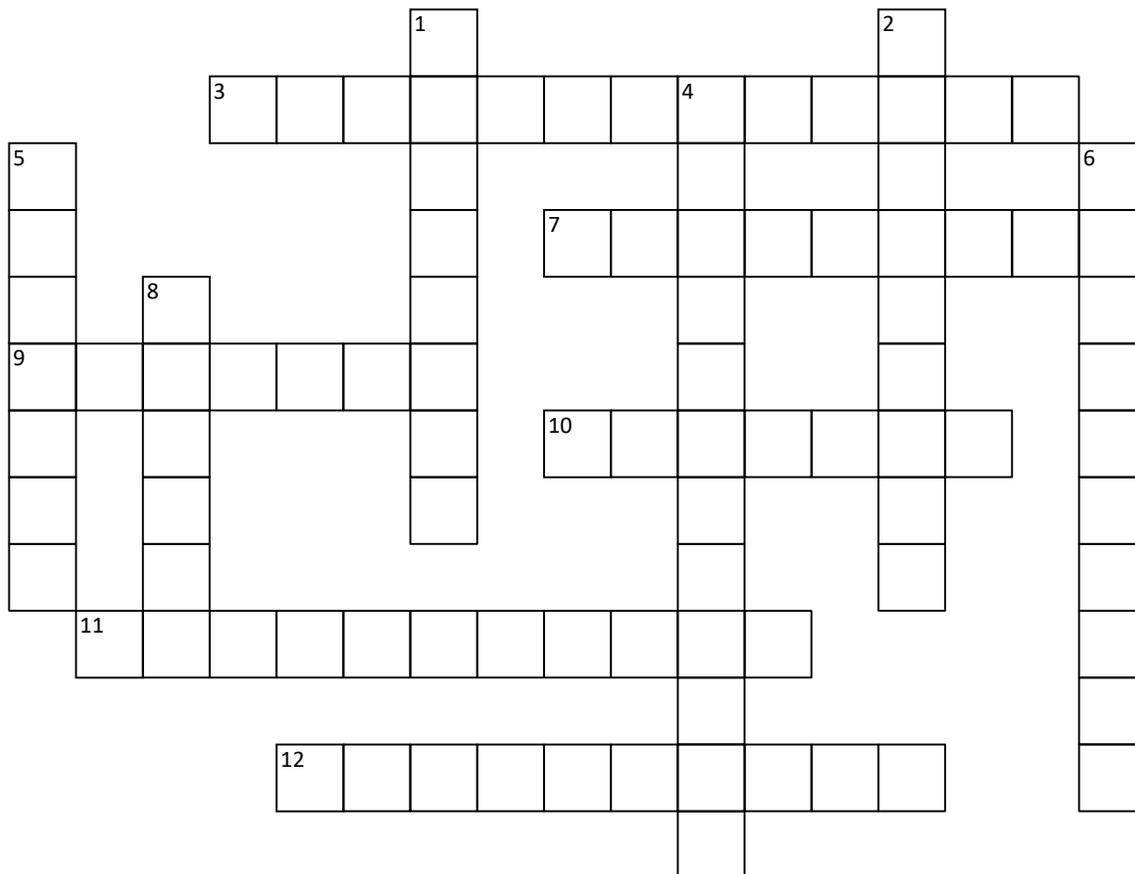




Sedimentary Rocks



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ACROSS

- 3 the changing of sediments into rock
- 7 sand grains cemented together into solid stone
- 9 _____ sedimentary rocks form from sediments being cemented together
- 10 the combination of weathering and movement of the resulting sediments
- 11 rocks formed from the sediments of other rocks
- 12 the process of settling out and grading of sediments

DOWN

- 1 _____ sedimentary rocks are formed by the precipitation of dissolved minerals
- 2 silt particles cemented together
- 4 made up of rounded pebbles cemented together
- 5 made up of angular pebbles cemented together
- 6 anything that breaks the rocks into smaller pieces or sediments
- 8 rock salt made by the evaporation of sea water

Across: 3 – lithification; 7 – sandstone; 9 – clastic; 10 – erosion; 11 – sedimentary; 12 – deposition
Down: 1 – chemical; 2 – siltstone; 4 – conglomerate; 5 – breccia; 6 – weathering; 8 – halite

Tumbling Rocks!

Tumbling is a technique used for smoothing and polishing a rough surface on small particles. Professional rock polishers help jewelers polish stones by imitating the abrasion of rocks in nature. The natural process happens over hundreds of years, and tumblers speed it up by acting like liquid sandpaper. Softer rocks like limestone and sandstone polish easier while granite and quartz require weeks of tumbling.

The independent variables in this experiment are the types of rocks. The dependent variable is the effect of the tumbler on the types of rocks. The constants are the jars, the water and the process.

The goal of this project is to demonstrate the abrasions of rocks in nature and the variations between types of rocks. The process occurs naturally when water rushes against rocks, when they are swept along in a current or when wind blows sand against them. The tumbler does the work of nature by forcing the rocks to grind against each other.



Problem:

How do rocks become round stones?

Materials:

- Plaster
- Samples of shale, granite and quartz
- Glass jars with lids
- Plastic bag
- Bucket
- Shallow pan or container (shoe box lid)
- Hammer

Procedure:

1. Mix the plaster and water in a bucket until it's thick and hard to stir.
2. Pour the thick plaster into a shallow container and allow it to harden.
3. Place the plaster inside a plastic bag and wrap the bag in a towel.
4. Hammer the bag until the plaster has broken up.
5. Remove approx. 25 *stones* of similar size.
6. Label the jars.
7. Keep 1 of the 25 plaster stones as the control and place the remaining 24 pieces into a jar.
8. Keep 1 control stone from the other samples and place the rest in jars.
9. Divide the plaster residue into jars.
10. Half fill the jars with water and cover with the lids.
11. Shake the jars 100 times, and remove one stone.
12. Shake the jar 100 times again and remove another stone.
13. Repeat, removing a stone every time.
14. Compare all the stones, including the controls.