

NAME _____ PER _____
Teacher _____ Date _____

LAB ACTIVITY: SETTLING RATES

OBJECTIVE: Student will investigate the effects of size, shape and mass on the settling rates of objects.

MATERIALS:

- ☐ 3 different size plastic or glass beads
- ☐ Molding clay
- ☐ Stop watch

PROCEDURE:

1. Drop the _____ mm bead down the tube and time how long it takes to travel from line A to line B. Record the time to the nearest tenth of a second in the data table.
2. Drop the _____ mm bead down the tube and record the time it takes to travel from line A to line B. Record the time to the nearest tenth of a second in the data table
3. Drop the _____ mm bead down the tube and record the time it takes to travel from line A to line B. Record the time to the nearest tenth of a second in the data table
4. Repeat steps 1, 2, and 3 for two more trials and record the times in the data table.
5. Calculate the average times for each bead, and round to the nearest tenth of a second.
6. Graph the data from Data Table 1.
7. Extrapolate from the graph the time it would take a _____ mm bead to travel from line A to line B. Record this value in the space provided on Data Table 1.
8. Take three equal sized pieces of molding clay and shape one piece into a sphere. Drop the clay down the tube and record the time in Data Table 2.
9. Mold a second piece of clay into a flat object. Drop the clay down the tube and record the time in Data Table 2.
10. Mold the last piece of clay into an angular shape, drop the clay down the tube and record the time.

QUESTIONS:

1. Which bead had the fastest settling rate?
2. How does the size affect the settling rate of the beads?
3. How does the shape of an object affect the settling rate?
4. Which shape had a faster settling rate?

DATA TABLE 1

Bead Size	Trial 1 (sec)	Trial 2 (sec)	Trial 3 (sec)	Avg. Time
mm				
mm				
mm				

Extrapolated value for the _____ mm bead : _____

DATA TABLE 2

Object Shape	Settling Time

