

8. What are each of the following pieces of lab equipment used to measure?

- a. graduated cylinder
- b. triple beam balance
- c. beaker
- d. meter stick

9. What is the SI unit for each of the following:

mass-

length-

volume-

10. Convert the following

0.0035 km = _____m

1000 km = _____m

125 cm = _____m

0.15 m = _____cm

11. What is the freezing point of water on the **Celsius** scale? _____
boiling point? _____

12. A 5 gram rock is placed in 20 ml of water and causes the water level to rise to 30 ml, the volume of the rock is _____.

13. Why are elements and compounds classified as pure substances?

14. Distinguish between a **solution**, **suspension**, and a **colloid**.
15. How do mixtures differ from pure substances
16. What are some physical properties?
17. When you describe a liquid as thick, are you saying that it has a low or high **viscosity**?
18. What processes are used to separate mixtures?
19. What are some chemical properties?
20. Explain why the rusting of an iron bar decreases the strength of the bar.
21. What is a precipitate?

22. How can shape and volume be used to classify the following materials?

Solid:

Liquid:

Gas:

23. State the kinetic theory of matter-

24. Define the following phase changes:
melting-

freezing-

vaporization-

condensation-

sublimation-

deposition-

25. What is the difference between an endothermic and exothermic reaction?

20. What was Dalton's theory of the structure of matter?

21. How did Thomson and Rutherford improve the atomic theory?

22. What is the current theory of the model of the atom?

23.

Particle	Charge	Location
Electron		
Proton		
Neutron		

24.

Element	Atomic Number	Mass Number	Number of Protons	Number of Neutrons	Number of Electrons
Hydrogen					
Helium					
Carbon					
Fluorine					

25. What is an atom's mass number?

26. Draw the Bohr model for a nitrogen atom.

27. How is the modern periodic table arranged?

28. What categories are used to classify elements on the periodic table?

29. What is an isotope?

30. What are valence electrons?

31. How many valence electrons does chlorine have?

32. What are some properties of metals?

33. What are some properties of nonmetals?

34. What are metalloids?

35. Draw the electron dot configuration for Neon.

36. What are the three ways an element can achieve stable electron configuration?

37. How are ions formed?

38. What is an ionic bond?

39. How are covalent bonds formed?

40. What do the following prefixes mean?

di-

tri-

tetra-

penta-

41. What is the chemical formula for magnesium bromide? _____

42. What is the name for N_2O_5 ? _____

43. What is the Law of Conservation of Mass?

43. Why must chemical equations be balanced?

44. What are subscripts used for in chemical formulas?

45. Balance: _____ Cu + _____ O₂ → _____ CuO

46. Explain the difference between a single-replacement and a double-replacement reaction.

47. How many of each kind of atom are there in:
3H₂SO₄

2Sr₃(PO₄)₂

6Ba(MnO₄)₂

48. What are the products of a combustion reaction?

Balance the following

49. _____ H₂SO₄ + _____ Fe → _____ Fe₂(SO₄)₃ + _____ H₂

50. _____ C₂H₆ + _____ O₂ → _____ CO₂ + _____ H₂O