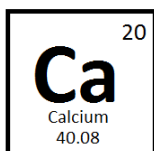


Atoms and Bonding Study Guide

1. What are electrons involved in bonding between atoms called? _____
2. How many electrons fill the outermost energy level of an atom? _____
3. In the electron dot diagram of calcium, how many dots should be drawn around the element? _____
4. Which group on the periodic table contains elements one valence electron? _____
5. Most of the elements in the periodic table are _____.
6. Which group on the periodic table contains the most reactive elements? _____
7. List three elements from the group containing the most reactive metals. _____
8. An atom of carbon with 6 protons, 6 electrons, and 6 neutrons would have a mass number of _____.
9. What is the mass number of gold with 79 protons, 79 electrons, and 118 neutrons? _____
10. What type of ion forms when an atom loses an electron? _____
11. What are ions that are made of more than one atom called? _____
12. An ionic bond is an attraction between _____.
13. Magnesium bromide is an ionic compound: MgBr_2 . What does the "2" mean? _____
14. How many oxygen atoms are in Fe_2O_3 ? _____
15. How many sodium atoms are present in $4\text{Na}_2\text{PO}_4$? _____
16. Write the chemical formula for potassium nitrate with 1 potassium, 1 nitrogen, and 3 oxygen atoms. _____
17. Which item is written first in the chemical formula for an ionic compound? _____
18. What is the chemical name for Na_2S ? _____
19. What do ionic compounds form? _____
20. Ionic compounds are electrically _____.
21. What type of bond forms when atoms share electrons? _____
22. Covalent bonds usually form between two _____ atoms.
23. What is a double bond? _____
24. Do most molecular compounds have a high or low melting point? _____
25. What type of bond is formed when valence electrons are shared equally? _____

26. What type of bond is formed when valence electrons are shared unequally? _____
27. What is the structure of a metal crystal? _____
28. What word means that metal can be rolled into thin sheets? _____
29. Metals are good conductors of heat and _____.
30. What is a mixture of two or elements with at least metal called? _____
31. Balance the chemical equation: $\text{Na} + \text{Cl}_2 \rightarrow \text{NaCl}$ _____
32. Balance the chemical equation: $\text{N}_2 + \text{H}_2 \rightarrow \text{NH}_3$ _____



33. What is the number on top called? _____
34. What is the bottom number called? _____
35. What is the atomic number of this element? _____
36. How many protons does this element have? _____
37. How many electrons does this element have? _____
38. What is the mass number of this element? _____
39. How many neutrons does this element have? _____
40. What is the atomic mass of this element? _____



41. How many valence electrons does carbon have? _____
42. How many more electrons does it need to fill its outer energy level? _____
43. Draw the electron dot diagram for Aluminum.
44. Draw the electron dot diagram for Bromine.