Name _____ Date _____

Organic Compounds

Section 1 Simple Organic Compounds

Chapter 23 DRW

Skim *Before you read Section 1, skim the headings, illustrations, and captions. Write three questions you have about what may be discussed in this section.*

1. _____
2. _____
3. _____

Review Vocabulary

Define covalent bond.

covalent bond _____

New Vocabulary

Use your book to define the following key terms.

organic compound _____

hydrocarbon _____

saturated hydrocarbon _____

unsaturated hydrocarbon _____

isomer _____

benzene _____

Academic Vocabulary

Use a dictionary to define complex.

complex _____

Name _____ Date _____

Section 1 Simple Organic Compounds (continued)

Main Idea | **Details**

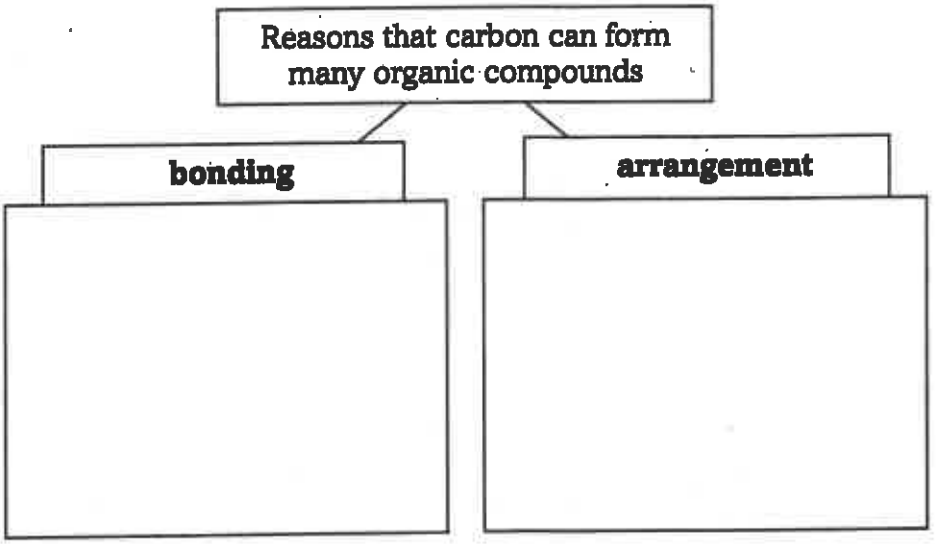
Organic Compounds

I found this information on page _____.

Compare organic *and* inorganic compounds. *Give examples of each type.*

Organic	Inorganic

Complete *the concept map by describing how carbon can form so many organic compounds through bonding and arrangement.*



Hydrocarbons

I found this information on page _____.

Create *Draw the structural formula for one of the* hydrocarbons *in this section. Name the hydrocarbon and explain why it is a hydrocarbon on the lines below.*

Name _____ Date _____

Section 1 Simple Organic Compounds (continued)

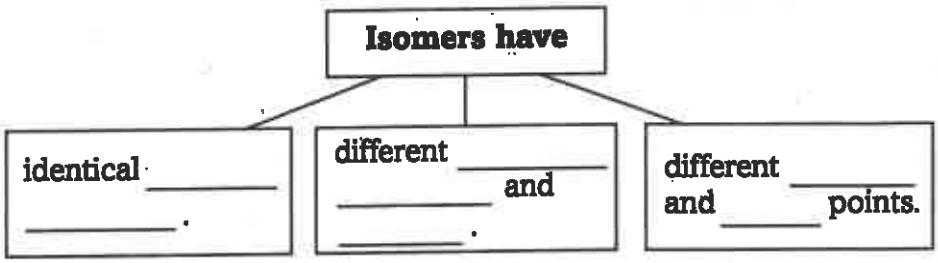
Main Idea

Bonding in Hydrocarbons

I found this information on page _____.

Details

Complete *the graphic organizer about* **isomers.**



Identify ***the type of bonds in each hydrocarbon. Make a sketch of each molecule. Then categorize each hydrocarbon as being saturated or unsaturated.***

Hydrocarbon	Type of Bond	Sketch	Saturated or Unsaturated
Ethene			
Ethyne			
Propane			
Propene			

CREATE IT **Develop a model of a saturated hydrocarbon using toothpicks and colored marshmallows. Draw and describe your model below. Describe how the model shows it is a saturated hydrocarbon.**

Name _____ Date _____

Organic Compounds

Section 2 Substituted Hydrocarbons

Predict *Before you read Section 2, look at the headings in the section. Write two predictions about what you will learn in this section.*

1. _____

2. _____

Review Vocabulary **Define** acid.

acid _____

_____

New Vocabulary *Use your book to define each of the following terms.*

substituted hydrocarbon _____

_____

alcohol _____

_____

ester _____

amine _____

aromatic compound _____

_____

Academic Vocabulary *Use a dictionary to define* framework.

framework _____

_____

Name _____ Date _____

Section 2 Substituted Hydrocarbons (continued)

Main Idea | **Details**

Replacing Hydrogen

I found this information on page _____.

Evaluate ***two ways that chemists can change*** **hydrocarbons** ***into other*** **compounds.**

1. _____
2. _____

_____

Substituting Oxygen Groups

I found this information on page _____.

Compare **alcohols** ***and*** **organic acids** ***using the table below.***

	How are they formed?	Examples
Alcohols		
Organic Acids		
Esters		
Amines		

Substituting Other Elements

I found this information on page _____.

Identify ***five elements other than*** **carbon, hydrogen,** ***and*** **oxygen** ***that can be added to hydrocarbons.***

1. _____
2. _____
3. _____
4. _____
5. _____

Name _____ Date _____

Section 2 Substituted Hydrocarbons (continued)

Main Idea

Aromatic Compounds

I found this information on page _____.

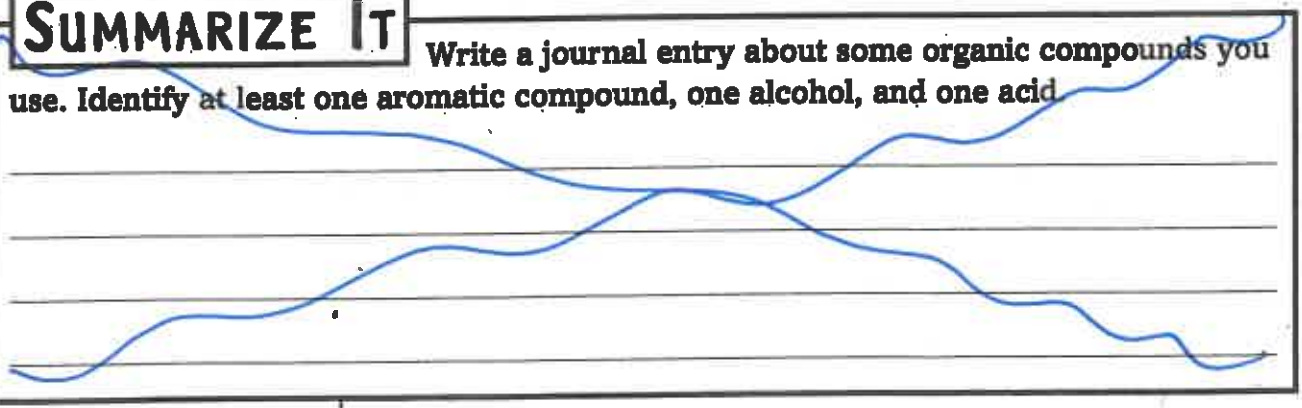
Details

Complete *the table about* **aromatic compounds.**

Definition	Properties
Structure found in all aromatic compounds	**Examples**

Model *the structural formula and symbol for* **benzene.** ***Place a C at each of the six corners of the symbol, then add the single and double bonds between the carbon atoms. Use the figures in your book to help you.***

SUMMARIZE IT **Write a journal entry about some organic compounds you use. Identify at least one aromatic compound, one alcohol, and one acid.**



Name _____ Date _____

Organic Compounds

Section 3 Petroleum—A Source of Organic Compounds

Scan *Use the checklist below to preview Section 3 of your book.*

- Read all section titles.
- Read all bold words.
- Read all charts and graphs.
- Look at all the pictures and read their captions.
- Think about what you already know about petroleum.

Write two facts you discovered about **petroleum** ***as you scanned the section.***

1. _____
2. _____

Review Vocabulary

condense

Define **condense.**

_____

_____

New Vocabulary

Read the definitions below. Then write the key term on the blank in the left column.

_____ a very large molecule made from small molecules that link together

_____ a small molecule that forms a link in the polymer chain

_____ a process that uses heat or chemicals to break long polymer chains into monomer fragments

Academic Vocabulary

link

Use a dictionary to define **link.**

_____

_____

Name _____ Date _____

Section 3 Petroleum—A Source of Organic Compounds (continued)

Main Idea	Details
What is petroleum? *I found this information on page _____.*	**Define** fraction. *Define* distill. *Use a dictionary to help you. Then describe what fractional distillation does to petroleum molecules.*
Processing Crude Oil *I found this information on page _____.*	**Sequence** *the steps in fractional distillation until the first fraction is separated. One step has been completed for you.*

1. _____

↓

2. _____

↓

3. The hydrocarbons start to turn into vapor and the vapors rise up inside the tower.

↓

4. _____

↓

5. _____

Model *a fractionating tower. Use the figure in your book for help. Next to the tower, draw an arrow from the bottom to the top. Along the arrow, show where the higher-boiling fractions condense, the middle-boiling fractions condense, and the lowest-boiling fractions condense.*

Name _____ Date _____

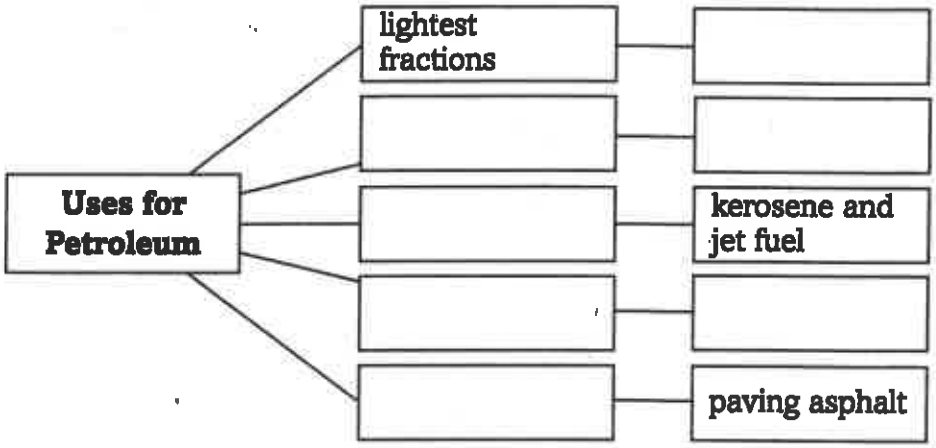
Section 3 Petroleum—A Source of Organic Compounds (continued)

Main Idea | **Details**

Uses for Petroleum Compounds

I found this information on page _____.

Organize *information about the uses of* petroleum compounds. *In the middle column of boxes, describe the fractions. In the right column, tell what each fraction is used to make.*



Polymers

I found this information on page _____.

Model *a polymer if one paper clip is a monomer.*

I found this information on page _____.

Describe *at least one benefit and one challenge associated with depolymerization.*

Benefit	Challenge

CONNECT IT Consider how your life today would be different without petroleum products. Hypothesize what might be used to replace the petroleum products you use.

Name _____ Date _____

Organic Compounds

Section 4 Biological Compounds

Skim *Before you read Section 4, skim the headings, illustrations, and captions. Write three questions you have about what may be discussed in this section.*

1. _____

2. _____

3. _____

Review Vocabulary **Define** base.

base _____

New Vocabulary *Use your book to define the following key terms.*

protein _____

carbohydrate _____

lipid _____

nucleic acid _____

deoxyribonucleic acid (DNA) _____

nucleotide _____

Academic Vocabulary *Use a dictionary to define* identical.

identical _____

Name _____ Date _____

Section 4 Biological Compounds (continued)

Main Idea | **Details**

Biological Polymers

I found this information on page _____.

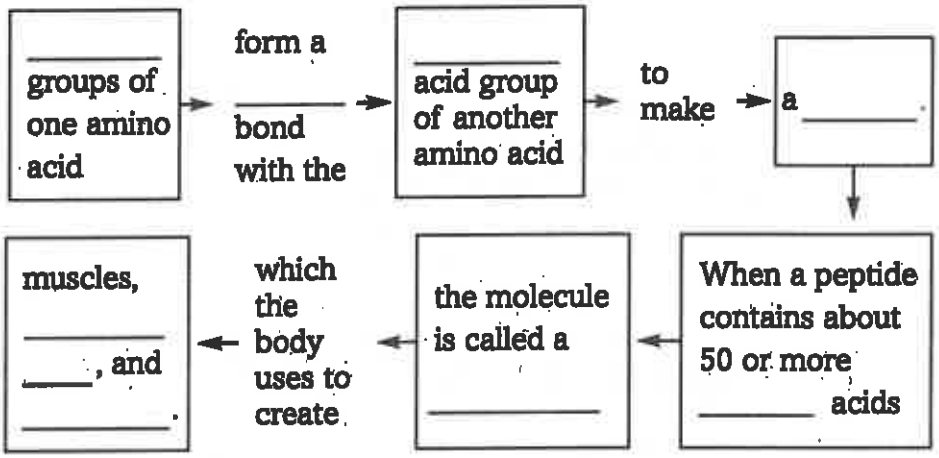
Compare and contrast biological polymers *to other* polymers.

Similarities	Differences

Proteins

I found this information on page _____.

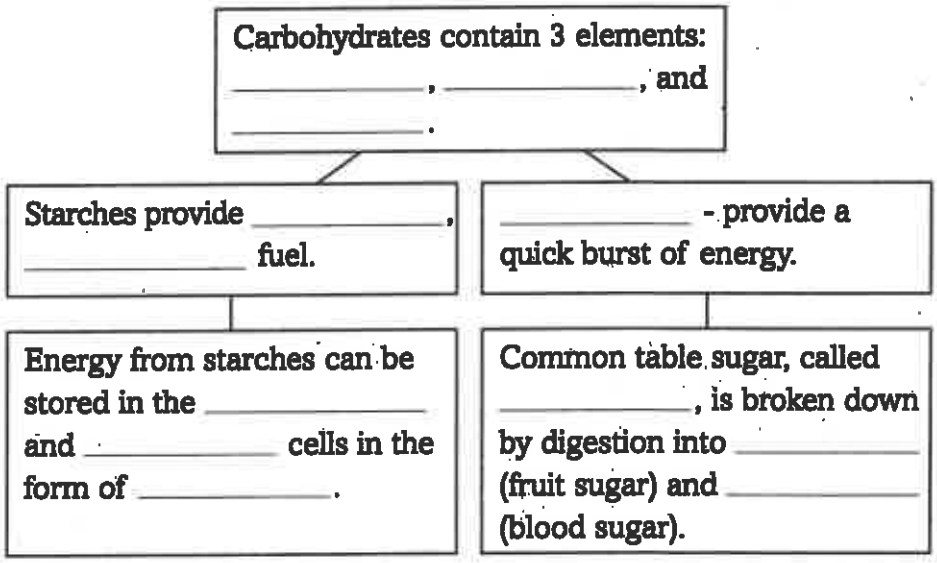
Complete *the graphic organizer about* protein monomers.



Carbohydrates

I found this information on page _____.

Complete *the graphic organizer about carbohydrates.*



Name _____ Date _____

Section 4 Biological Compounds (continued)

Main Idea — **Details**

Nucleic Acids

I found this information on page _____.

Organize *information about DNA using the table below.*

DNA	
Purpose	Structure
Where found	Practical use

Lipids

I found this information on page _____.

Identify *three lipids.*

1. _____ 2. _____ 3. _____

Contrast *saturated, monounsaturated, and polyunsaturated fats and oils.*

Saturated	Monounsaturated	Polyunsaturated

CONNECT IT **Describe ways you could change your diet to consume less cholesterol and saturated fats. Explain what foods you might replace in your diet and why.**