Unit 2

Lesson 1, 2, 3 Study Guide

Vocabulary

1. Independent Variable
2. Density
3. Weight
4. Volume
5. Solid
6. Freezing point
7. Temperature

Unit 1

1. When a scientist in France reported the results of her experiment, several other scientists in other parts of the world decided to repeat her experiment. What is the most likely reason for scientists repeating the experiments of other scientists?
2. A scientist wants to know if a fertilizer causes plants to grow taller. She gives one group of the plants the fertilizer every month. A second group of plants receives no fertilizer. Why does one group receive no fertilizer?
3. Know the difference between descriptions and explanations.
4. A scientist must measure 15 mL of glycerine. Which instrument will she most likely use?

Lesson 1

1. What are the ways for measuring a regular shaped object? Irregular shaped object?
2. A student used a graduated cylinder during an experiment. What was the student most likely measuring with this tool? Volume weight mass temperature
3. Iron’s ability to rust is not a physical property because
   1. It cannot be observed
   2. The identity of the iron stays the same
   3. A new substance with new properties is formed
   4. Iron is magnetic

Lesson 2

1. A can of soda pop with a mass of 605 g displaces 550 mL of water in a bucket. What is the buoyant force of the water on the can?
2. What happens to a sandwich’s density that becomes flattened under the weight of a heavy backpack?
3. Debbie collected a sample of basalt to measure some of its physical properties. She noted that it displaced 30 mL of water and it has a mass of 90 grams. What is the density of the basalt?
4. What physical properties are used to find an object’s density?
5. Jacob notices that when he is trying to float in the pool, he can float better if he takes a deep breath and holds it. What is the most likely reason for this?
6. A large meteorite was found with a mass of 4.0 kg and a volume of 1,200 cm³. What is the density of the meteorite? (4.0 kg= 4000 g).

Lesson 3

1. Think about a hot air balloon. What happens to the air (gas) particles inside the balloon when they are **heated**?
2. Think about a jar filled with macaroni noodles that **slide** past each other as you gently shake it. This can be used as a model for which phase of matter?
3. Understand the energy changes that water undergoes as it goes from ice, to liquid water, to steam.
4. Mona placed a bottle of orange juice to cool in the refrigerator. What happens to the particles in the orange juice as it cools?
5. When enough energy is removed from nitrogen gas, the nitrogen becomes a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. Be familiar with what particles look like in solids, liquids, and gas.