

Test Prep for Lecture Test 1: SI session 3/9/21

Warm-up:

Solve the following riddle:

Riddle: What is the dulllest element?

— — — — — — — —

1      2      3      4      5      6      7

Key:

1. The non- space holding digits in a reported measurement	O. Physical properties
2. Properties used to identify a substance.	R. conversion Factor
3. Is copper a Type 1 of 2 cation?	U. Fahrenheit
4. A ratio of 2 or more equal quantities that uses different units.	H. Type 2
5. Is used in scientific notation, it shows how many spaces the decimal has been moved.	M. exothermic
6. The temperature scale where the freezing point is 32 degrees	B. Significant Figures
7. Expressed by a negative empathy	I. exponent

Test Review Worksheet: Chapters 1 through 8:

1. What does the number of electrons in a neutral atom tell about the atom?

- a.
- b.

2. What did the Gold Foil Experiment discover?

- a.

3. Who created the plum Pudding model?

- a.

4. How are ions formed in chemical reactions?

- a.
- b.

5. What are non- place holding digits in a measurement?

- a. Exact numbers
- b. Coefficients
- c. Place holding digits
- d. Significant figures

6. What is another name for a mole?

- a.

7. Is the energy needed to raise one gram of water by one degree C.

- a.

8. Is the amount of heat needed to raise one gram of a substance by 1 degree C.

a.

9. What are Isotopes?

a.

10. Illustrate a substance with a low and high viscosity:

a.

b.

11. What are the four types of chemical reaction equations:

a.

b.

c.

- d.
12. Describe the structure of both a crystalline and amorphous solid.
- a.
  
  
  
  
  
  
  
  
  
  
  - b.
13. Determine the percent composition for a compound containing 10.25 grams of Sulfur and 3.02 grams of Sodium.
- a.
14. Identify the charges of the following subatomic particles as well as their location in an atom:
- a.
  - b.
  - c.

15.

1. A brief statement that summarizes experimental facts.	a. Hypothesis
2. A falsifiable tentative explanation for observations that fit all the facts available.	b. kilogram
3. The hypothesis survives peer review and is established in the scientific community.	c. accuracy
4. Base unit for mass	d. Scientific law
5. SI unit for volume	e. Precision.
6. How closely the measurements are to the true value	f. Theory
7. How close a set of measurements are to each other?	g. Cubic meter

15. Give one example of a crystalline solid:

a.

16. Give one example of an amorphous solid:

a.

17. Illustrate an example of a miscible and immiscible substance

18. What is the formula for gold (iii) iodide

19. Name the following compound:  $\text{Mg}(\text{IO}_4)_2$

20.

1. Homogeneous mixture of 2 or more substances	a. Intensive property
2. Smallest indivisible particles that retain the properties of an element	b. Joule
3. Relates to a substance's identity	c. Calorie

4. SI unit for heat	d. solution
5. What is the metric unit for heat?	e. Specific heat
6. The amount of heat needed to raise 1 gram of a substance by 1 degree C	f. atoms

20. Convert 200 grams to pounds.

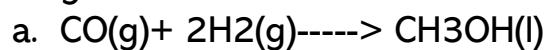
21. If the empirical formula for water is  $H_2O$ , and it has a molar mass of 64.08. Determine its molecular formula.

22. An atom naturally has 3 occurring isotopes. Isotope 1 has an atomic mass of 89.637 amu with a relative abundance of 20%, Isotope 2 has an atomic mass of 88.963 with a relative abundance of 60%, and Isotope 3 has an atomic mass of 90.036 with a relative abundance of 20%. Determine the atomic mass of the element.

23. What is the percent composition for a compound formed from 8.45 grams of zinc and 3.00 grams of Oxygen?

24. The specific heat of Al is 0.900J/g degree C. How many joules of energy are required to raise the temperature of 30.g Al from 40. Degrees C to 60 degrees C?

25. Determine the limiting reactant when Carbon monoxide and Hydrogen react to form Methanol:





26. If 50 grams of Co react with 13 grams of H<sub>2</sub>, how many grams of methanol can be produced?