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Physical Science Semester Review Questions

Name: _____ Hr: _____

Chapter 1-1

1. What is science? A system of knowledge and the methods used to find that knowledge

2. What are the branches of natural science? Physical, Earth and Space, Life

1.2

1. What are the steps to the scientific method and what is the goal of the scientific method? Observation, research, hypothesis, testing, data collection, develop a theory
   - To answer question

1.3

1. Put 0.000000305 into scientific notation? 3.05×10^{-7}

2. List the metric prefixes from mega to micro and the meanings of each.

Kilo 1000 Hecto 100 Deka 10 BASE Deci 0.1 Centi 0.01 milli 0.001

1.4

1. Name 2 ways that scientists organize their data. Charts and Graphs

Chapter 2

1. What is a compound? 2 or more elements combined in a fixed composition

2. Give two examples of substances with high viscosity. Syrup and Honey

3. List 5 examples of physical properties. Viscosity, Conductivity, malleability, hardness, melting point

4. When does a physical change occur? When the material changes shape or form but the substance remains the same.

5. What is the difference between a chemical and physical change? Chemical changes completely alter the composition, physical changes alter only how it looks

Chapter 3

1. How can shape and volume be used to classify materials? Liquid and gas can change shape, only gas can change volume
2. Give a detailed description of a solid, liquid and a gas. Solid - definite shape and volume Liquid - no definite shape but definite volume, Gas - no def. shape or volume
3. Draw a phase change triangle. SOLID
   LIQUID ------ GAS

4. What happens to a substance's temperature/energy during a phase change? The temperature stays the same, the energy goes into the substance.

Chapter 4

1. What are the 3 subatomic particles? proton +, Neutron =, electron -

2. How are atoms of 1 element different from atoms of other elements? They have a different number of electrons

3. What is the difference between 2 isotopes of the same element? They have a different amount of neutrons
4. What can happen to electrons when atoms gain or lose energy? They change energy levels
5. What is the most stable configuration of electrons in an atom? a full outer shell - 8

Chapter 5

1. Give three general statements about metal properties. Conductive, malleable and ductile

2. When electrons move from a higher energy level to a lower one what happens to an element like neon? They release energy - neon would release it as light

3. Name the period that has elements that are the most stable? 8a Noble Gasses

Chapter 6

1. Calcium, Ca, and Fluorine, F, form a binary ionic compound with a one-to-two ratio of Calcium to Fluoride ions. What is the formula for the compound ? What is the name of this compound? CaF_2 Calcium Difloride

2. Fluorine, F, forms a binary ionic compound with lithium, Li. Name the compound: Lithium Floride
3. The formation of an ionic bond involves the transfer of electrons.

Chapter 11 + 12

1. Which distance can be most accurately measured with a ruler? book

2. One kilometer equals 1000 meters. What does the prefix *kilo-* mean? Thousand

3. If you start and end in the same location your displacement would be 0.

4. A constant slope on a distance-time graph indicates constant speed.

5. The difference between speed and velocity is that velocity indicates the direction of motion and speed does not.

6. A distance-time graph indicates an object moves 20 km in 2 h. The average speed of the object is 10 km/h.

7. Freely falling objects accelerate at 9.8 m/s^2 because the force of gravity acts on them, what slows falling objects down? Air resistance
8. List the 4 types of friction static, rolling, sliding, and fluid