

SOLUTIONS

Investigate: Properties of Water

Investigation 1

1. Pipet a **small** amount of all 3 liquids provided into 3 different pipets. Quickly squeeze each pipet at the sheet of colored paper so that the liquid **splatters** on the paper. (Make sure to keep your three splatters separate. Do not just drop the liquid onto the paper; it needs to splatter.)
2. Observe the changes in the splatters over time and compare them with one another. (Make sure that you remember the identity of each liquid.)

Investigation 2

1. Based on what you know about the organization of matter in solids, liquids and gases, would you expect solid matter to be more or less dense than liquid matter (of the same substance)?
2. Use the 100 ml beaker to determine the relative densities of ice, oil and lead with the density of water.
3. Do your observations from #2 agree with your prediction in #1? Explain.

Investigation 3

1. Do you think it takes more energy to heat a piece of diamond, a piece of lead, a piece of glass or a piece of ice by 25.0 K? (Each has a mass of 5.00 g)
2. Use the provided table of heat capacities to determine the amount of energy required for each of the temperature changes in #1.
3. How did your actual energy values compare with your predictions in #1. Explain

Investigation 4

1. Place a small drop of each liquid onto the piece of wax paper.
2. Record your observations. What differences do you observe between the different liquids?