



CHEMISTRY

BOOKS - NAND LAL PUBLICATION

CARBON AND ITS COMPOUNDS

Activity 4 1

1. Name ten things which you consume daily.



[Watch Video Solution](#)

2. List some items made up of metals.



Watch Video Solution

3. List some items which are compounds.



Watch Video Solution

4. Name some compounds of carbon used in daily life.



Watch Video Solution

Activity 4 2

1. Calculate the difference in the formulae and molecular masses

for (a)

CH_3OH and C_2H_5OH , (b) C_2H_5OH and C_3H_7OH

 [Watch Video Solution](#)

2. Is there any similarity in these three ?

 [View Text Solution](#)

3. Arrange these alcohols in the order increasing carbon atoms to get a family. Can we this family a homologous series ?



[View Text Solution](#)

4. Generate the homologous series for compound containing up to four carbons for the other functional groups given in Table 4.3.



[View Text Solution](#)

5. What is the difference between two successive members of a homologous series ?

 [Watch Video Solution](#)

6. What is the difference between two successive members of a homologous series ?

 [Watch Video Solution](#)

7. Write four members of homologous series functional group -CHO.

 [Watch Video Solution](#)

Activity 4 3

1. Place a metal plate above the flame. Is there deposition on the plate in case of any of the compound.

 [View Text Solution](#)

2. Name the gases produced during combustion an organic compound.

 [Watch Video Solution](#)

3. What is the nature of flame when a saturated hydrocarbon is burnt?

 [Watch Video Solution](#)

4. What is the nature of flame when an unsaturated hydrocarbon is burnt in air?

 [Watch Video Solution](#)

1. Light a bunsen burner. When do you get a yellow, sooty flame?



[View Text Solution](#)

2. When do you get a blue flame?



[View Text Solution](#)

3. What is the function of hole at the bottom bunsen burner?



[View Text Solution](#)

Activity 4 5

1. Does the colour of potassium permanganate when it is added initially ?

 [View Text Solution](#)

2. Why does the colour of potassium permanganate disappear when excess is added ?

 [View Text Solution](#)

3. What happens when ethanol is treated with 5% alkaline solution of $KMnO_4$?

 [Watch Video Solution](#)

4. What is the colour of potassium permanganate solution ?

 [View Text Solution](#)

5. What is the nature of potassium permanganate?

 [View Text Solution](#)

Activity 4 6

1. What do you observe ?



[View Text Solution](#)

2. Action of dilute sulphuric acid on zinc granules.

Name the gas evolved. How will you test the gas?



[Watch Video Solution](#)

3. What is absolute alcohol ?

 [Watch Video Solution](#)

Activity 4 7

1. What is universal indicator?

 [Watch Video Solution](#)

2. What is the pH of acids ?

 [Watch Video Solution](#)

3. What is ph value of neutral solution?



[Watch Video Solution](#)

4. What is the pH of bases ?



[Watch Video Solution](#)

5. What is universal indicator?



[Watch Video Solution](#)

Activity 4 8

1. Which one is stronger acid, HCl or ethanoic acid

?



Watch Video Solution

2. What is glacial acetic acid ?



Watch Video Solution

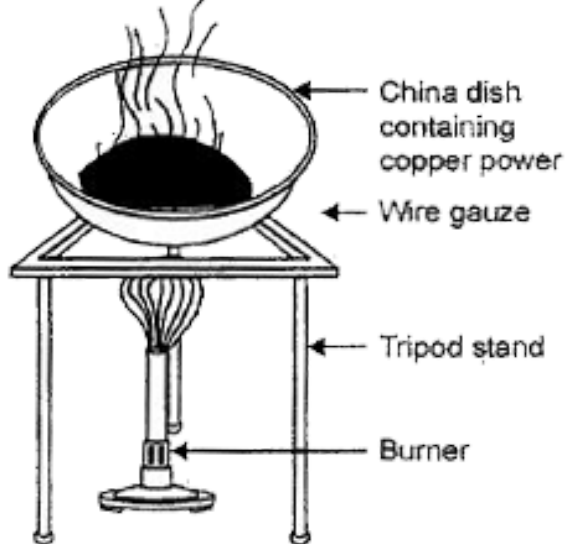
3. Name the reaction which takes place between acetic acid and absolute alcohol.



[Watch Video Solution](#)

Activity 4 9

1. • Heat a china dish containing about 1g copper powder (Fig.).



Oxidation of copper to copper oxide

What do you observe ?

[Watch Video Solution](#)

2. Pass the gas produced through freshly prepared lime-water. What do you observe ?

[View Text Solution](#)

3. Name the gas produced by the reaction between ethanoic acid and sodium carbonate?



[Watch Video Solution](#)

4. Write the formula of sodium carbonate and also state whether its water solution is acidic or base.



[Watch Video Solution](#)

5. What happens when sodium carbonate is treated with ethanoic acid ?

 [Watch Video Solution](#)

6. What happens when carbon dioxide is passed through fresh lime water?

 [Watch Video Solution](#)

7. Write the chemical reaction between sodium hydrogen carbonate and ethanoic acid.



[Watch Video Solution](#)

Activity 4 10

1. Can you see the oil and water layers separately both the test tubes immediately after you stop asking them?



[View Text Solution](#)

2. Leave the test tubes undisturbed for some time observe. Does the oil layer separate out? In which

tube does this happen first?



[View Text Solution](#)

3. Oil is not miscible in water. If means that it is-



[Watch Video Solution](#)

4. Take a test tube. Add a drop of oil in it. Add a piece of soap in it and shake it properly. Whether oil droplets would appear again or disappear?



[View Text Solution](#)

5. What are soaps ? Give its disadvantage.



[Watch Video Solution](#)

Activity 4 11

1. In which test tube do you get more foam ?



[View Text Solution](#)

2. In which test tube do you observe a white curdy precipitate ?



[View Text Solution](#)

3. What is hard water ?



[Watch Video Solution](#)

4. Why does hard water not form lather with soap ?



[Watch Video Solution](#)

5. Name one pure form of water present nature.



[View Text Solution](#)

6. What is scum ?



[Watch Video Solution](#)

Activity 4 12

1. Do both test tubes have the same amount foam ?



[View Text Solution](#)

2. In which test tube is a curdy solid formed



[View Text Solution](#)

3. What are detergents ? Give their scheme of classification. Why are detergents preferred over soaps?



[Watch Video Solution](#)

4. Which one of the soap and synthetic detergent can be used to check the hardness of water ?



[Watch Video Solution](#)

5. Why have detergents replaced soap as a washing agent ?



[Watch Video Solution](#)

6. What are the causes of water pollution ?



[Watch Video Solution](#)

Intext Questions

1. What would be the electron dot structure or carbon dioxide which has the formula CO_2 ?

 [Watch Video Solution](#)

2. What would be the electron-dot structure of a molecule of sulphur which is made up of eight atoms of sulphur? (HINT. The eight atoms of sulphur are joined together in the form of ring.)

 [Watch Video Solution](#)

3. How many structural isomers can you draw for pentane?



[Watch Video Solution](#)

4. What are the two properties of carbon which lead to the huge number of carbon compounds we see around us?



[Watch Video Solution](#)

5. What will be the formula and electron dot structure of cyclopentane?

 [Watch Video Solution](#)

6. Draw the structures for the follow compounds:

2-Pentanone

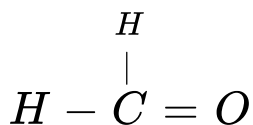
 [Watch Video Solution](#)

7. How would you name the following compounds?



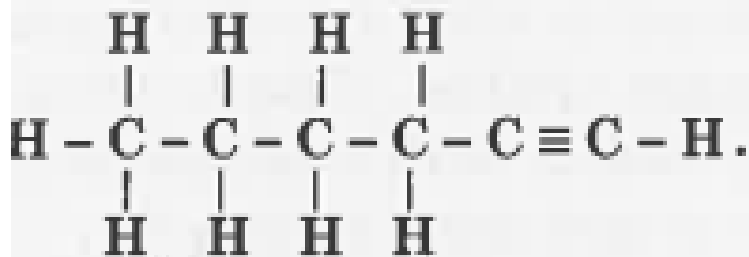
 Watch Video Solution

8. How would you name the following compound ?



 Watch Video Solution

9. How would you name the following compounds?



 Watch Video Solution

 [Watch Video Solution](#)

10. Why is the conversion of ethanol to ethanoic acid an oxidation reaction?

 [Watch Video Solution](#)

11. A mixture of oxygen and ethyne is burnt for welding. can you tell why a mixture of ethyne and air is not used?

 [Watch Video Solution](#)

12. How would you distinguish experimentally between an alcohol and a carboxylic acid?



[Watch Video Solution](#)

13. What are oxidising agents?



[Watch Video Solution](#)

14. Would you be able to check if water is hard using a detergent?



[Watch Video Solution](#)

15. People use variety of methods to wash clothes usually after adding the soap. they beat the clothes on a stone or beat it with a paddle, scrub with a brush or the mixture is agitated in a washing machine. why agitation is necessary to get clean clothes clothes?



Watch Video Solution

Exercises

1. Ethane, with the molecular formula C_2H_6 has:

A. 6 covalent bonds

B. 7 covalent bonds

C. 8 covalent bonds

D. 9 covalent bonds

Answer: B



Watch Video Solution

2. Butanone is a four- carbon compound with the functional group:

A. carboxylic acid

B. aldehyde

C. ketone

D. alcohol

Answer: C



Watch Video Solution

3. While cooking, if the bottom of the vessel is getting blackened on the outside, it means that:

- A. the food is not cooked completely
- B. the fuel is not burning completely
- C. the fuel is wet
- D. the fuel is burning completely.

Answer: B



Watch Video Solution

4. Explain the nature of the covalent bond using the bond formation in $CH_3 Cl$



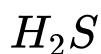
[Watch Video Solution](#)

5. Draw the electron dot structures for: ethanoic acid.



[Watch Video Solution](#)

6. Draw the electron dot structure for :



 [Watch Video Solution](#)

7. Draw the electron dot structures for: propanone

 [Watch Video Solution](#)

8. Draw the electron dot structures for: F_2

 [Watch Video Solution](#)

9. What is an homologous series: explain with an example.

 [Watch Video Solution](#)

10. How can ethanol and ethanoic acid be differentiated on the basis of their physical and chemical properties?

 [Watch Video Solution](#)

11. Why does micelle formation take place when soap is added to water? will a micelle be formed in other solvents such as ethanol also?

 [Watch Video Solution](#)

12. Why are carbon and its compounds used as fuels for most application?



Watch Video Solution

13. Explain the formation of scum when hard water is treated with soap.



Watch Video Solution

14. What change will you observe if you test soap with litmus paper?



[Watch Video Solution](#)

15. What is hydrogenation? what is its industrial application?



[Watch Video Solution](#)

16. Which of the following hydrocarbons undergo addition reactions :

C_2H_6 , C_3H_8 , C_3H_6 , C_2H_2 and CH_4 .



[View Text Solution](#)

17. Give a test that can be used to differentiation between saturated and unsaturated hydrocarbon.

 [View Text Solution](#)

18. Explain the mechanism of the cleansing action of soaps

 [Watch Video Solution](#)

[Additional Questions](#)

1. Name the alcohol which constitutes glyceride.



[View Text Solution](#)

2. Describe the process of making soap in the laboratory.



[View Text Solution](#)

3. How is it that we can use detergents washing clothes even when the water is hard, but soaps ?

What change has been made in the composition of detergents to make them biodegradable ?



View Text Solution