Science 1.8 AS 90947 Investigate selected chemical reactions

Justifying your choice of reaction Answers

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 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.