Science 1.8 AS 90947 Investigate selected chemical reactions

Justifying your choice of reaction  

Success Criteria: complete each level before moving onto the next

- Basic: label each reaction type
- Proficient: fill in the missing words for each justification of a reaction type
- Advanced: write an example with reactants and products for each reaction

Reaction types to select from are: displacement, precipitation, combination, thermal decomposition

1. Sodium carbonate is heated.

**Reaction type:** Thermal decomposition

**Justification:** these reactions occur when one substance is broken apart with the use of heat energy into two or more smaller substances.

**Example:** sodium carbonate is heated and breaks into sodium oxide and carbon dioxide gas.

2. Magnesium metal is burnt in oxygen.

**Reaction type:** combination

**Justification:** these reactions occur when two reactants combine to form one product.

**Example:** magnesium metal and oxygen are burnt together to form magnesium oxide

3. Silver nitrate solution is added to sodium chloride solution.

**Reaction type:** precipitation

**Justification:** these reactions occur when two solutions react together to form a solid that settles out of the solution. The solid formed is called the precipitate.

**Example:** silver nitrate and sodium chloride combine to form silver chloride and sodium nitrate. The precipitate formed is silver chloride.

4. Zinc metal is placed in a solution of lead nitrate.

**Reaction type:** displacement

**Justification:** these reactions occur when a metal and salt (ionic compound) solution are mixed and the more reactive metal replaces the metal in the salt.

**Example:** when zinc metal is placed in lead nitrate solution then lead metal is formed along with zinc nitrate. Zinc is a more reactive metal than lead.