**Neutralization Reactions**

Types of Reaction Review

* What type of reaction is this?
  + Zn + 2HCl 🡪 ZnCl2 + H2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + 3MgCl2 + 2AlBr3 🡪 2AlCl3 + 3MgBr2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

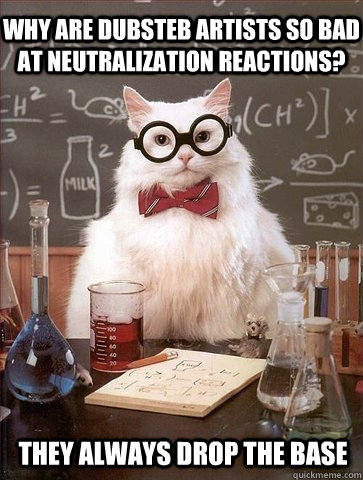
Neutralization Reactions

Copy Example Below

* When Mg(OH)2 and HCl react, a neutralization reaction occurs.
* A neutralization reaction is a reaction in which an acid and a base in an aqueous solution react to produce a salt and water.
* A salt is an ionic compound made from the cation from a base, and an anion from an acid.
* Neutralization is a double replacement reaction.
* Neutralization occurs when:
  + an Arrhenius acid and an Arrhenius base react to form WATER and a SALT (both neutral)
  + # of H+ ions = # of OH- ions (equivalent or equal amounts)
* You don’t always get a completely neutral solution!
  + Strong acid + strong base = pH 7 (neutral)
  + Weak acid + weak base = pH 7 (neutral)
  + Strong acid + weak base = pH < 7 (acidic)
  + Weak acid + strong base = pH > 7 (basic)
* Make sure your equations are balanced!

Practice

1. \_\_\_ HCl + \_\_\_ KOH 🡪 \_\_\_ \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_ \_\_\_\_\_\_\_\_\_\_\_



1. \_\_\_ HNO3 + \_\_\_ NaOH 🡪 \_\_\_ \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_ \_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_ H2SO4 + \_\_\_ KOH 🡪 \_\_\_ \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_ \_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_ H2CO3 + \_\_\_ Ca(OH)2 🡪 \_\_\_ \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_ \_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_ H3PO4 + \_\_\_ LiOH 🡪 \_\_\_ \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_ \_\_\_\_\_\_\_\_\_\_\_

More Practice

1. HCl + NaOH 🡪 \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_
2. HBr + Ca(OH)2 🡪 \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_ 🡪 CaSO4  + \_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_ 🡪 BaBr2 + \_\_\_\_\_\_\_\_\_\_\_