

Name: _____

Block: _____

Types of Chemical Reactions Word Problems

For each word problem, decide whether or not a reaction occurs. (Use the activity series for single replacement reactions and solubility rules for double replacement reactions. Assume all combustion, synthesis and decomposition reactions occur.)

If no reaction occurs, write "N.R." ("No Reaction").

If the reaction does occur:

A. write the complete reaction, including all reactants and products. (Remember to balance the charges!)

B. write the phases:

- (*aq*) for aqueous ionic compounds.
- (*ppt*) for insoluble ionic compounds that form a precipitate.
- (*s*) for solid elements by themselves (all metals except Hg, which is (*ℓ*)).
- (*ℓ*) for pure liquids (H₂O and Hg).
- (*g*) for gases (*e.g.*, H₂, N₂, O₂, F₂, Cl₂, CO₂)

C. Balance the equation with whole-number coefficients.

D. State the type of reaction (combustion, single replacement, double replacement, synthesis, decomposition, "other")

1. What would happen if you mixed aqueous magnesium bromide with aqueous sodium phosphate?

2. What would happen if you added tin to aqueous potassium chloride?

3. What would happen if you burned propane gas (C_3H_8) in oxygen?
4. What would happen if you heated solid magnesium in the presence of oxygen gas?
5. What would happen if you added solid aluminum to aqueous copper (II) chloride?
6. What would happen if mixed aqueous solutions of ammonium carbonate and sodium hydroxide?
7. Would Mr. Bigler's wife have a reason to be mad at him if he accidentally dropped his gold wedding ring into an aqueous solution of concentrated hydrochloric acid (HCl)?