

THE ROCK CYCLE

| Teach 1 | Names of student(s) teaching: |
|--|--|
| Teach date: Teach time: Teach length: 45 minutes | Title of lesson: Rock Cycle Source (Kit, Lesson, Page #): |

| Concept statement/Main idea: |
|--|
| The processes that affect rocks and how they are changed upon the basis of each stage within the rock cycle. |

| Standards for the lesson: |
|---|
| National Science Teachers Association (NSTA) standards for this lesson. PS3.B Conservation of Energy and Energy Transfer and Engineering Design. <u>ESS2.A: Earth Materials and Systems</u> Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. |

| Objectives | Evaluation |
|--|---|
| Write objectives in SWBAT form | Write at least one question to match the objective you listed or describe what you will look at to be sure that students can do this. |
| SWBAT identify the three rock types. | What are the three different rock types? |
| SWBAT determine how a rock changes throughout the rock cycle. | What causes a rock to change from sedimentary to an igneous rock? |

Engagement

Estimated time: 5 minutes

Description of activity: Students will be shown a short video of how rocks form.

| What the teacher does | What the student does | Possible questions to ask students — think like a student and consider possible student responses |
|---|---|---|
| Teacher will ask who in the class collects rocks. | Students will watch a video about rocks and the rock cycle and then be asked corresponding questions. | Do you collect rocks? What different types of rocks are there? How are they formed? |

Resources needed:

Computer

Safety considerations:

Speed through the war part of the video.

Exploration

Estimated time: 15 minutes

Description of activity: Students will have different samples of rocks on their desk. They are encouraged to describe them and then determine what kind of rock they are.

| What the teacher does | What the student does | Possible questions to ask students — think like a student and consider possible student responses |
|---|--|---|
| Facilitates the activity and guides students along. | Students will form groups and describe the rocks, while filling out the following worksheet. | Rock Descriptions WS |

Resources needed:

4 different rock types and worksheets.

Safety considerations:

Explanation

Estimated time: 10 minutes

Description of activity: The students will complete a rock cycle foldable.

| What the teacher does | What the student does | Possible questions to ask students — think like a student and consider possible student responses |
|--|--------------------------------------|---|
| The teacher will go over the different types of rocks and how they form. | Students will fill out the foldable. | Rock Cycle Foldable (pdf) |

Resources needed:

Foldable

Safety considerations:

Elaboration

Estimated time: 10 minutes

Description of activity: Students will each be given a rock to describe to the class. Then they will try and classify them as igneous, metamorphic, or sedimentary.

| What the teacher does | What the student does | Possible questions to ask students — think like a student and consider possible student responses |
|-----------------------|---|---|
| | Students will form into groups of 2 and describe to the class their rock. | Do you see anything important in the different grains? Are there different minerals in the rock? |

Resources needed:

Rocks

Safety considerations:

Evaluation

Estimated time: 5 minutes

Description of activity: Students will have a worksheet where they will answer the evaluation questions.

| What the teacher does | What the student does | Possible questions to ask students — think like a student and consider possible student responses |
|--|--|---|
| Administers an evaluation quiz that students will complete on their own. | Complete the evaluation quiz on their own. | Rock Cycle Quiz |

Resources needed:

[Rock Cycle Quiz KEY](#)

Safety considerations:

Name: _____

Date: _____

Rock Descriptions

Directions: For each of the samples in front of you indicate what sample rock you are looking at and write a detailed description of what the rock looks like (pictures are welcome). After this identify if the rock is igneous, metamorphic or sedimentary.

| Sample Number: | Description: | Rock Type: |
|----------------|--------------|------------|
| | | |
| | | |
| | | |
| | | |
| | | |

Name: _____

Date: _____

Rock Cycle Quiz

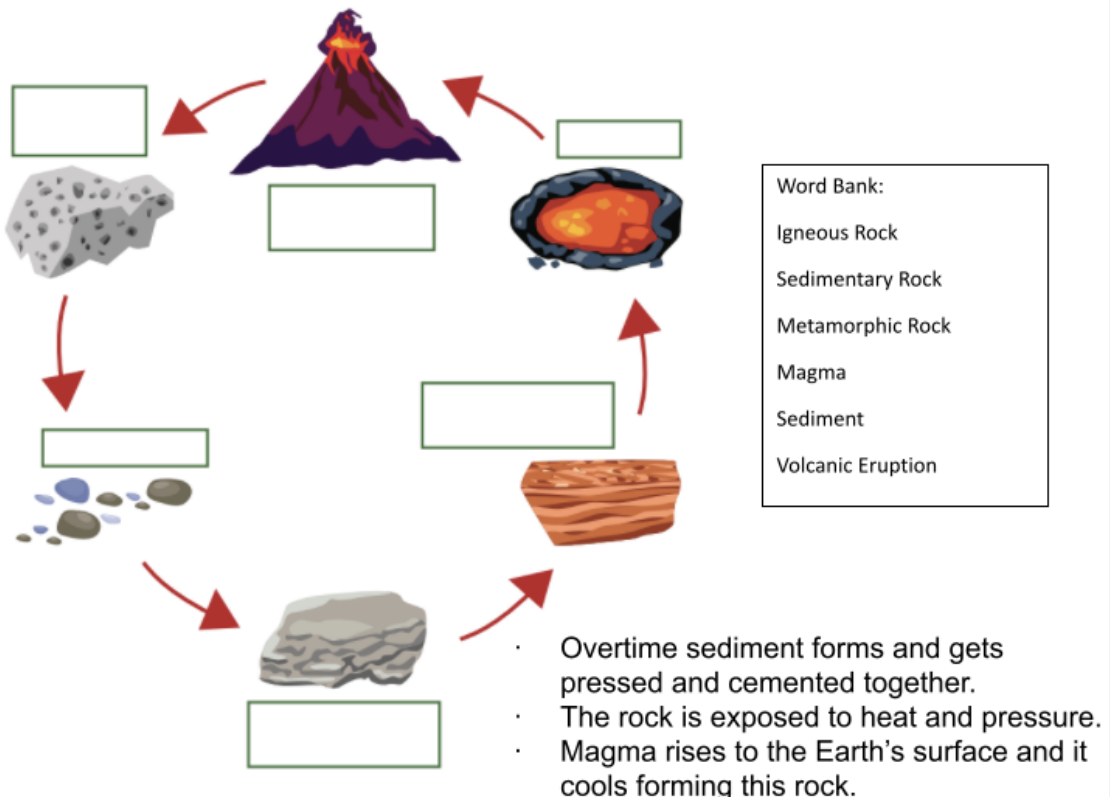
1. Match the Rock types with their description. (3 points)

___ Metamorphic Rock

___ Igneous Rock

___ Sedimentary Rock

2. Fill in the stages of the rock cycle. (6 points)



3. Erosion is one of the processes involved in the formation of sedimentary rock. Which of these best describes the process of erosion? (1 point)

- A. Rocks are broken into smaller pieces that remain in the same location.
- B. Pressure compacts layers of sediment and turns them into rock.
- C. Pieces of rock or soil are carried from one place to another.
- D. Sediment grains fall to the bottom of a lake to form sedimentary layers.





