



## Chemical Reactions

Name \_\_\_\_\_

**For the following questions,** predict the product of these single replacement reactions, using the reactivity series for metals or halogens. Write NR (for no reaction) if the reaction does not occur. If the reaction does occur, write the skeleton equation (proper formulae, no coefficients). Then add coefficients to balance the chemical equation.

Remember: *metals* replace *metals* or *hydrogen*! *Halogens* replace *halogens*!

1. A piece of barium is added to cold water.
2. A piece of copper is added to a solution of silver chloride.(If a reaction occurs, assume copper(II) forms.)
3. An iron nail is dropped into water. (If a reaction occurs, assume iron(III) forms.)
4. Aluminum foil is dropped into a solution of magnesium fluoride.
5. Tin metal is placed in an aqueous solution of iron (III) acetate. (If a reaction occurs, assume tin (IV) forms.)
6. Sodium pellets are added to water.
7. Liquid bromine is combined with aqueous zinc fluoride.
8. Iron pellets are added to a solution of tin(II) acetate . (If a reaction occurs, assume iron(II) forms.)
9. Fluorine gas is added to potassium bromide.
10. Copper wire is added to a solution of iron(III) sulfate. (If a reaction occurs, assume copper(II) forms.)
11. Calcium pellets are added to a solution of potassium selenide.
12. An iron nail is dropped into a solution of nitric acid. (If a reaction occurs, assume iron(III) forms.)
13. Aluminum foil is dropped into a solution of iron(II) chloride.
14. A piece of potassium is dropped into an aqueous solution of lead (II) sulfide.
15. A cube of aluminum is placed into a solution of hydrochloric acid.