



# Geometry & Measurement Student Activity

## Displacement

### Using Displacement to Determine Volume

**Materials:** Clay (or similar material), canning jar (must have straight sides), water, notebook, wire or string, graduated cylinder, assorted pebbles, marbles, or small rocks.

#### Instructions:

- In your notebook, answer the following question. How can the volume of your balls of clay be determined? If you are unable to answer this, come back to this question later.
- Using the clay, create about 5 balls of various sizes.
- Fill the canning jar enough to cover the largest of your clay balls.
- Attach the wire (or string) to each ball of clay. Place each ball into the water (one at a time). Record your observations for each ball.
- Answer the following questions: What happened to the water level when the clay balls were submersed? Based on your observations, which clay ball has the greatest volume? Explain your answer.
- Fill a graduated cylinder to a level that you can clearly read (100mL). Record your initial water level measurement in your notebook. Gently place a marble or small rock into the cylinder. Record the new water level measurement. Find the difference between the two water level measurements and record your answer. If 1 mL is equal to 1 cm<sup>3</sup>, what have you just measured? Explain your answer.
- Repeat the above step with four more rocks or marbles. Continue to record your observations and calculations in your notebook.