

SCH 3UI - Common Reactions That You Must Know

Activity Series

These elements are ranked most reactive to least reactive. A more reactive element will often react to displace a less reactive element in a reaction.

K, Na, Ca, Mg, Al, Zn, Fe, Sn, Pb, H, Cu, Hg, Ag, Pt, Au

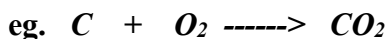
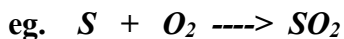
Common Reactions

1. A metal and oxygen gas will combine to make a metal oxide.

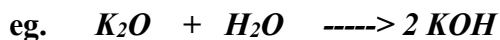


- i) use the periodic table to predict the most likely valence of a transition metal.
- ii) metals are always elemental, O_2 is always diatomic.

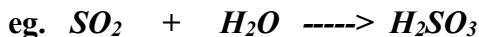
2. Non-metallic elements combine with oxygen to make non-metallic oxides.



3. Metal oxides in water form metal hydroxides.



4. Non-metallic oxides and water combine to form acids.



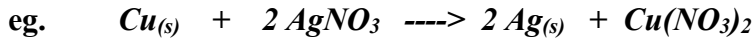
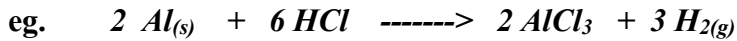
5. Peroxides decompose to metallic oxides and oxygen gas



6. Chlorates and perchlorates decompose on heating to give oxygen and a salt.



7. A metal and a compound may react in a single displacement reaction if the metal is more reactive than the metal in the compound. See the activity series above for more information.



8. A metal in acid will produce a metallic salt and hydrogen gas. A salt is a positive metal ion and a negative ion ending in "ide", "ate" or "ite".



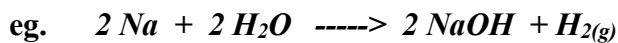
Na displaces H from the molecules because Na is more reactive.



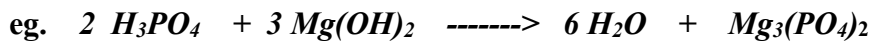
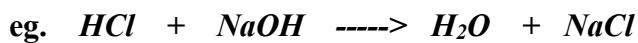
 - Copper and nitric acid do not perform this reaction.



9. Metals in water form metal hydroxides and hydrogen gas.



10. An acid and a base will neutralize each other to create water and a salt.



11. Some aqueous ions will react to form a gaseous product

