

## Clue 2

### Your overall goal:

To identify a mysterious igneous rock and determine the geologic setting in which it formed so that you can figure out where you landed.

Name:

Partner(s):

Date:

### Tasks:

Rotate to each station, observe each sample and answer these questions.

Additional materials for observation and analysis are on the website:  
[http://earthguide.ucsd.edu/mystery\\_detectives/learn/alien\\_landing/activity.php](http://earthguide.ucsd.edu/mystery_detectives/learn/alien_landing/activity.php)

### DEFINITION

Igneous rocks are formed when molten rock solidifies as it cools.

Igneous rocks can solidify while underground, after it is erupted at the surface, or partly in each place.

## Station 4 Physical Properties of Minerals

### For your science notebook

#### 4E. Density

**Sample #1:** Hematite

**Sample #2:** Talc

**Sample #3:** Steel cube

**Sample #4:** Aluminum cube

**Sample #4:** Lucite cube

#### Hint for aliens -

We have something important to tell you about all the things on our planet. You'll need to understand it to unravel many clues. It's **density**.

**Density** is the heaviness of an object relative to other objects that are the same size, but made of different materials. Plastic is less dense than iron. An object will float in water if it is less dense than water. Different minerals have different densities.

Know this, and you will be able to answer these questions.

- Yours truly, the Earthlings

#### 4E.1 Which is more dense - Sample #1 or Sample #2?

Hold Sample #1 and Sample #2 in your hand to estimate which is more dense. What's density? See the hint.