-Write-Pair-Share

You want to use evaporation to separate water from salt, so that you can drink the water. A colleague tells you that that's a terrible idea, because you're just destroying water that way. How do you respond to the colleague? Be sure to reference the conservation of mass in your answer, and provide an explanation for where the water goes when it evaporates.

Exit Ticket

- Knowing what you now know about the conservation of mass, what happened in the video of the dry ice sublimation?

HOMEWORK

On page 18 of your textbook, complete questions 1-3 (on a sheet of loose leaf)

Reminder: get in donors choose papers and come to my room FRIDAY after school for picture and thank you card writing!