

If you recovered
2.935 g of NH_3 from
the reaction we looked
at last week, what was
the percent yield of the
reaction?

$$\text{PERCENT} = 100\% \left(\frac{\text{PART}}{\text{WHOLE}} \right)$$

$$\text{PERCENT YIELD} = 100\% \left(\frac{\text{ACTUAL YIELD}}{\text{THEORETICAL YIELD}} \right)$$

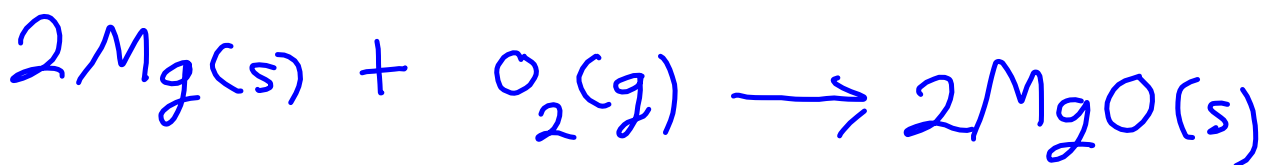
$$= 100\% \left(\frac{2.935 \text{ g}}{3.776 \text{ g}} \right)$$
$$= 77.73\%$$

REACTION TYPES

1. Combination (Synthesis)
two or more substances
form a single substance

Magnesium + oxygen \rightarrow

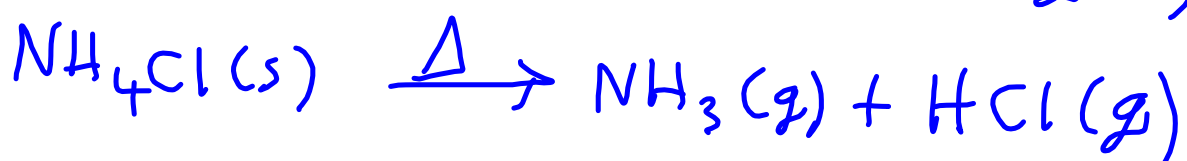
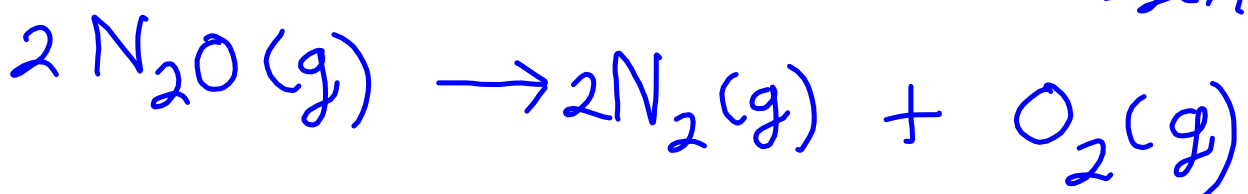
Magnesium oxide



2. Decomposition

A single substance forms 2 or more substances.

dinitrogen monoxide \rightarrow nitrogen
+ oxygen

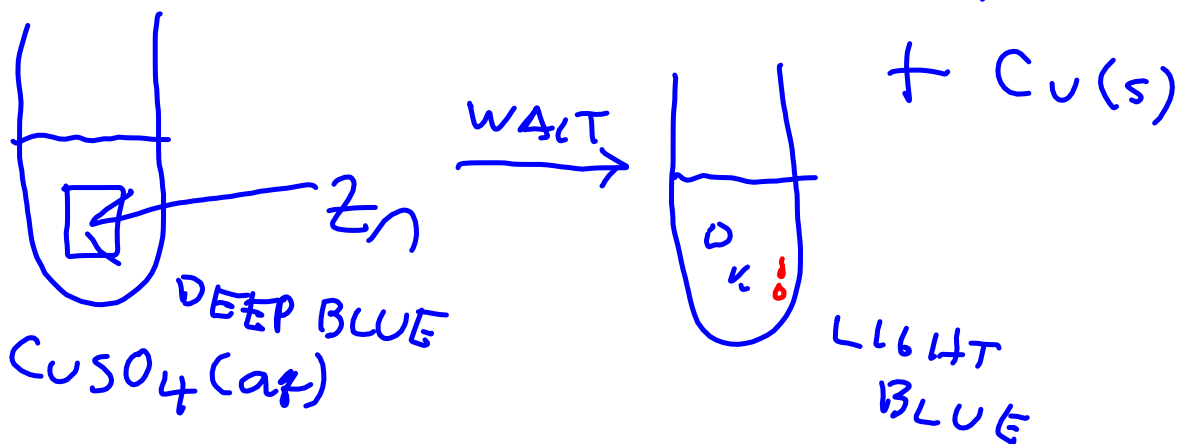


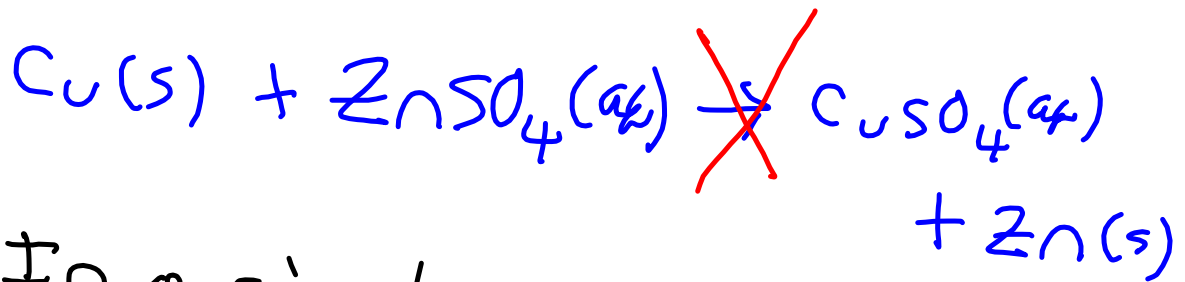
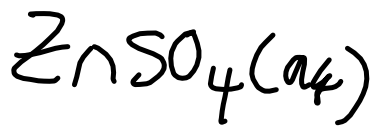
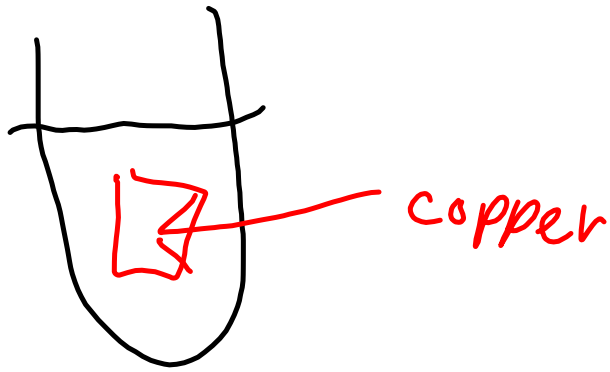
3. Single Replacement (Displacement)

One element replaces another element in a compound.

Zinc + copper(II) sulfate

→ zinc sulfate + copper

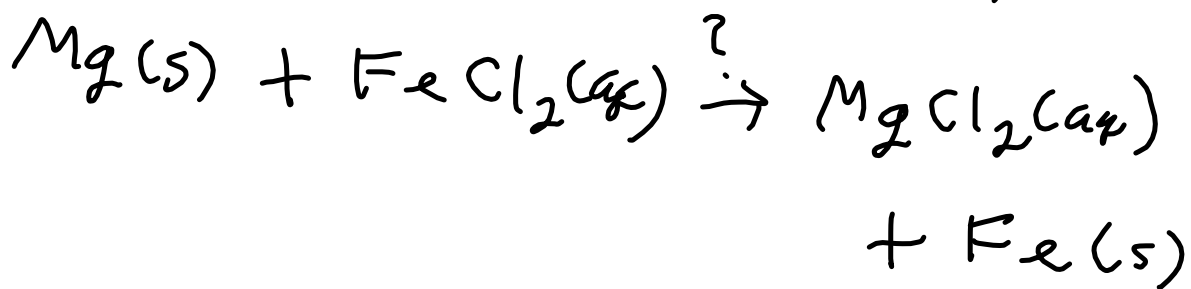




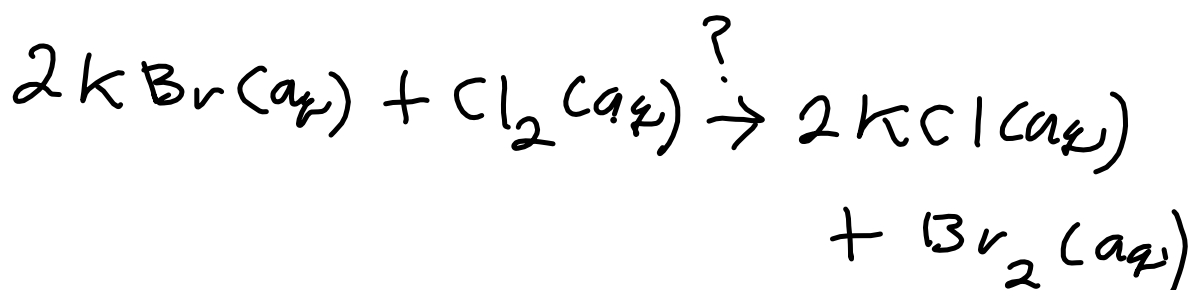
In a single replacement (or displacement) reaction, the more reactive element replaces the less reactive element.

Magnesium is more reactive than iron.

Would the following reaction be expected to occur?



Chlorine is more reactive than bromine. Would the following reaction be expected to occur?



4. Double Replacement (Metathesis)

An exchange of cations and anions.

Sodium carbonate + calcium chloride → sodium chloride + calcium carbonate

