

1. What are the rows of the periodic table called?
2. What do all atoms in a group of the periodic table have in common?
3. What do all atoms in a period of the periodic table have in common?
4. How many electrons, neutrons and protons does a neutral phosphorus atom have?
5. What is an anion, cation, and polyatomic ion?
6. How many electrons, neutrons and protons does a bromine anion have?
7. Draw a Lewis dot diagram for an oxygen atom and oxygen ion.
8. How is the bonding in calcium oxide different from the bonding in carbon tetrahydride?
9. What is the difference between a covalent bond and an ionic bond?
10. What observations can you make to determine if a substance is molecular (covalent) or ionic?
11. Which types of elements combine to form molecular (covalent) compounds?
12. Name the following compounds.
 - a) $MgBr_2$. _____
 - b) NH_3 . _____
 - c) $PbSO_4$. _____
 - d) Na_2CO_3 . _____
15. Write the chemical formula for each of the following.
 - a) Iron(II) nitrate. _____
 - b) Copper(II) hydroxide. _____
 - c) Diphosphorus pentoxide _____
 - d) Iodine hexachloride _____
 - e) Sodium nitride _____
16. Given the following word equations, write a skeleton and balanced chemical equation.
 - a) Gaseous sulfur dioxide reacts with oxygen gas to produce gaseous sulfur trioxide.
word: _____
skeleton: _____
balanced: _____

- b) Solid aluminum chloride reacts with solid potassium to produce potassium chloride and solid aluminum.

Word: _____

skeleton: _____

balanced: _____

- c) When fluorine gas is put into contact with calcium metal at high temperatures, calcium fluoride powder is created in an exothermic reaction.

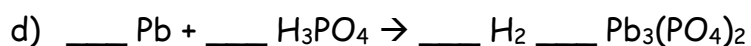
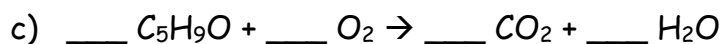
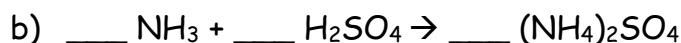
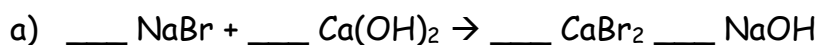
Word: _____

skeleton: _____

balanced: _____

17. Suppose that you measure the mass of a chemical in an open container, and then heat it for a few minutes over a Bunsen burner flame. After the container and contents have cooled, you find that the mass is larger than before. According to the law of conservation of mass, how can you explain this observation?

18. Balance each skeleton equation and identify the type of reaction in each case.



19. What is a chemical change?

20. What are indicators of a chemical change?