PHYSICAL and CHEMICAL…. 2/15/11

A. What is a physical change?

B. What is a chemical change?

C. Observations/ Data Table

Task	Physical changes	Chemical changes
Candle Burning		
Hold beaker over flame		
Place flask over beaker		
Bromothymol blue in flask		

CONCLUSIONS: (WRITE ANSWERS ONLY)

1. Pick one of the physical changes that you observed and explain WHY is it a physical change.

2. Pick one of the chemical changes that you observed and explain WHY is it a chemical change.

3. Define combustion. (pg. 243 PH). List two reactants (substances needed) for combustion.

4. List two chemical products (new substances) that are formed during combustion of a candle?

III. Watch it Burn! Carbon Based Fuel

A. Observations Before:

height: color: texture:

mass: state: other:

B. During:

Draw the flame

List Observations as it burns on page 30

Time (min)	Height (cm)	Mass (g)
0		
1		
2		
3		
4		
5		

C. After:

Calculate change in:

Height Mass

Changes observed:

5. You can use an equation to describe a chemical reaction. For a one-way reaction, the part of the equation to the left of the arrow gives the ingredients, and the part of the equation to the right of the arrow gives the products. For example, an equation for the chemical reaction that produces mayonnaise is

Eggs + Vinegar + Salad Oil -> Mayonnaise.

Write an equation for the combustion of a candle in oxygen.

Hint: There are two ingredients and two products.

Changes: Physical or Chemical? 2/18/11

4 "Deadly" Warning Signs of a Chemical Reaction

A. Bubbles (new gas is made)
B. Solid appears/cloudy
(Precipitate)
C. Temperature Change
D. Color Change

KEY: new substances formed with different properties

What was done	What happened?	Evidence of new substances formed	Chemical o Physical change?
Making a mixture: Orange juice from concentrate	Mixed frozen OJ with water, giving orange juice	None	Physical: just mixing substance already there
Separating a mixture: filtering OJ	Put OJ through a filter, pulp is left in the filter. A clear orange solution passes through the filter.	None	Physical: just separating substance that were mixed together.
Mix a clear colorless solution with a clear yellow solution	Turns cloudy, a red solid is formed and sinks to the bottom of the test tube (a Precipitate)	A new solid is formed. It is a different color than the original solutions.	
Fried ice	Ice melted to water, water boiled	No, bubbles were just from boiling, temperature got hot, but is was from being on stove.	
Blow into pH indicator	Blue solution turns green or yellow	color change pH change	
Adding poly A to poly B	a dark liquid is mixed with a yellow liquid. After a few minutes is foams up and turns solid.	Gets hot due the chemical change. Properties change: colored liquids to white solid. Gas is produced, causing the expansion	

Changes: Physical or Chemical? 2/17/11

Physical Change	Chemical Change
Read pages 216-219 in PH Focus on Physical Science. (use pages 202 and 23 in your CPO book) **Take notes in boxes:** **2 main ideas and a colored picture for each.**	
Reactants and Products	Evidence of a Chemical Change

How do you know?

Chemical or Physical 2/25

Physical Change example:

From the demonstrations done on page 76, pick one chemical and one physical change.
For each:
Explain what happened
Explain how you know if it's a chemical or physical change.

Chemical change example

For chemical change: include any of the "signs of chemical changes" that you saw.

Chemical or Physical 2/22

	Process	Physical/Chemical? And why…
1	Rusting	
2	Evaporation	
3	Soggy cereal	
4	Melting	
5	Combustion	
6	Freezing	
7	Folding	
8	Frying	
9	Painting	
10	Photosynthesis	
11	Condensation	
12	None	None
13	Dissolving	
14	Bleaching	
15	Shattering	
16	Molding	