

Name: _____

Period: _____

Seat#: _____

Directions: Any worksheet that is labeled with an * means it is suggested extra practice. We do not always have time to assign every possible worksheet that would be good practice for you to do. You can do this worksheet when you have extra time, when you finish something early, or to help you study for a quiz or a test. If and when you choose to do this Extra Practice worksheet, please do the work on binder paper. You will include this paper stapled into your Rainbow Packet when you turn it in, even if you didn't do any of this. We want to make sure we keep it where it belongs so you can do it later if you want to (or need to). If you did the work on binder paper you can include that in your Rainbow Packet after this worksheet. If we end up with extra class time then portions of this may turn into required work. If that happens you will be told which problems are turned into required. Remember there is tons of other extra practice on the class website...and the entire internet! See me if you need help finding practice on a topic you are struggling with.

For the following reactions: Name the reactants and products, Balance the equation.

Classify the reaction type.

- 1) $\text{Fe}_2\text{O}_3 (s) + \text{CO} (g) \rightarrow \text{FeO} (s) + \text{CO}_2 (g)$
- 2) $\text{FeO} (s) + \text{CO} (g) \rightarrow \text{Fe} (s) + \text{CO}_2 (g)$
- 3) $\text{C}_{12}\text{H}_{22}\text{O}_{11} (s) + \text{O}_2 (g) \rightarrow \text{CO}_2 (g) + \text{H}_2\text{O} (g)$
- 4) $\text{Fe} (s) + \text{O}_2 (g) \rightarrow \text{Fe}_2\text{O}_3 (s)$
- 5) $\text{Ca} (s) + \text{H}_2\text{O} (l) \rightarrow \text{Ca}(\text{OH})_2 (aq) + \text{H}_2 (g)$

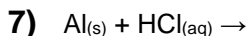
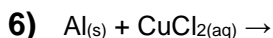
A little online spinner game to have you practice writing neutral formulas. Spin the wheels and it gives you ions to use.

<https://tinyurl.com/2p9cnh7f>



For the following equations, practice doing the following:

- Write out the chemical equations
- Identify type of reaction.
- For any single replacement – use the Activity Series to determine if the reaction happens.
- For any double replacement – use the Solubility Rules to identify if a precipitate forms.
- Identify any gases that form
- For single replacement and double replacement reactions - practice writing overall reaction, total ionic reaction, and net ionic reaction.
- These are copied and pasted, it is very likely there are duplicates. Oh well!
- You may need to look things up like the formulas for the acids in some problems.



8) Aluminum hydroxide and sulfuric acid neutralize to make water and aluminum sulfate.

9) Aluminum hydroxide becomes Aluminum oxide and water

10) Aluminum sulfate and calcium hydroxide become aluminum hydroxide and calcium sulfate.

11) Ammonia plus water yields Ammonium hydroxide

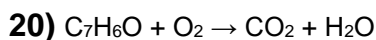
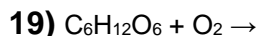
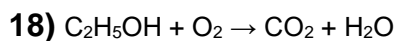
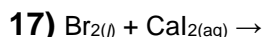
12) Barium chloride reacts with sodium sulfate to produce barium sulfate and sodium chloride.

13) Barium hydroxide and sulfuric acid make water and barium sulfate.

14) Barium metal reacts with Iron (III) sulfate to produce barium sulfate and iron metal.

15) Barium oxide is added to carbon dioxide making Barium carbonate

16) Bismuth (III) oxide and zinc metal react to produce zinc oxide and bismuth metal.



21) Calcium carbonate will come apart when you heat it to leave calcium oxide and carbon dioxide.

22) Calcium fluoride and sulfuric acid make calcium sulfate and hydrogen fluoride (HF)

23) Calcium Hydroxide breaks into Calcium Oxide and water

24) Calcium metal reacts with phosphorus to produce calcium phosphide.

25) Calcium oxide and aluminum make aluminum oxide and calcium

26) Calcium phosphate and sulfuric acid make calcium sulfate and phosphoric acid (H_3PO_4).

27) Cesium Carbonate separates into Cesium Oxide and carbon dioxide

- 28)** $\text{CH}_3\text{COCH}_3 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
- 29)** $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
- 30)** Chlorine gas and sodium bromide yield sodium chloride and bromine
- 31)** Copper metal and silver nitrate react to form silver metal and copper II nitrate.
- 32)** Copper reacts with sulfuric acid and water to produce copper sulfate pentahydrate and sulfur dioxide
- 33)** $\text{Cr}_2(\text{SO}_3)_3(\text{s}) + \text{H}_2\text{SO}_4(\text{aq}) \rightarrow$
- 34)** $\text{Cu}(\text{II})_{(\text{s})} + \text{FeSO}_4(\text{aq}) \rightarrow$
- 35)** Dinitrogen pentoxide added to water yields nitric acid
- 36)** Electrolysis of water to individual elements
- 37)** $\text{H}_2\text{C}_2\text{O}_4 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
- 38)** Hydrochloric acid reacts with solid calcium bicarbonate to make water, carbon dioxide, calcium chloride.
- 39)** Hydrofluoric acid reacts with sodium hydroxide.
- 40)** Iron (III) Hydroxide becomes Iron (III) oxide and water
- 41)** $\text{I}_2(\text{g}) + \text{MgCl}_2(\text{aq}) \rightarrow$
- 42)** Lead (II) nitrate and sodium iodide react to make lead iodide and sodium nitrate.
- 43)** Lithium oxide and water make lithium hydroxide
- 44)** Magnesium Chloride plus Oxygen yield Magnesium Chlorate
- 45)** Magnesium Oxide is added to water make Magnesium Hydroxide
- 46)** Magnesium solid added to Oxygen makes Magnesium Oxide
- 47)** $\text{Mg}_{(\text{s})} + \text{HCl}_{(\text{aq})} \rightarrow$
- 48)** Nickel (II) Chlorate \rightarrow Nickle Chloride and Oxygen
- 49)** Nitrogen plus Hydrogen make Ammonia gas
- 50)** Nitrous Acid \rightarrow Dinitrogen trioxide and water
- 51)** Phosphoric acid (H_3PO_4) plus sodium hydroxide.
- 52)** Potassium Chlorate becomes Potassium chloride and oxygen
- 53)** Potassium nitrate decomposes to form potassium nitrite and oxygen
- 54)** Propane (C_3H_8) burns (with oxygen)
- 55)** $\text{RaCl}_2 \rightarrow \text{Ra} + \text{Cl}_2$
- 56)** Rubidium Chlorate decomposes to Rubidium Chloride and Oxygen
- 57)** Silver acetate plus potassium chromate \rightarrow
- 58)** Sodium metal and chlorine react to make sodium chloride.
- 59)** Solid Calcium Hydroxide plus a solution of phosphoric acid \rightarrow
- 60)** Solid Sodium is added to Chlorine gas
- 61)** Steam (add water vapor) to methane (CH_4) to get hydrogen and carbon dioxide
- 62)** Sulfur burns in oxygen to make sulfur dioxide.
- 63)** Sulfur trioxide and water combine to make sulfuric acid (H_2SO_4).
- 64)** Sulfuric acid (H_2SO_4) reacts with zinc
- 65)** Sulfuric Acid breaks into Sulfur trioxide and water
- 66)** Table salt plus oxygen produces \rightarrow Sodium chlorate
- 67)** The combustion of $\text{C}_{23}\text{H}_{16}\text{O}_4$
- 68)** Zinc and copper II sulfate yield zinc sulfate and copper metal
- 69)** Zinc Carbonate becomes Zinc oxide and carbon dioxide
- 70)** Zinc sulfide and oxygen become zinc oxide and sulfur.