

Types of chemical reactions—Word equations

Classify each of the following chemical reactions as synthesis (S), decomposition (D), single replacement (SR), double replacement (DR), or neutralization (N). Then write a balanced equation for each word equation.

_____ 1. magnesium + sulphur $\rightarrow$ magnesium sulphide

_____ 2. potassium hydroxide + sulphuric acid $\rightarrow$ water + potassium sulphate

_____ 3. chlorine + potassium iodide $\rightarrow$ potassium chloride + iodide

_____ 4. aluminum chloride + sodium hydroxide $\rightarrow$ aluminum hydroxide + sodium chloride

_____ 5. lead(II) oxide $\rightarrow$ lead + oxygen

_____ 6. magnesium + silver nitrate $\rightarrow$ silver + magnesium nitrate

_____ 7. cadmium(II) nitrate + ammonium sulphide $\rightarrow$ cadmium(II) sulphide + ammonium nitrate

_____ 8. tin(IV) hydroxide + hydrogen bromide $\rightarrow$ water + tin(IV) bromide

_____ 9. sodium + oxygen $\rightarrow$ sodium oxide

_____ 10. sodium nitride $\rightarrow$ sodium + nitrogen

_____ 11. calcium hydroxide + phosphoric acid $\rightarrow$ water + calcium phosphate

_____ 12. barium chloride + sodium carbonate $\rightarrow$ barium carbonate + sodium chloride

_____ 13. zinc + nickel(II) nitrate $\rightarrow$ zinc nitrate + nickel

_____ 14. antimony + iodine $\rightarrow$ antimony(III) iodide

_____ 15. carbon dioxide $\rightarrow$ carbon + oxygen

_____ 16. iron(III) sulphate + lead $\rightarrow$ lead(II) sulphate + iron

_____ 17. barium nitrate + ammonium carbonate $\rightarrow$ ammonium nitrate + barium carbonate

_____ 18. zinc hydroxide + hydrochloric acid $\rightarrow$ water + zinc chloride

_____ 19. ammonium carbonate + magnesium chloride $\rightarrow$ ammonium chloride + magnesium carbonate

_____ 20. rubidium hydroxide + sulphuric acid $\rightarrow$ water + rubidium sulphate
