## Rock Cycle Board Game

<table>
<thead>
<tr>
<th>Grade Level, TEKS/SE and Content/Focus</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; or 5&lt;sup&gt;th&lt;/sup&gt; Grade</th>
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</thead>
<tbody>
<tr>
<td>4.10 The student knows that certain past events affect present and future events. (A) Identify and observe effects of events that require time for changes to be noticeable including growth, erosion, dissolving, weathering, and flow. (B) Draw conclusions about &quot;what happened before&quot; using fossils or charts and tables. 5.11 The student knows that certain past events affect present and future events. (B) Draw conclusions about “what happened before” using data such as from tree-growth rings and sedimentary rock sequences. 5.5 The student knows that a system is a collection of cycles, structures, and processes that interact. (A) Describe some cycles, structures, and processes that are found in a simple system.</td>
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### Teacher Information

Rocks are categorized into three groups according to how they form. Igneous rocks are formed when magma cools. The rate that the magma cools determines what type of igneous rock is formed. Metamorphic rocks are formed when rocks are exposed to heat and pressure. When the Earth’s plates collide and rub against each other, the pressure creates heat and the rocks can change. Rocks are also exposed to extreme heat when they are subducted deep in the Earth or when they come in contact with hot molten material. The box below shows how a few metamorphic rocks form.

**Original Rock** under heat and Pressure becomes **Metamorphic rock**
- Limestone = Marble
- Sandstone = Quartzite
- Granite = Gneiss

Sedimentary rocks are formed when sediments are deposited and squeezed together. Weathering from wind, ice, water, plants, and even pollution will break up rocks into small pieces called sediment. This sediment is then eroded, transported, and deposited into layers that are cemented together to form sedimentary rocks.

The processes that create the three different types of rocks make up what is called the rock cycle. Although it takes an extremely long period of time, all rocks can change into different types of rocks through this cycle.

**Process = Rock Formed**
- Heat and pressure = Metamorphic rocks
- Weathering, erosion, deposition and cementation = Sedimentary rocks
- Cooling of magma = Igneous rocks

### Key Concepts and Vocabulary

- Rocks are categorized into three groups according to how they form.
- All rocks can change into different types of rocks through the processes of the rock cycle [(1)addition of heat and pressure (2) weathering, erosion, deposition and cementation or (3) cooling of magma]

Vocabulary: igneous, metamorphic, sedimentary, rock cycle, heat, pressure, weathering, erosion, deposition, cementation, magma

### Materials Needed:

- Rock Cycle Game Board
- One die/number cube per game
- Game Markers
- Rock Cards (“igneous, metamorphic, or sedimentary” rocks)
### Step by Step Directions

1. Begin the game by placing the markers on either one of the starred squares.
2. Roll to see who goes first (highest roll goes first).
3. To move on the rock cycle game board:
   - The number rolled on the die is the number of spaces you can move.
   - Follow the arrows.
   - If you land on a square with words on it, follow the directions.
4. When you land EXACTLY on the squares labeled “igneous, metamorphic, or sedimentary” rock, pick up a card marked with the appropriate type of rock on it (you only pick up ONE of each kind of rock, no matter how many times you land on the space).
5. The first player to pick up all three types of rocks wins the rock cycle game.

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<thead>
<tr>
<th>Sketch or jpg.</th>
<th>Image of product</th>
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</thead>
<tbody>
<tr>
<td><img src="image1" alt="Igneous Rock" /></td>
<td><img src="image2" alt="Igneous Rock" /></td>
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<tr>
<td><img src="image3" alt="Igneous Rock" /></td>
<td><img src="image4" alt="Igneous Rock" /></td>
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<td><img src="image5" alt="Metamorphic Rock" /></td>
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<td><img src="image7" alt="Metamorphic Rock" /></td>
<td><img src="image8" alt="Metamorphic Rock" /></td>
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<tr>
<td><img src="image9" alt="Sedimentary Rock" /></td>
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