**Learning Goals:**

Students will be able to use macroscopic evidence to:

1. Measure the volume of an object by observing the amount of fluid it displaces or can displace.
2. Provide evidence and reasoning for how objects of similar:
   1. mass can have differing volume
   2. volume can have differing mass.
3. Identify the unknown materials by calculating density using displacement of fluid techniques and reference tables provided in the simulation.

**Directions:**

1. Explain how you use the simulation to measure the volume that an object can displace. Also:
   1. What is similar or different from the volume that the blocks displace naturally? How might a scientist explain the behavior?
   2. Explain why you think the blue block on the “Same Mass” setting can be placed anywhere in the water.
2. Design experiments to demonstrate the learning goal #2. Provide tables for evidence and use specific examples from your data to provide the reasoning.
3. Design an experiment to identify the 5 Mystery blocks using the Table in the simulation.
   1. Write your procedure in paragraph form.
   2. Identify each block using specific evidence to support your conclusions.