Directions for Making the Mini-lake and Recording Measurements

There are many steps in this activity that are described in detail in the Teacher's Guide. Students weigh mini-lake materials in Investigation 1 and measure the volumes and assemble the mini-lakes in Investigation 2.

Record all measurements on Making Mini-lakes Data Table below

1. Measure and put each material in a plastic vial with cover
    - 120g sand
    - 120g gravel
    - 120g water

    (Note: in the classroom, you will assign each group a weight for the sand, gravel, and water, either 120g, 130g, 140g, or 150g.)

2. Weigh the small rocks directly on the scale. (The rocks do not need to weigh 120g.)

    Note. By the end of Investigation 1, students have measured the weights of all their mini-lake materials. You will need to plan how to store the containers until the next class and find a place to store the completed mini-lakes. Students will need to be able "get at" their mini-lakes and scales on a regular basis. In some classrooms students weigh their mini-lakes independently before school or during recess.

3. Estimate the volume of sand. (Use centimeter cubes)

4. Measure the volumes of sand and gravel. (Use graduated cylinder)

5. Arrange the gravel, sand, and rocks in the sandwich box.

6. Measure and record the volume of water. (Use graduated cylinder)

7. Add water to the mini-lake, mark the water level on a piece of tape

8. Put on the cover so it's tight and weigh the completed mini-lake

Making Mini-lakes Data Table

Weight of empty vial with cap (tare weight) _____

Estimate of volume of sand (Investigation 2) _____

Component	**Weight** (g)	**Volume** (cc) (Investigation 2)
Sandwich box and cover		X
Sand only		
Gravel only		
Rocks only		X
Water only		
Sum of weights		X

Weight of completed mini-lake (investigation 2) _____