Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Assignment Sheet 8th Grade

**Concept 1: Rock Cycle**

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| **Cycle 1: What is the rock cycle and how does it explain the conservation of matter and flow of energy in Earth’s geosphere?** |

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| **Objectives:**   * describe the law of conservation of mass as it relates to the rock cycle. * distinguish between the processes of melting, recrystallization, deformation, weathering, erosion, and sedimentation as processes in the rock cycle and describe these processes in terms of energy, and chemical or physical changes that occur. * conduct a rock cycle simulation that illustrates the cycling of Earth’s materials and the flow of energy that drives this process.   **\_\_\_\_\_\_\_\_Opening: (5 min):**  Vote-With-Your Feet Activity: Yesterday we learned about the rock cycle, which describes how the matter on Earth moves and transforms.  What do you think happens to the total amount of matter on Earth during this process?  “If you think that the total matter on Earth decreases, do the “folk” once for your teacher.  If you think that the total matter on Earth increases,  do the “folk” twice for your teacher.  If you think that the total matter on Earth stays the same, do the “folk” three times for your teacher.  Based on the what students vote, use sticky notes to defend your position and challenge another group’s decision.  **\_\_\_\_\_\_\_\_\_Notes: Law of Conservation of Mass** [**https://study.com/search/text/academy.html?q=conservation+of+mass#/topresults/conservation%20of%20mass**](https://study.com/search/text/academy.html?q=conservation+of+mass%23/topresults/conservation%20of%20mass)  **\_\_\_\_\_\_\_\_\_Explain: (20 min):**  Ask students to take out Handout 1-1: Journey Through the Rock Cycle from the previous day. Have students explore the Interactive Rock Cycle (<https://www.learner.org/interactives/rockcycle/diagram.html> ). During this activity, think about the Law of Conservation of Mass. What do you think is driving this process? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Look for connections between their Rock Cycle game and the diagram.  How do rocks escape this cycle?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   How do rocks get added into the cycle?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_Work through the diagram and Handout 1-1, attempting to fill in the shaded columns.  **\_\_\_\_\_\_\_\_\_Elaborate (45 min)**:  Handout 1-2: Rock Cycle Simulation Using Crayons. Get into 8 small groups for this next lab and use crayons to make “rock sediment”, expose this sediment to different processes representing Earth’s actual processes, and observe how rocks can change into other rocks, all while recognizing the law of conservation of mass.   Fill out the questions throughout the lab and at the end of Handout 1-2.  \**See Teaching Tip 3 and 4.*  **\_\_\_\_\_\_\_\_\_Closing: (10 min)**  Pass out Handout 1-3: Exit Ticket “I use to think…., but now I think….”. |  |