

Name: _____ Date _____

Lab: Starburst Rock Cycle

Introduction:

The Rock Cycle is a never-ending process. Igneous rock forms from the cooling of magma or lava. Weathering breaks down rock into sediments that are compacted and cemented into sedimentary rock. Under great heat and pressure inside Earth's crust, rocks are changed into metamorphic rock. Through the rock cycle, each type of rock can change into any of the others. In the following activity, you will observe the transformations that occur as rocks change form.

Materials: 3 different colored Starburst candies, plastic knife, piece of tin foil, piece of wax paper & book.

Procedure:

Sedimentary Rock

Weathering

1. Take your three different colored Starbursts and cut them into as many small pieces as you can.
2. Put the pieces into a pile and draw what you observe in your **sediment box on the rock cycle diagram**.

Compaction

3. Pick up the "sediments" and gently push them together so they all form into one piece.

Cementation

4. Now take your "sedimentary rock" and warm it in your hands for a while.
5. Place the paper on top and press hard on top of the warm "sedimentary rock".
6. Set the piece down and draw what you observe in the **sedimentary rock box** on the rock cycle diagram.

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Metamorphic Rock

7. Warm the “rock” in your hands again, create friction heat by rubbing quickly between hands.
8. Fold this “rock” in half, place paper on top, and press down on it applying greater pressure with a book on top.
9. Draw what you observe in the **metamorphic rock box on the rock cycle diagram**.

Igneous Rock

10. Place your “metamorphic rock” on the piece of tin foil.
11. Bring your tin foil and rock to Mrs. Harding to put it onto the hotplate.
12. Observe the “metamorphic rock” as it melts.
13. Draw what you observe in the **magma box on your rock cycle diagram**.
14. Set the “magma” on the table and observe it as it cools and hardens.
15. Draw what you observe in the **igneous box on your rock cycle diagram**.

Sedimentary Rock

16. Take the hardened “igneous rock” and break it into “sediments.”
17. Pick up the “sediments” and gently push them together so they all form into one piece.
18. Now take your “sedimentary rock” and warm it in your hands for a while.
19. Place the paper on top and press hard on top of the warm “sedimentary rock”.
20. Clean up – throw away the rock, candy wrappers, wax paper, and foil paper. Do not throw away the knives.

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Conclusion: Answer the following review questions in complete sentences.

1. Use the following five processes to label every arrow on the rock cycle diagram: compaction and cementation, melting, cooling and hardening, heat and pressure, weathering and erosion.

2. Explain why the rock cycle is a cycle.

3. Compare and Contrast the three main types of rocks.

4. We already know that we could turn the sedimentary rock into metamorphic rock (steps 5-7). How could you turn the sedimentary rock into igneous rock without going through the metamorphic stage?

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5. Of the three types of rocks you investigated, which one would most likely contain identifiable fossils? Support your answer.

6. Which specific processes in the rock cycle occur beneath the Earth's surface? Support your answer.