

Sec. _____ Name: _____

Experiment: Sedimentary Rocks
(E. Science 9-4-~~5a~~
4e)

Purpose: To learn how to identify and classify sedimentary rocks.

Materials: sedimentary rock samples
marking pen 5 % hydrochloric acid (HCl)
dropper safety goggles hand lens

Methods:

1. Determine the types of sediments in each sample. Using table 2, classify the sediments in the detrital rocks as gravel, sand, silt, or clay. Record in results table.
2. Put a few drops of HCl on each rock sample. bubbling on a rock indicates the presence of carbonate minerals. **CAUTION: HCl is an acid and can cause burns. Wear goggles. Rinse spills with water. Wash hands afterward.**
3. Look for fossils and describe them if any are present.
4. Determine whether each sample has a clastic or nonclastic texture.
5. Classify your samples as detrital, chemical, or organic. Identify each rock sample.

Results:		minerals or fossils present	sediment size	detrital chemical or organic	rock name
Sample	Observations				
A					
B					
C					
D					
E					

Conclusions:

1. Why did you test the rocks with hydrochloric acid?
2. What minerals react with hydrochloric acid?
3. What is needed in order for sedimentary rocks to form from fragments?
4. The mineral halite forms by evaporation. would you classify halite as a detrital, a chemical or an organic rock?

Discussion:

1. Determine how sedimentary rocks with a clastic texture differ from rocks with a nonclastic texture.
2. Explain how scientists classify sedimentary rocks.

3. **Directions:** Write the terms below next to their definitions on the lines provided. Then circle the terms in the puzzle.

compaction
intrusive

foliated
metamorphic

granitic
sediment

igneous
rock

A G N T U R M Z D J S W
 R D R D O Z E A T N E V
 H F O L I A T E D V D U
 W B C L G R A N I T I C
 O I K S N S M B R L M G
 F Q M S E Y O F X C E J
 C K E K O F R E J M N Q
 B T H I U A P O K I T C
 P Y P Q S T H I P P G N
 I N T R U S I V E M H X
 E C O M P A C T I O N O

- _____ 1. igneous rocks that form below Earth's surface
- _____ 2. rocks created by changes in temperature and pressure or the presence of hot, watery liquid
- _____ 3. loose material such as rock fragments, mineral grains, and plant and animal remains
- _____ 4. process in which layer upon layer of sediment builds up and pressure from the upper layers causes the lower layers to stick together and form solid rock
- _____ 5. a mixture of minerals, organic matter, volcanic glass, or other materials
- _____ 6. the type of metamorphic rock that forms when mineral grains flatten and line up in parallel layers
- _____ 7. the kind of rock that forms when magma cools
- _____ 8. the kind of magma that is thick and stiff and contains lots of silica

4a. The last part of the chapter discusses sedimentary rocks, coal being one of them. Ezekiel 39: 1-10 is a prophecy about Israel's enemy being defeated because they profane God's name. What will Israel's enemy no longer be using?

4b. According to the prophesy what will Israel reuse the unused weapons for?