

CHAPTER 25 NOTES
CARBON & ITS COMPOUNDS
P. 804 – 835

Section 25-1

Why is carbon such an important element?

What is an allotrope?

Describe the various allotropes of carbon.

What do the different allotropes of carbon have in common? What are some of their differences?

What characteristics of the carbon atom give it its unique bonding properties?

Why do carbon atoms typically form long chains and why is this important?

Section 25-2

Define organic chemistry.

What is an organic molecule?

What are the exceptions to the definition of an organic molecule? Why are they considered to be exceptions?

What are the characteristics of an organic compound?

What is the difference between natural and synthetic organic compounds?

Section 25-3

What are hydrocarbons?

What are some of the practical uses of hydrocarbons?

What kind of bonds do hydrocarbons have?

What are the important properties of hydrocarbons?

Where are hydrocarbons commonly found?

What allows Hydrogen and Carbon to form a great variety of compounds?

Compare the advantages and disadvantages of structural and condensed structural formulas. Which formula is more useful? Why?

Section 25-4

What is an alkane? Provide some examples and their uses.

Describe how you name alkanes.

What is the maximum number of bonds a carbon atom can form?

Describe a saturated hydrocarbon.

Why would it be impossible to add more hydrogen atoms to an alkane?

Describe a branched alkane.

How would you recognize a branched alkane?

Does branching make an alkane unsaturated?

List the properties of a branched alkane.

Describe how you would name a branched alkane.

Do Practice Problems 1 and 2 p. 819

What are conformations?

What are structural isomers?

Describe a cyclic hydrocarbon.

What are cycloalkanes?

Write the general formula for a cycloalkane.

Are pentane and cyclopentane structural isomers?

Do both pentane and cyclopentane appear to be saturated?

What are unsaturated hydrocarbons?

Name 3 classes of unsaturated hydrocarbons.
Give one molecule as an example for each class.

Why do cyclohexane and benzene have different shapes?

Section 25-5

What are polymers? Provide some examples.

What are the 2 principal methods of making polymers?

Why is it important to recycle plastics?