



- a. Explain how you have "acted" like a force in nature. \_\_\_\_\_
- b. How do rock sediments erode (move) in nature? \_\_\_\_\_
- c. What is the force behind erosion? \_\_\_\_\_
- d. Where are rock sediments usually deposited in nature? \_\_\_\_\_
- e. What is the dropping off of sediment called? \_\_\_\_\_

3. Carefully fold the loose layers of crayon shavings inside the aluminum foil. Using your hands, press the sediment tightly between two **OLD** text books. Remove the text book and unwrap the aluminum foil. Remove a piece of the crayon.
- Save 1 small piece for the conclusion **Part 1 sample!**
  - Describe **AND** Draw the crayon after compaction and cementation:

Drawing	Description (Layers? Thick or thin? Tightly or loosely compacted?)								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> </table>								

- a. What does the book represent in the lab? \_\_\_\_\_
- b. How are rocks put together to form a sedimentary rock? \_\_\_\_\_
- c. What kind of rock does the crayon now represent? \_\_\_\_\_

**Part 2**

4. Rewrap the foil and place the textbook back on top of it. This time push down on the text book with as much pressure as you can. Light your tea candle. Hold the foil packet over the tea candle for 20-30 seconds. Set the foil packet down and place a textbook on it and let the foil packet cool under the text book. After it is cool remove the textbook, unwrap the foil and remove a small piece of the crayon.
- Save 1 small piece for the conclusion **Part 2 sample!**
  - Describe **AND** Draw the crayon after intense heat and pressure:

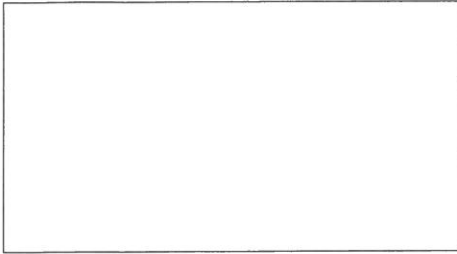
Drawing	Description (Layers? Tightly or loosely compacted?)								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> </table>								

- a. What kind of rock does the crayon now represent? \_\_\_\_\_
- b. What was the difference between making a sedimentary rock and making a metamorphic rock? \_\_\_\_\_

**Part 3**

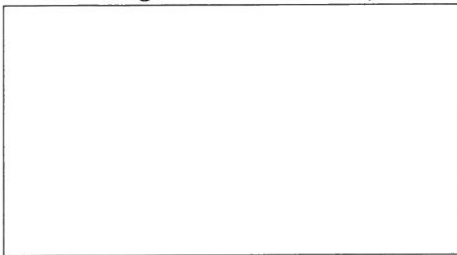
5. Put the remainder of the crayon shavings in another piece of aluminum foil with edges folded up (like a boat.) Heat the foil over the tea candle until the crayon shavings are melted. (Don't let them smoke too much – it will make the room smell really bad!) Pour a little bit of melted crayon into the 3 different cups: one with ice water, one with warm water and one without water. Let the crayon cool for a few minutes.
- Describe **AND** Draw the melted and cooled crayon:
  - Use these in the conclusion as **Part 3 samples.**

**Drawing: Ice Water Crayon**



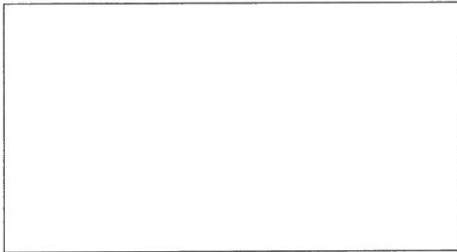
**Description**


**Drawing: Warm Water Crayon**



**Description**


**Drawing: No Water Crayon**



**Description**


- a. What kind of rock did you just form in each of the cups? \_\_\_\_\_
- b. How do the different temperatures of water represent the different types of igneous rocks?  
\_\_\_\_\_
- c. Compare the different igneous rock samples:  
How are they the same? \_\_\_\_\_  
How are they different? \_\_\_\_\_

**Conclusion:**

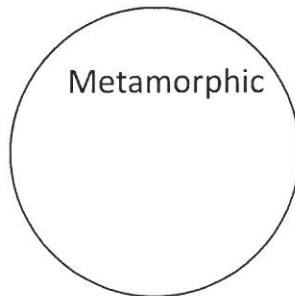
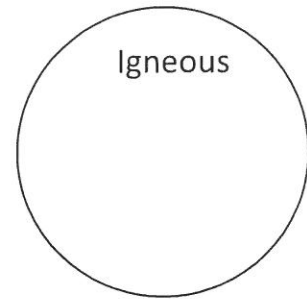
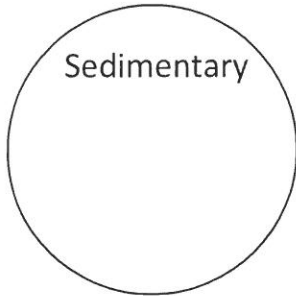
1. Compare all the different rock samples and explain how they are similar and how they are different.

Sample #	Similar	Different
Part 1		
Part 2		

Sample #	Similar	Different
Part 1		
Part 3		

Sample #	Similar	Different
Part 2		
Part 3		

2. Draw a diagram of the rock cycle using examples from the lab.
- a. **Draw** pictures of what happens at the different steps.
  - b. **Explain** how you could turn your metamorphic rock back into sedimentary rock. (Draw arrows)
  - c. **Explain** how you could turn your sedimentary rock directly into an igneous rock. (Draw arrows)
  - d. **Explain** how you could turn your igneous rock into a sedimentary rock. (Draw arrows)



**Analysis:**

1. When you weather the crayon, were the shavings the same size or shape as before? Why?
2. What are 3 causes of physical weathering in nature?
3. How do rock sediments erode (move) in nature?
4. Where are rock sediments usually deposited in nature?
5. Explain the processes that are needed in order for sediments to become a sedimentary rock.
6. What was the difference between making a igneous rock and making a metamorphic rock?
7. How do the different temperatures of water represent the different types of igneous rocks?

8. How are the different igneous rock samples similar?

9. Fill out the table below using what you learned from the lab.

Rock Type	Distinguishing Characteristics	Formation Process
Sedimentary	<ul style="list-style-type: none"><li>•</li><li>•</li></ul>	
Metamorphic	<ul style="list-style-type: none"><li>•</li><li>•</li></ul>	
Igneous	<ul style="list-style-type: none"><li>•</li><li>•</li></ul>	