Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# The Ocean Floor and Particle Size

**Purpose**

The purpose of this lab is to evaluate how particle size in soil and rock affects the rate at which the particles settle.[[1]](#endnote-2)

**Procedure**

**Materials**

1. Large transparent containers (2)
2. Clay sample
3. Sand sample
4. White paper (2)
5. Tablespoon
6. Water
7. Stopwatch
8. Hand lens

**Sequence of Steps**

1. Fill two large transparent containers with water.
2. C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmfPlace two samples of sediment, the clay sample and sand sample, on separate sheets of white paper.
3. Study the samples with a hand lens. Determine which sediment sample has larger-sized particles and record your observations.
4. C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmfMeasure 1 tbsp of the clay sample.
5. With your stopwatch ready, hold the spoon of clay directly above the first container and pour the clay into the water. Time how long it takes for the entire sample to reach the bottom of the container and settle. Record your observations.
6. C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmfRepeat the process using the second container and the sand sample. Make sure to keep variables consistent by holding the spoon the same distance from the container as you did in the clay sample. Record your observations.

**Observations**

1. After observing your samples with the hand lens, which sample had the smaller particles? Make at least three other observations about your samples.
2. Record your settling times below:

Clay: \_\_\_\_\_\_\_\_\_\_ seconds Sand: \_\_\_\_\_\_\_\_\_\_ seconds

1. Which sample took longer to settle in the water?
2. Explain the general relationship between sediment size and settling rates.
3. Both of these sediments enter the ocean water from rivers. Predict which type of sediment would be found closest to the coast. Explain.
4. Which will be found farther away? Explain.
5. How does this principle impact agricultural production **land** in the following areas:
   1. Delta (Freshwater area where rivers feed into the ocean)
   2. Floodplains (Areas that regularly flood when rivers/lakes are full)
   3. Dried up river beds or lakes
6. How does this principle impact irrigation practices by agriculturists?

1. Tarbuck, E., & Lutgens, F. (2009). *Earth Science*.Boston: Prentice Hall. [↑](#endnote-ref-2)