

Chapter 7 & 8 Homework Sheet

Lesson 7.1

HW#1

1. What particles make up atoms?
2. Describe the electrical charges of the particles in atoms.
3. Make a diagram that shows the general structure of an atom. Draw and label the nucleus, protons, neutrons, and electrons.
4. What are the two main classifications of matter?
5. How do the two classifications of matter differ?
6. How are atoms related to elements?
7. How are elements related to compounds?

HW#2

1. What can you learn about a compound from its chemical formula?
2. Recall: what is a substance? What is a mixture?
3. Can substances and mixtures be separated by physical means? EXPLAIN.
4. Compare a heterogeneous and homogeneous mixture. Give an example of each.
5. Compare a solvent and a solute.

Determine whether the following statement explains a Heterogeneous mixture, a Homogeneous mixture, or a substance.

- | | | |
|---------------------------------|-------------------------------------|----------------------------------|
| 1. is also known as a solution | 2. Can vary in composition | 3. Is chemically bonded together |
| 4. does not vary in composition | 5. Is made of a solvent and solutes | 6. Is unevenly mixed |
| 7. is evenly mixed | | |

Lesson 7.2

HW#3

1. Create a chart in your notebook with the following categories: Property, Size-Dependent or Size-Independent, Description of Property
2. Explain what size dependent and size independent mean.

HW#4: Choose the best answer in the parenthesis to complete the sentence.

1. A (physical property/chemical property) is a characteristic of matter that you can observe or measure without changing the identity of the matter.
2. Water vapor is an example of a (solid/gas).
3. Mass is the amount of (matter/volume) in an object.
4. Mass is a (size-dependent/size-independent) property because its value depends on the size of a sample.
5. (Weight/ Density) is the pull of gravity on matter.
6. Volume is the amount of (matter/space) something takes up.
7. Melting points and boiling points are (size-dependent/size-independent) properties of matter.
8. (Weight/ Density) is the mass per unit volume of a substance.
9. Electrical conductivity is the ability of matter to (conduct/resist) an electric current.
10. Solubility is the ability of one substance to (melt/dissolve) in another.

Lesson 8.1

HW#5

1. Which state of matter is represented by the particles in Figure A? Explain.
2. Which state of matter is represented by the particles in Figure B? Explain.
3. Which state of matter is represented by the particles in Figure C? Explain.
4. Give an example of water in each state of matter.

Determine which state of matter the following statement describes.

5. have molecules that are packed tightly together due to strong attractive forces
6. hold their shape
7. have molecules that can spread far apart to fill any shape or container
8. take the form of any container they are poured into; can be solutions
9. can be found in fluorescent light bulbs, neon lights, stars, and lightning.
10. another name for vapors

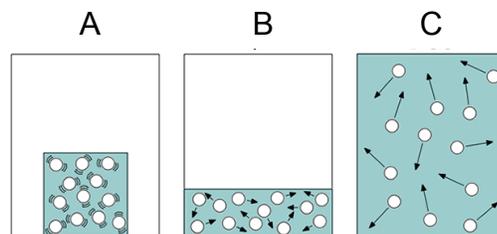
HW#6

1. What are the two types of solids? What makes them different from one another?
2. Give an example of each type of solid.
3. What is viscosity?
4. What happens to the viscosity of a liquid as thermal energy increases?
5. Rank the following from low viscosity to high viscosity: iced tea, shampoo, conditioner
6. Explain surface tension. Explain cohesion.
7. What is a vapor?

Lesson 7.3

HW#7 Fill in the blank with shape, size, state of matter.

1. Folding clothes is a change in _____.
2. Splitting firewood is a change in _____ and _____.
3. Melting a candle is a change in _____ and _____.
4. Freezing water is a change in _____.
5. Pouring juice from a bottle into a glass is a change in _____.
6. Cutting an apple in half is a change in _____ and _____.
7. Give an example of a physical change in matter.
8. Does the identity of matter change during a physical change? Explain.
9. Does the total mass of matter change when it goes through a physical change? Explain.

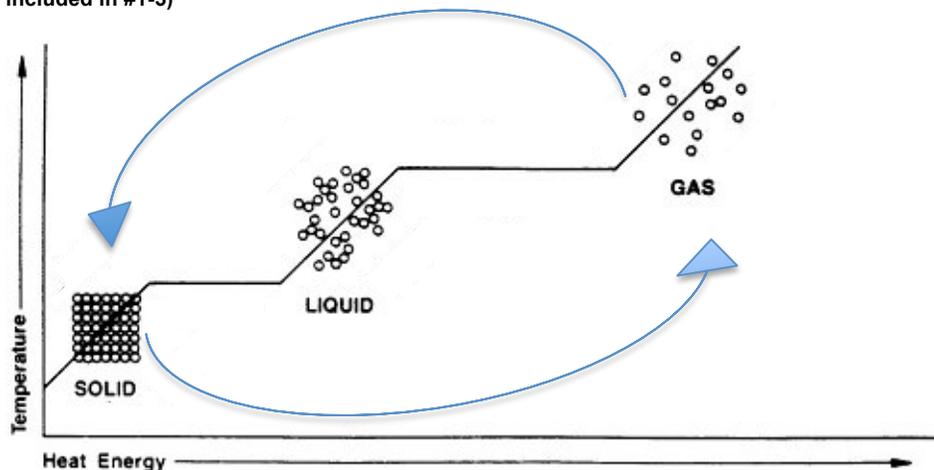


HW#8

1. Explain what a physical change is.
2. Identify two specific ways the size or shape of an object can be changed.
3. Identify all of the changes of state caused by the addition of thermal energy.
4. Identify all of the changes of state caused by the removal of thermal energy.
5. Explain what happens when something dissolves.
6. When a substance undergoes a physical change, mass is conserved. Explain what is meant by the phrase "mass is conserved".

Lesson 8.2

HW#9: Answer the following questions: (Change in state, particles movement, particles distance, temperature, & energies MUST be included in #1-5)



- 1) Label letters A-F on the physical change chart.
- 2) Where is an increase in potential energy?
- 3) Where is there an increase in kinetic energy?
- 4) Where is there an increase in thermal energy?
- 5) What are the two types of vaporization? What is the difference between them?
- 6) What exists as all three states of matter on Earth? Give an example of each.
- 7) What happens to matter and energy during a physical change?
- 8) Give an example of melting, vaporization, condensation, freezing, sublimation, and deposition.

HW#10

1. Describe the movement of particles when thermal energy is added to a solid.
2. What is the melting point of matter?
3. What is the boiling point of matter?
4. What is sublimation?
5. Describe the movement of particles when thermal energy is removed from a gas.
6. What is condensation?
7. What is freezing?
8. What is deposition?

Lesson 7.4

HW#11

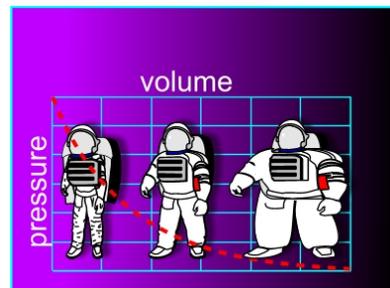
1. Define chemical property and chemical change.
2. Identify four signs that a chemical change might have occurred.
3. What is the difference between property and change?
4. Give three examples of each (chemical property and chemical change)
5. Describe three factors that can increase the rate of chemical reactions.
6. What is concentration?
7. How does an increase in concentration affect the rate of a chemical reaction?
8. How does an increase in surface area affect the rate of chemical reaction?

Lesson 8.3

HW# 12

1. What are the principles involved in the kinetic molecular theory?
2. Recall: what is pressure?
3. What is the relationship between pressure and volume?
4. Which law does Figure A represent? Explain.
5. Which law does Figure B represent? Explain
6. Give some examples of Charles' law.
7. Give some examples of Boyle's law.

A



B

