

1. Choose the response that best answers the question “Why do we not change subscripts when balancing a chemical equation?”

[A] It is fine to do once in awhile, but don't make a habit of it.

[B] Compounds composed of the same elements and having different subscripts are different substances.

[C] There's no real reason not to, it's just something that is not done.

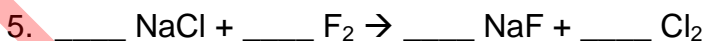
2. Who is responsible for the atomic theory that makes it necessary to balance chemical equations?

[A] Mendeleev

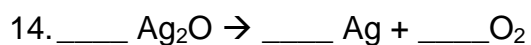
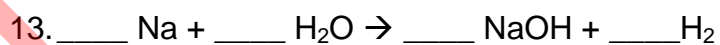
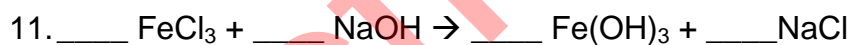
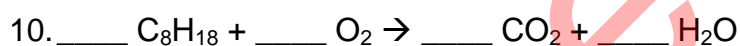
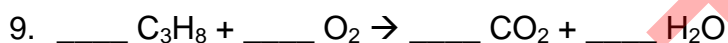
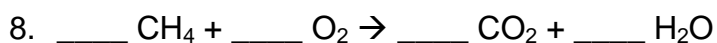
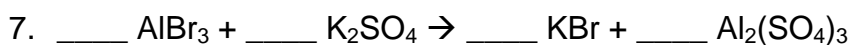
[B] Dalton

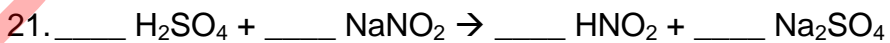
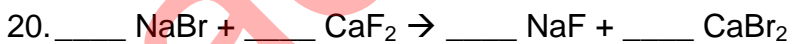
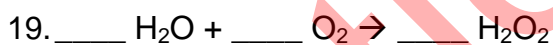
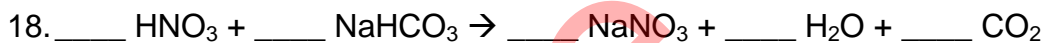
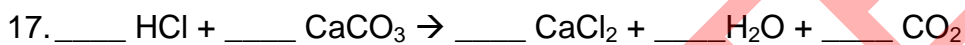
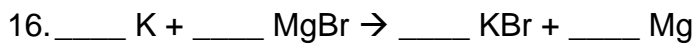
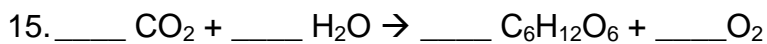
[C] Chadwick

Balance the following equations. (1 point per blank, plus 2 points each if you get it correct)
(example #3- 3+2 = 5 total points)



Chapter 6- Balancing Chemical Equations





Answer the following questions with a word, phrase or sentence. (1 point each)

22. Where are products located in a reaction (left or right of arrow)?

23. Where are reactants located in a reaction (left or right of arrow)?

24. In a chemical equation, what does this \rightarrow mean?

What are the 4 states of matter descriptions used in chemical equations and what symbol is used to represent each?

25.

26.

27.

28.

Name 5 possible indications that a chemical reaction may have taken place.

29.

30.

31.

32.

33.

34. What is the determining factor as to whether or not a chemical reaction has taken place?

35. Why is it necessary to balance a chemical equation? (2 points)

Write and balance the following equations. Be sure to include states of matter!!

36. The reaction of ammonia (NH_3) with chlorine to form nitrogen trichloride and hydrogen gas.
37. The combustion (means reacts with oxygen to form carbon dioxide and water) of propane (C_3H_8).
38. The incomplete combustion (means reacts with oxygen) of propane (C_3H_8) to form carbon monoxide and water.
39. The reaction of nitric acid with sodium hydroxide to form sodium nitrate and water.
40. The reaction of copper (II) oxide with hydrogen to form copper metal and water.
41. The reaction of aluminum metal with oxygen to form aluminum oxide.
42. The complete combustion (means reacts with oxygen to form carbon dioxide and water) of 2,2-dimethylpropane (C_5H_{12}) in oxygen.
43. The reaction of iron (III) bromide with magnesium hydroxide to produce magnesium bromide and iron (III) hydroxide.
44. The decomposition of hydrogen peroxide to form water and oxygen.
45. The reaction of ammonia (NH_3) with sulfuric acid to produce ammonium sulfate.