



## WASH AWAY

Demonstrate hydraulic mining.

### Materials

- 10 Paper clips
- Small pebbles
- 1 Cup of soil
- Garden hose with spray nozzle
- Can (any type)

### Procedure

**Note:** This is an outdoor activity

- Place the paper clips, pebbles, and soil in the can.
- Mix thoroughly.
- Place the can outside on the ground.
- Set the water nozzle on the high-pressure position.
- Direct the stream of water into the can.
- Continue to spray the water into the can until the overflowing water looks clean.

### Results

The dirt is washed out of the can, leaving the pebbles and paper clips in the bottom of the can.

### Why?

Some of the soil dissolves in the water and some of it is light enough to be lifted and carried out of the can by the moving water. The paper clips and pebbles are too hard to be broken apart by the spraying water like the dirt particles. The heavier materials are not lifted by the water, so they remain in the bottom of the can. Rocks that contain useful amounts of minerals and metals are called ores. Ore deposits can be mined with water. Powerful streams of water are used to wash away the soil surrounding the ore. The rock pieces left are taken to refining plants where pure metals are removed. The process of mining with water is called hydraulic mining.

This activity was adapted from *Earth Science for Every Kid*.

To learn more about earth science, check out the *Restless Earth* exhibit at the Pink Palace Museum.