

# 3.3

## MINERAL SPECIFIC GRAVITY

Why do scientists use specific gravity as a means of calculating the density of a mineral?

### MATERIALS

- Mineral samples 1A, 3A, 9A, 10A, 11A, 15A and 20A
- 250 ml beaker (plastic/styrofoam cup will work just as well)
- Balance
- Large paper clip
- Paper towels
- Calculator

### PRE-LAB ACTIVITY

Pull sample 3A from your mineral kits and follow these steps to calculate the specific gravity.

1. Mass the dry mineral specimen and record the mass.  
\_\_\_\_\_ mass of mineral
2. Place the water-filled container (filled with water enough to submerge the specimen) on the scale and “zero” it out.
3. Suspend the specimen from the paper clip in the water (not touching the bottom or sides) and record the mass reading from the scale.  
\_\_\_\_\_ mass suspended in water
4. Using the calculator, divide the first mass (dry) by the second mass (suspended in water) and you get the specific gravity.

Calculated specific gravity value: \_\_\_\_\_

### DIRECTIONS

1. Mass the dry mineral specimen and record the mass.
2. Place the water-filled container (filled with water enough to submerge the specimen) on the scale and “zero” it out.
3. Suspend the specimen from the paper clip in the water (not touching the bottom or sides) and record the mass reading from the scale.
4. Divide the first mass (dry) by the second mass (suspended in water) and you get the specific gravity.
5. Record the specific gravity values for the mineral samples in the chart below.

Sample #	Dry Mass	Wet Mass	Dry Mass / Wet Mass = Specific Gravity
1A			
9A			
10A			
11A			
15A			
20A			

### REFLECTION

1. Describe the process used to determine the density (specific gravity) of irregularly shaped objects.