



ROCK CYCLE RACE!

North Carolina Geological Survey
www.deq.nc.gov/geoscience-education



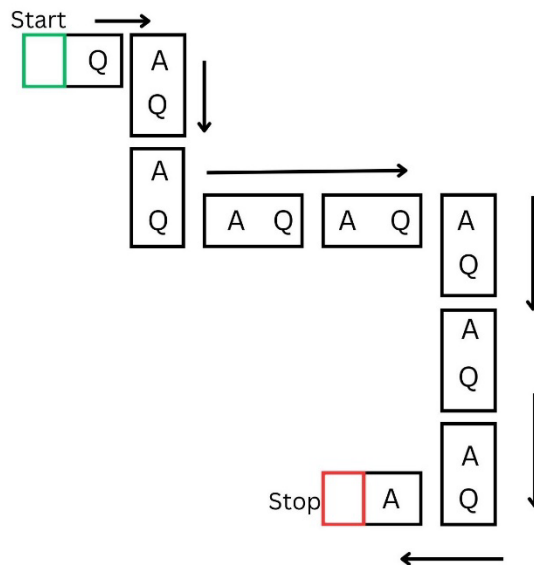
- Overview:** The rock cycle is a continuous Earth process, with no beginning and no end. Rocks are constantly undergoing transformations to new rocks which changes Earth's landscapes, landforms, and the resources that are available to us.
- Target Grade Level(s):** 4th grade – 6th grade
- 2023 Science Standard(s):** **ESS.4.2.2:** Carry out investigations to classify rocks as metamorphic, sedimentary, or igneous based on their composition, how they are formed, and the processes that create them.
- Objectives:** This hands-on activity is meant to reinforce the concepts of rock formation, rock types, and the rock cycle. The activity can be used as a review, as a group activity for extra credit, and/or as a fun way to wrap up your rocks and minerals lessons.
Groups can race to see who completes the game first - correctly of course!
- Estimated Time:** 40 minutes
- Teacher Prep & Background:**
1. Teachers should print and cut out the individual game “cards” on Pages 5-8 in this packet prior to class. (if you plan to use this activity every year, it would be a good idea to laminate the cards for re-use)
 2. All the cards on Pages 5-8 equals one set (a set runs from the Start card to the Stop card). Print as many sets as you'll need for each of your student groups. Each group will receive one set of game cards.
 3. Teachers should print one Question/Answer sheet (without answers) for each group prior to class.
 4. Each student group should have one set of game cards and one Question/Answer sheet when the activity begins.
- How it Works:** See detailed instructions on the next page.

Instructions:

1. Each student group gets a set of cards. Scramble the cards and lay them out on a table or the floor so that each card is visible.
2. Find the card with the green **START** image. This is the starting card for the race.
3. Read the question/clue on the card and race to find the correct answer on **another** card.
4. When you find the correct answer card, place it next to the previous question to form a chain. The cards don't need to be placed in a straight line – you can wind them in a pattern as shown on the bottom of this page.
5. Students should fill out the answer sheet as they play the game.
6. Continue with question/answer cards until you reach the final card marked **STOP**. It's a RACE to the finish!

IMPORTANT NOTE: The questions/clues on the cards are numbered. These numbers correspond to the answer sheet but are not relevant to the order of cards/answers in the game. Example: the question on the first card is marked number one. The answer is not on the card marked with question two... this would be too easy!! It's important to scramble the cards before beginning the game.

You can make a straight chain with the cards, or you can wind them in a pattern as shown below. The pathway to the end is up to you!



HAPPY RACING!



ROCK CYCLE RACE!

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QUESTIONS/CLUES	ANSWERS
1. The continuous process that changes rocks from one rock type into other rock types	
2. ___ can be made from one mineral or many minerals	
3. Sediment becomes sedimentary rock through ___ & cementation	
4. To become an igneous rock, magma has to ___ and solidify	
5. Metamorphic rocks form through ___ & ___	
6. Liquid rocks below Earth's crust	
7. Granite is an example of this type of rock	
8. Lava can cool so quickly that it forms volcanic glass called ___	
9. Metamorphic rocks that have a striped appearance are said to be ___	
10. Magma that reaches Earth's surface	
11. Igneous rocks turn into magma and lava by what process?	
12. Sedimentary rocks can be made of ___ stacked on top of each other	
13. Weathering and erosion break down rocks into smaller pieces called ___	
14. What types of rocks can contain fossils?	
15. ___ is the process of moving sediment or rock to a new location using wind, water, and ice	
16. ___ have a definite chemical composition and have an orderly internal structure	
17. What is this mineral object?	
18. Wind, water, and ice break rocks into smaller pieces in a process called ___	
19. True or False: Igneous rocks can contain fossils	
20. True or False: The rock cycle is continuous with no beginning and no end	

ROCK CYCLE RACE! – Answer Key

QUESTIONS/CLUES	ANSWERS
1. The continuous process that changes rocks from one rock type into other rock types	Rock cycle
2. ___ can be made from one mineral or many minerals	Rocks
3. Sediment becomes sedimentary rock through ___ & cementation	Compaction
4. To become an igneous rock, magma has to ___ and solidify	Cool
5. Metamorphic rocks form through ___ & ___	Heat & Pressure
6. Liquid rocks below Earth's crust	Magma
7. Granite is an example of this type of rock	Igneous Rock
8. Lava can cool so quickly that it forms volcanic glass called ___	Obsidian
9. Metamorphic rocks that have a striped appeared are said to be ___	Foliated
10. Magma that reaches Earth's surface	Lava
11. Igneous rocks turn into magma and lava by what process?	Melting
12. Sedimentary rocks can be made of ___ stacked on top of each other	Layers
13. Weathering and erosion break rocks into smaller pieces called ___	Sediment
14. What types of rocks can contain fossils?	Sedimentary
15. ___ is the process of moving sediment or rock to a new location using wind, water, and ice	Erosion
16. ___ have a definite chemical composition and have an orderly internal structure	Minerals
17. What is this mineral object?	Geode
18. Wind, water, and ice break down rocks into smaller pieces in a process called ___	Weathering
19. True or False: Igneous rocks can contain fossils	False
20. True or False: The rock cycle is continuous with no beginning and no end	True

START

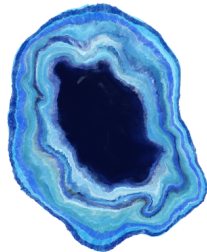
1) The continuous process that changes rocks from one rock type into other rock types

THE ROCK CYCLE

10) Magma that reaches Earth's surface

LAVA

17) What is this mineral object?



GEODE

5) Metamorphic rocks form through ____ and ____

HEAT & PRESSURE

15) ____ is the process of moving sediment or rock to a new location using wind, water, and ice

EROSION

2) ____ can be made from one mineral or many minerals

ROCKS

14) What type of rocks can contain fossils?

SEDIMENTARY ROCKS

4) To become an igneous rock, magma has to ____ and solidify

COOL

16) ____ have a definite chemical composition and have an orderly internal structure

MINERALS

13) Weathering and erosion break rocks into smaller pieces called ____

SEDIMENT

7) Granite is an example of this type of rock

IGNEOUS ROCK

12) Sedimentary rocks can be made of ____ stacked on top of each other

LAYERS

18) Water, wind, and ice break rocks into smaller pieces in a process called ____

WEATHERING

19) True or False? Igneous rocks can contain fossils

FALSE

8) Lava can cool so quickly that it forms volcanic glass called ____

OBSIDIAN

3) Sediment becomes sedimentary rock through ____ and cementation

COMPACTION

6) Liquid rocks below Earth's crust

MAGMA

11) Igneous rocks turn into magma and lava by what process?

MELTING

9) Metamorphic rocks that have a striped appearance are said to be ____

FOLIATED

20) True or False?
The rock cycle is continuous, with no beginning and no end

TRUE

