

Rate of the Reaction

01) Given below are some of reactions around us.

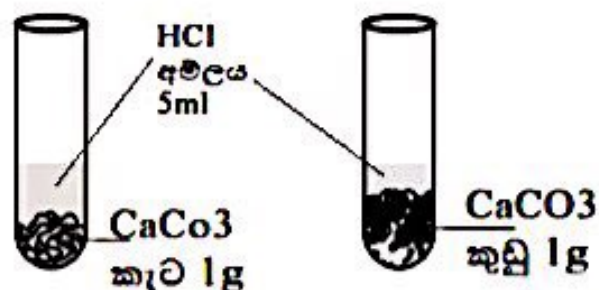
- Ripening of fruits
- Burning a paper
- Dissolving salt in water
- Blast of a cracker
- Rusting of iron nail
- Breaking a rock
- Turning water into ice

i) Select the chemical reactions from the above.

ii) Name 2 fast chemical reactions from the above.

02) What are the 4 factors that affect the rate of the reaction?

03) Following is the apparatus related to a chemical reaction.



i) It was taken 8 minutes to complete the reaction of CaCO_3 crystals and 2 minutes to complete the reaction of CaCO_3 powder. Calculate the rate of the reactions separately.

ii) What is the conclusion of the reaction?

04) Pay your attention to the activity on page number 120 in your textbook.

i) If the time to disappear the purple colour of the KMnO_4 solutions is measured, which KMnO_4 solution will get less time to disappear the purple colour?

ii) What is the reason for the above observation?

16. Changes in Matter

01. Study the page 96 in your text book (science part 2) and write down the observations made when following metal elements are heated in air and the related balanced chemical equations.

Na, Mg, Zn, Fe, Cu, Ag, Pt, Au

02. Answer the following questions that are based on the metals given below.
Na, Mg, Zn, Fe, Cu, Ag, Pt,

1. What are the metals that react with cold water?
2. What are the metals that react with hot water?
3. What are the metals that react with water vapour (steam)?
4. What are the metals that do not react with water under any circumstances?
5. Write balanced chemical equations for the above reactions.

03.

1. What are the metals that react violently with dilute acids?
2. What are the metals that slowly react with dilute acids?
3. Write the balanced chemical equations related to the reactions of those metals with dilute HCl acid.
4. What are the metals that do not react with dilute acids?

04. Study the activity 16.7 on page 98 of the science text book and answer the following questions.

1. What observations did you see while performing the above activity?
2. Identify the chemical reactions that cause the observations you have made and construct balanced chemical equations related to them.

Changes in Matter

1. What is meant by Activity Series?
2. Write five uses of Activity Series.
3. What are the raw materials use in blast furnace to extract iron?
4. Write down the 6 reactions with the word equations which occur in blast furnace.
5. Briefly explain the method of extracting gold.
6. (I) Draw and label the set up to show the preparation of hydrogen gas in the laboratory.
(II) Name the reactants use in above method.
(III) Write down the balanced equation for it.
7. (I) Draw and label the set up to show the preparation of oxygen gas in the laboratory.
(II) Name the reactants use in the above.
(III) Write down the balanced equation of it.
8. (I) Draw and label the set up used to prepare carbon dioxide in the laboratory.
(II) Name reactants used for it.
(III) Write the balanced equation for that.
9. Write down following criteria of the above three gases separately.
 - I) Physical properties.
 - II) Chemical properties.
 - II) Uses.
 - IV) Methods to identify.
10. Make a creative short note including the factors that you have learnt in the lesson "Changes in Matter" up to now.