TEACHING KATE
TEACHING KIDS ABOUT THE ENVIRONMENT

GEOLOGY AND FOSSIL FORMATION IN SOUTH CAROLINA

Grade Level: 5 **Time Required:** 3 class periods

SC Science Standards

This lesson plan was correlated with only the grade level specified unless otherwise noted.

I. A. 1. a
I. A. 4. a
I. A. 6. a
I. B. 1. d
III. A. 1. a, b, c

Purpose

Students will make a model of South Carolina's three geologic provinces to show how fossils were formed in South Carolina

Skills

Discussion, observation, prediction, recording information.

Concepts

Identification of S.C.'s three geologic zones and changes in earth's surface shows history.

Materials Needed

Plastic Shoe Boxes
Sand
Fossils
Modeling Clay (blue and red)
Small Shells
Plaster of Paris

Definition of Terms

Geography	The science dealing with the surface of the earth, including, continents and countries, climate, plants, animals, and natural resources.
Geology	The science dealing with the physical nature and history of the earth, including the structure and development of its crust.

Before the Session

Gather all materials together for all groups. Make copies of the worksheets.

Background Information

The Blue Ridge Mountains, the oldest part of South Carolina, are made of metamorphic rocks. The Piedmont province extends from the mountains to Columbia where the fall line zone extends north to south and the Coastal Plain begins. The Coastal Plain was formed by sediments. The Atlantic Ocean once covered the Coastal Plain at which time it fluctuated up and down. As plants and animals were exposed and covered in the limestone they formed the fossils that we find today. Geography divides S.C. into four regions: Blue Ridge Mountains, Piedmont, Sandhills, and the Coastal Plain. Geology divides the state into three zones: Blue Ridge Mountains, Piedmont and the Coastal Plain which are covered in this lesson.

Suggested Lesson Plan

Day 1

1. Divide class into groups.

2. Bring out several fossils to each cooperative group, and ask students to predict what they have. After several minutes, pass out a shark's tooth to each group. Give a few more minutes to finish predictions.

3. Have each group share their predictions. Let students know they all have fossils at their tables approximately one million years old. Ask, "How can we have bones that old?"

4. Discuss the three geologic zones drawing a map on the chalkboard. Place new terms on the boardand discuss.

5. Have students draw and label a geologic map in their lab books or on a worksheet.

Day 2

1. Review what was learned on Day 1.

2. Tell students that they will make a model of how fossils formed in S.C.

3. Model the procedure to make fossils in plastic boxes.

    a. At one end of a plastic shoe box place one color modeling clay (blue) to form the Blue Ridge Mountains. It should look like mountains and taper toward the other end and stop between one-third and one-half of the way down the box.

    b. Place another color (red) to form the Piedmont Zone. This should begin just below the top peaks of the mountains and taper down until it almost reaches the other end.

    c. To form the Coastal Plain Zone, place enough sand in the far end of the box to reach about one-third to one-half way up the Piedmont Zone.

    d. Place shells in the sand and add a thin mixture of plaster of Paris. To simulate the Atlantic Ocean rising and falling, gently move the mixture by tilting the box and covering then exposing the shells.

4. Let each group make a model.

5. Set away to harden.

Day 3

1. Review with student the last two days.

2. Let students break apart their coastal plains to find fossils.

3. Students record findings in their lab books or on a worksheet.

Extension

Visit a rock quarry to fossil hunt.

Resources Available

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Prepared by: Nancy James

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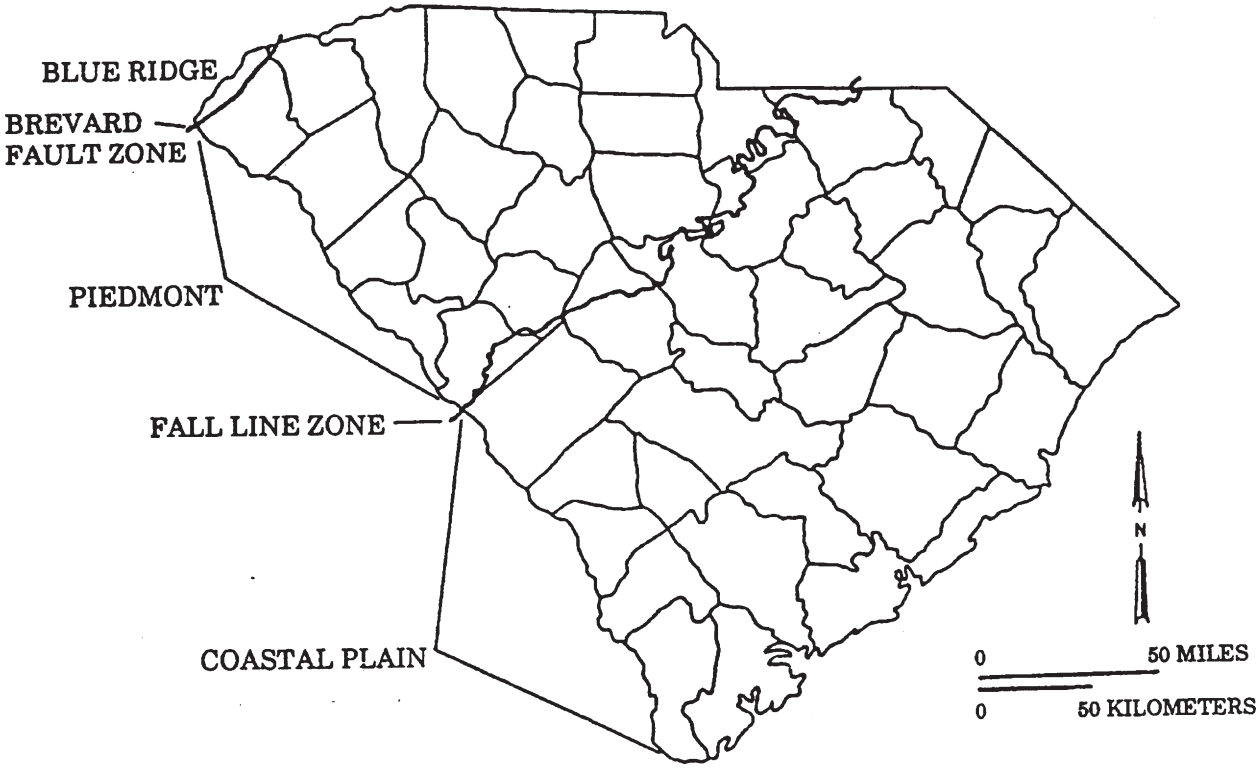
GEOLOGIC PROVINCES AND BOUNDARIES IN SOUTH CAROLINA



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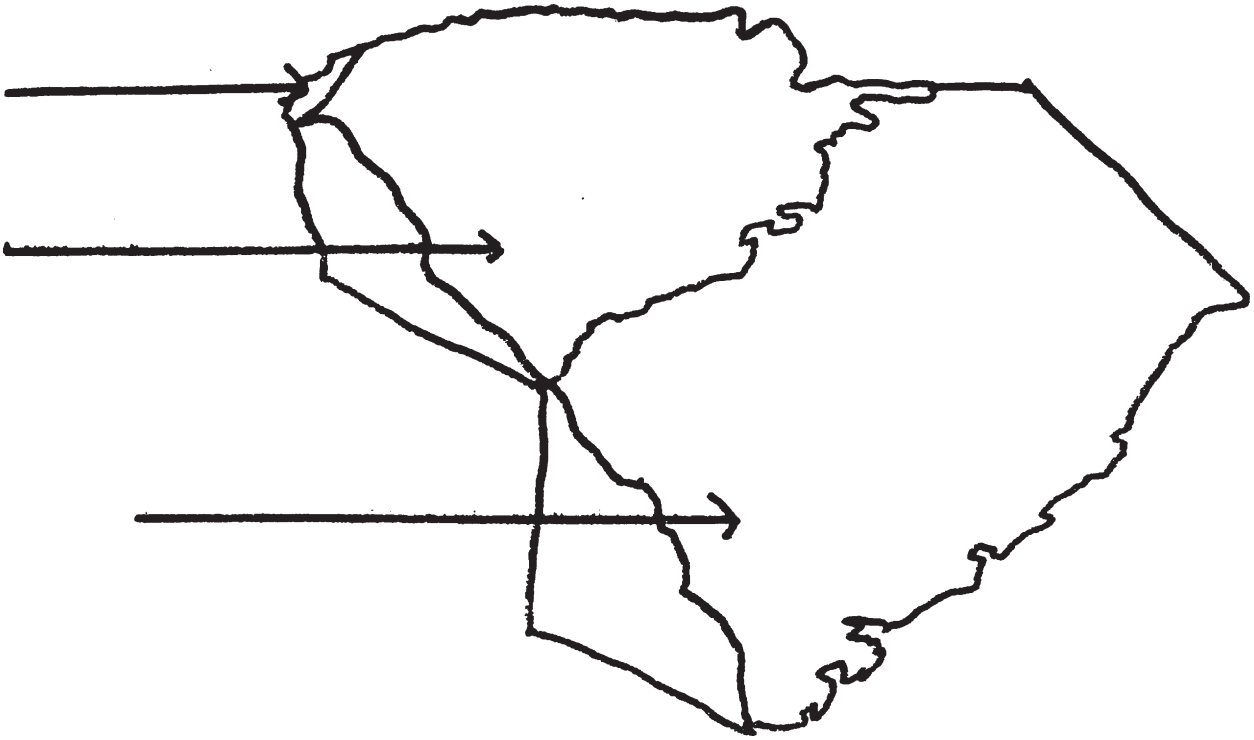
WORKSHEET

Name: Date: Group:



I. Label the 3 geologic zones of South Carolina using the map above.

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WORKSHEET — CONTINUED

Name: Date: Group:

II. How did fossils form in South Carolina?

III. How is geology different from of similar to geopgraphy?

IV. What was found when model of Coastal Plain Zone was broken apart?