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WORKSHEET 20

School: Be Sang am College

Year/level: 10

Subject: Basic Science

NAME: _____

Strand 2	Matter
Sub Strand 2.2	Materials
Content Learning Outcome	Investigate the different types of chemical reactions and discuss the factors that affect the rates of reactions.

Lesson Notes –Types of Reactions

Balancing equations

Chemical equations represent a chemical reaction.

Reactants - substance that are reacting.

Products – substances that are formed

- To balance an equation:
 - Place coefficients in front of the compounds and elements.



Factors affecting Reaction rates

1. Temperature
2. Concentration
3. Catalyst
4. Surface Area

1. Temperature.

If the temperature is increased, the rate of reaction will increase; low temperature, reaction rate will be slow.

If the temperature is increased, the particles have more energy and so move quicker. Increasing the temperature increases the rate of reaction because the particles collide more often and with more energy.

2. Concentration

Increasing concentration increases the rate of reaction. Dilute solution react slowly and concentrated solution react quickly.

If the concentration of reactants is increased, there are more reactant particles moving together. There will be more collisions and so the reaction rate is increased. The higher the concentration of reactants, the faster the rate of a reaction will be

3. Surface Area

Increasing the surface area increases the rate of reaction.

4. Catalysts

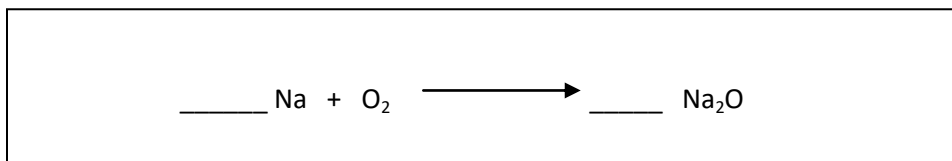
A catalyst speeds up the rate of a reaction but it is not used up in the reaction. If a catalyst is present, the reacting particles collide more successfully with less energy and so the reaction takes place at a lower temperature.

Exercise

1. State four factors that affect the rates of reaction.

(4 marks)

2. Balance the chemical equation given below by writing the correct numbers in the spaces provided.



(2 marks)

TOTAL: ____/6