

Cemented

PURPOSE

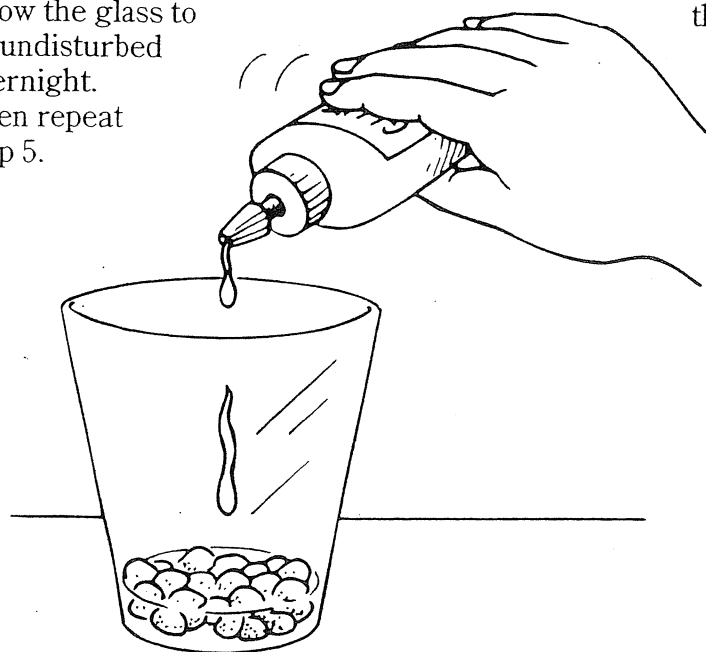
To determine how sediments in clastic rock are held together.

Materials

4 tablespoons (120 ml) tap water
two 10-ounce (300-ml) clear plastic glasses
4 tablespoons (60 ml) small stones
school glue

Procedure

1. Pour the water into one of the glasses.
2. Add the small stones to the glass of water.
3. Without pouring out the stones, pour as much of the water as possible out of the glass into the empty glass.
4. Add glue to the glass of stones so that a thin layer of glue covers the top layer of stones. All the stones on the surface should be covered with glue.
5. Squeeze the glass and note how easily the stones move.
6. Allow the glass to sit undisturbed overnight. Then repeat step 5.



Results

Before the glue dried, the small stones could move around, so the cup was easy to squeeze. After the glue dried, the stones were bound together into one solid mass that would not move when you squeezed it.

Why?

In this investigation, the stones represent sediments, and the glue the substances in water that cement sediments together. **Sedimentary rock** is formed of sediments that are deposited by water, wind, or ice. **Lithification** is the hardening of sediments into rock. **Clastic rock** is a type of sedimentary rock formed when sediments from preexisting rock are lithified by the processes of compaction and cementation. During **compaction** (the squeezing together of materials), water is squeezed out of the spaces between the sediments, but substances dissolved in the water may be left behind. During **cementation** (the binding together of materials), these substances form a thin layer around the sediments and bind them together, just as the glue bound the stones in this experiment.