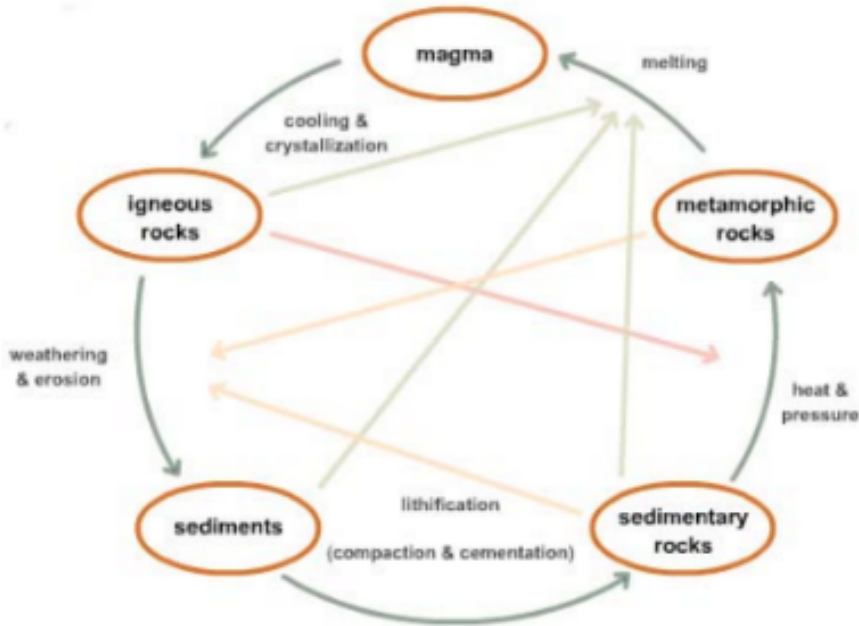


Ride the Rock Cycle Activity

Objectives: As a result of this lesson, students will be able to:

1. Describe the rock cycle
2. Identify the various stages of the rock cycle



Background: A useful aid in visualizing the rock cycle is shown above. The three major rock types, igneous, metamorphic, and sedimentary, are shown. As you see, each may form at the expense of another if it is forced out with its physical or climatic environment by either internal or surficial forces.

Magma is molten rock. Igneous rocks form when magma solidifies. If the magma is brought to the surface by a volcanic eruption, it may solidify into an extrusive igneous rock. Magma may also solidify very slowly beneath the surface. The resulting intrusive igneous rock may be exposed later after uplift and erosion remove the overlying rock. The igneous rock, being out of equilibrium, may then undergo weathering and erosion, and the debris produced is transported and ultimately deposited (usually on a sea floor) as sediment. If the unconsolidated sediment becomes lithified (cemented or otherwise consolidated into rock), it becomes a sedimentary rock. As the rock is buried the additional layers of sediment and sedimentary rock, heat and pressure increase.

Tectonic forces may also increase the temperature and pressure. If the temperature and pressure become high enough, usually at depths greater than several kilometers below the surface, the original sedimentary rock is no longer in equilibrium and recrystallizes.

The new rock that forms is called a metamorphic rock. If the temperature gets very high the rock melts and becomes magma again, completing the cycle.

The cycle can be repeated, as implied by the arrows. However, there is no reason to expect all rocks to go through each step in the cycle. For instance, sedimentary rocks might be uplifted and exposed to weathering, creating new sediment.

Procedure:

Part I:

Play the Rock cycle game. Set up your classroom with 8 areas at which a change in the rock cycle occurs. Each student starts at one area. At each area is a die that the student should roll to determine what path they should take. It is possible for the student to remain at the same station for a long time. To make the game more interesting, the rule is that you can only stay at one station for 2 turns. Then you must go to another station. While at each station and while moving to the different stations, students must record what is happening on their journey chart. See attached log. After the game is over, they will have a record of what happened.

Part II: Cartoons

After their journey is complete, students must create a cartoon of how their adventures in the rock cycle occurred. Points are given for use of correct terms. Each cartoon page should be divided so there are 12 boxes—room for 12 drawings. Students should turn in their adventure log and cartoon together so you can see what has occurred in their adventure.

Ride the Rock Cycle

Name _____

This sheet is to help you write about your experiences as a rock during your journey through the rock cycle. The title of each box will be the station you went to. The action will be what you illustrate. Since you are a rock, please make sure you document your journey. We should see you in each box!

Box 1. I began my adventure at _____.(you choose where you begin)

_____ (action)

Box 2. I went to _____ (title) and this happened

_____ (action)

Box 3. I went to _____ (title) and this happened

_____ (action)

Box 4. I went to _____ (title) and this happened

_____ (action)

Box 5. I went to _____ (title) and this happened

_____ (action)

Box 6. I went to _____ (title) and this happened

_____ (action)

Box 7. I went to _____ (title) and this happened

_____ (action)

Box 8. I went to _____ (title) and this happened
_____ (action)

Box 9. I went to _____ (title) and this happened
_____ (action)

Box 10. I went to _____ (title) and this happened
_____ (action)

Box 11. I went to _____ (title) and this happened
_____ (action)

Box 12. I went to _____ (title) and this happened
_____ (action)

Title: _____

by _____

Ride the Rock Cycle Comic Strip Rubric

Category	4	3	2	1
Panels	All 12 panels are complete	8-11 panels are complete	5-7 panels are complete	1-4 panels are complete
Grammar, spelling & punctuation	No spelling, punctuation, or grammar errors	1-5 spelling, punctuation, or grammar errors	6-8 spelling, punctuation, or grammar errors	9+ spelling, punctuation, or grammar errors
Actions	Each action is clearly identified and accurate	1-3 actions are not clearly identified and accurate	4-7 actions are not clearly identified and accurate	8+ actions are not clearly identified and accurate
Illustrations	All 12 panels have completed and accurate colored drawings	1-3 panels do not have completed and accurate colored drawings	4-7 panels do not have completed and accurate colored drawings	8+ panels do not have completed and accurate colored drawings

Points				
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Grade	
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