



Rock Cycle Adventures

Every rock tells a story

grade level: 6th grade and up | time needed: 45+ minutes



Activity:

In this activity, students will become minerals on the planet earth, subject to natural processes that occur over millions of years transforming rocks. They will each go on a unique and individual journey through the rock cycle. In their journey, they will take diligent notes on where they went and what they became, creating a story they will write... “Adventures of Jenny, a mineral...”

Like the study of geology, the stories the students will uncover may be fragmented. There may be gaps that don't flow together smoothly. It is important that the students use their information as pieces of the puzzle; in writing their story, they may have to fill in a few sections of their journey.

Begin by introducing the rock cycle (see background info and rock cycle card). Pull examples of each of the three rocks from the student kits (see rock key activity for types and descriptions) to describe the rocks each process creates. Students should be familiar with concepts like weathering, erosion, compaction, cementation, deposition, cooling, crystallization, subduction, uplift, and tectonic plate movements.

Set up each of the 5 envelopes in various areas of the classroom (or outside, hanging on trees). In each envelope is a paper encompassing a bit of a story, describing what happens to that student as a mineral and sends them on their way to another place in the cycle. Students can start at any envelope, choose a card, read what it says (the process transforming that mineral) and go to the envelope it says to journey to – leaving the card in the color coded envelope! All the while, students need to take notes on their journey, what happens to them, and where they end up.

Let the game go as long as you like, enough to let students experience various areas of the rock cycle. At the end, have students take their notes and write a story of their adventures, embellishing parts with detailed descriptions of what it would feel like to be weathered, compressed, compacted, erupted, etc.

Materials:

Provided:

Rock cycle cards
Adventure envelopes
Color-coded cards

Not Provided:

Notebooks for recording adventures

Common Curriculum Goals:

The Dynamic Earth: Compare and contrast properties and uses of earth materials, describe changes in the formation of earth materials

Unifying concepts: Use basic scientific process skills to observe, measure, classify...

Matter: Describe the ability of matter to change state by heating and cooling

Creative Writing: Write in a variety of forms: fiction...



Assessment:

Have the students demonstrate their understanding of the rock cycle in one of the following ways:

1. write a paragraph explaining the rock cycle
2. draw a diagram depicting the rock cycle
3. act out the processes of a mineral growing through the rock cycle
4. write a story about a rock and the changes it experiences; describe at least four changes