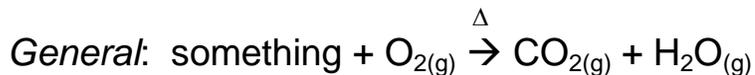
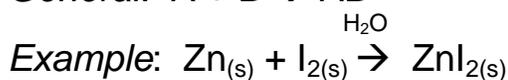


5 Types of Chemical Reaction Notes:

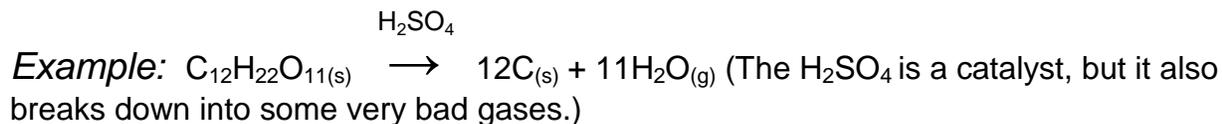
- 1) **Combustion reaction:** Oxygen combines with a hydrocarbon (something that contains carbon and hydrogen, plus maybe other elements) to form carbon dioxide, water, and heat.



- 2) **Synthesis reaction:** Two or more simple molecules combine to make a complicated one:



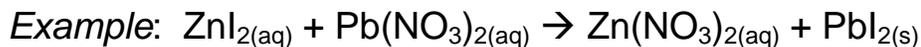
- 3) **Decomposition reaction:** The opposite of a synthesis – when a complex molecule breaks down to make several simpler ones.



- 4) **Single replacement / displacement reaction:** An element switches places with another element in a chemical compound.



- 5) **Double replacement / displacement reaction:** The cations of two ionic compounds switch places.



The following is a handy series of questions that will allow you to determine the type of reaction that is taking place. To use this, keep going until the answer is “yes”, then STOP!

- *Note: It's very important that you start from the beginning, or you might get the wrong answer!*
- 1) Does your equation contain oxygen, carbon dioxide, AND water? If yes, it's a **combustion** reaction.
 - 2) Do simple molecules make complex ones? If yes, it's a **synthesis** reaction.
 - 3) Do complex molecules make simple ones? If yes, it's a **decomposition** reaction.
 - 4) Are any elements present by themselves? If yes, it's a **single replacement** reaction.
 - 5) Do two compounds form two new compounds? If yes, it's a **double replacement** reaction.