

Test for Limestone

Some rocks like limestone can be dissolved by water that is slightly acidic, creating underground caves and sink holes if the rock and soil above collapses.

WHAT TO DO

Use a pipette to add a few drops of vinegar to various rocks. Watch for tiny bubbles of gas in the drops.

WHAT'S HAPPENING?

Sedimentary rocks like limestone often contain fragments of shells, coral and mollusks which are composed of the minerals calcite and aragonite, crystalline forms of calcium carbonate (CaCO_3). They react with weak acids like vinegar (acetic acid) to produce carbon dioxide gas, slowly dissolving the rock. Most rocks which do not contain calcium will not react with these acids and no bubbles will be seen, so this is a simple but fairly reliable test that can be used to identify limestone. Cement and many bricks are composed of crushed limestone and clay, so they will also produce carbon dioxide bubbles in this test.