



Pour It Out - Does Size Matter?

Student Pre-lab Worksheet



Image source: NISE Network activity “Exploring Forces—Gravity”

Does the size of a cup affect how much water can be poured from it? What’s your hypothesis?

What are some experiments we can do to test this hypothesis? What are the predicted outcomes from these experiments?



Student Lab Worksheet

Materials

- Large test tube
- Tiny test tube
- water
- soap

Experiment, Data Collection, and Analysis:

1. Fill one large test tube and one tiny test tube with water.
2. Pour out the water from the large test tube.
3. Pour out the water from the tiny test tube.
4. Was there a difference in how the water poured out from the large test tube and the tiny test tube?
5. Based on your knowledge of forces, explain the differences you observed between the two test tubes.
6. Which properties of this experiment were constants and which were variables? What conclusions can you make from your data?
7. Based on your observations, what can you conclude about the forces between water molecules, between water and the test tube, and gravity?
8. What happens when you add some soap to the test tubes? Why do you think this happens?

