

LESSON PLAN: ROCK CLASSIFICATION AND THE ROCK CYCLE WITH THE PACIFIC NW GEOMAP

Objectives

Students will be able to do the following:

1. Classify rock specimens found in the Pacific Northwest according to their type (igneous, metamorphic, sedimentary)
2. Identify from where on the GeoMap their rocks could have originated
3. Explain the general processes that formed their rocks
4. Explain specific processes in the Pacific NW that contribute to the rock cycle

Materials

For this activity, you will need:

1. Have each student bring in three different small rock specimens that have come from somewhere in the Pacific Northwest (or use rocks you have already collected)
2. Pacific NW GeoMaps (laminated, one per 2-4 students)
3. Rock identification guidebooks, and any other classroom resources (including the Internet)
4. One or two boxes of small, colored stick-on labels (one color for each rock type)

Procedures

1. Review with your students what they know about the formation of three types of rock (igneous, sedimentary, and metamorphic); and review what physical characteristics of rocks could tell them about how rocks were formed
2. Review with your students what they know about specific geologic processes in the Pacific NW that contribute to the rock cycle
3. Explain to them that they will work in teams to classify their rocks, and that they will be making a "rock key" that will identify a location on the Pacific NW GeoMap where their rock could have been formed.
4. Assign a different sticker color to each rock type (e.g., red to igneous, blue to sedimentary, and yellow to metamorphic). Each rock will have three stickers: one for the rock, one for its 3x5 card, and one to place on the GeoMap.

5. Have students identify the rock type for each of each of their samples; then place a colored sticker on each rock that identifies their rock type.
6. Group the samples according to rock type: what are the similarities among rocks of the same rock type? Differences?
6. Number each rock sample (write the number on its sticker). These numbers will be used to key the rock sample with its possible origin on the GeoMap. Number two additional stickers for each rock (one will be for the rock's 3x5 card, and the other will be to place on the GeoMap).
7. For each rock, using one 3x5 card per rock, have students write down the rock's type, and a brief description of the rock that helped identify the rock's type. Place a colored, numbered sticker on the card.
8. For each rock, identify on the GeoMap where the rock could have been formed (there will be more than one correct answer). Place the second extra sticker on the GeoMap.
9. After these steps have been completed for all rocks, display the 3x5 cards with their respective rocks next to the student group's GeoMap.
10. Have student groups rotate through the others' displays. Do they agree with others' identifications? Why or why not?