

ANSWERS

Simple Synthesis and Decomposition Reactions WorksheetInstructions:

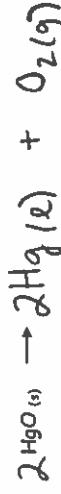
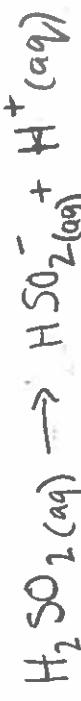
- Identify the reaction type by writing S or D in the margin to the left.
- Provide the correct chemical formulae for reactants and/or products where necessary.
- Use the simplest whole number coefficients to balance the chemical equations.

Simple Synthesis Reactions:

element + element	\rightarrow	compound
compound	\rightarrow	element + element

Simple Decomposition Reactions:

compound	\rightarrow	element + element
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S 1. The first step in the production of sulfuric acid is to burn sulfur.D 2. In 1774, Joseph Priestley discovered oxygen by decomposing the calx of mercury.D 3. Molten table salt is industrially decomposed to produce molten sodium.S 4. Nitrogen from the air reacts with hydrogen to produce ammonia for fertilizers.S 5. Rocket fuel burns to propel a satellite into space.D 6. Copper ore is decomposed to remove the copper metal.S 7. Barbecue charcoal undergoes incomplete combustion to produce deadly carbon monoxide.S 8. Freshly cut lithium reacts with nitrogen from the air.S 9. A silver spoon or coin tarnishes when exposed to sulfur.S 10. Solid barium oxide is added to water.D 11. Sulfurous acid dissociates because it is a weak acid.D 12. Solid zinc carbonate is heated.S 13. Copper (II) chloride reacts with oxygen.S 14. Carbon dioxide gas is bubbled through water.S 15. Sodium nitrate is produced.

Answer Key

WORKSHEET ON SINGLE & DOUBLE REPLACEMENT REACTIONS

Predict the products. Write formulas.

If there is no reaction, then just put NO RXN.

Single Replacement: $A + BC \rightarrow B + AC$ or $A + BC \rightarrow C + BA$ (when A and C are negative ions)

1. Zinc + Hydrogen chloride $\rightarrow H_2 + ZnCl_2$
2. Magnesium + Hydrogen Sulfate $\rightarrow MgSO_4 + H_2$
3. Copper (II) chloride + Fluorine $\rightarrow CuF_2 + Cl_2$
4. Silver + Sodium Hydroxide $\rightarrow NO \text{ rxn}$
5. Potassium iodide + Bromine $\rightarrow KBr + I_2$
6. Calcium + Hydrogen hydroxide $\rightarrow Ca(OH)_2 + H_2$
7. Iron IV oxide + Hydrogen $\rightarrow Fe + H_2O$

Double Replacement: $AB + CD \rightarrow AD + CB$

1. Barium chloride + Aluminum sulfate $\rightarrow BaSO_4 + AlCl_3$
2. Calcium nitride + water $\rightarrow Ca(OH)_2 + HNO_3$
3. Calcium hydroxide + Hydrogen phosphate $\rightarrow Ca_3(PO_4)_2 + H_2O$
4. Hydrogen sulfate + Sodium hydrogen carbonate $\rightarrow H_2CO_3 + Na_2SO_4$
5. Calcium hydroxide + Ammonium chloride $\rightarrow CaCl_2 + NH_4OH$
6. Potassium iodide + Lead II Nitrate $\rightarrow KNO_3 + PbI_2$
7. Sodium acetate + Calcium sulfide $\rightarrow Na_2S + Ca(C_2H_3O_2)_2$

Complete each word equation, write formulas
reaction (single replacement or double replacement) in the blank provided.

Then identify and place the type of
reaction (single replacement or double replacement) in the blank provided.
Be sure to check if a single
replacement reaction will
occur.

SR



SR



DR



SR



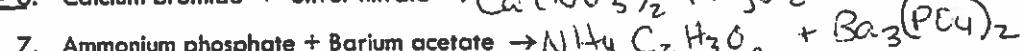
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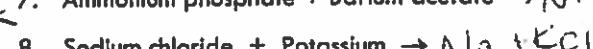
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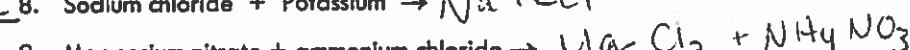
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