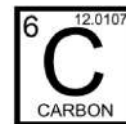


READING GUIDE: Chapter 2.3– Carbon Compounds (pages 45-49)**The Chemistry of Carbon**

1. How many valence electrons does carbon have? _____
2. What types of bonds can carbon form? _____
3. Examine Figure 2-12, how many covalent bonds are there between the two carbon atoms in acetylene?

**Macromolecules**

4. Look in the margin at Build Vocabulary (page 46). What does monomer mean? _____

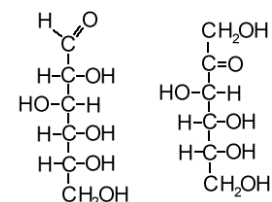
What does polymer mean? _____

5. What are the 4 major groups of macromolecules found in living things?

6. How do living things use carbohydrates?

a. _____

b. _____



Glucose **Fructose**

7. What is another name for simple sugars? _____
8. Name 3 monosaccharides: _____
9. What is the complex polysaccharide that animals store excess sugar called? _____
10. What are the 2 polysaccharides found in plants? _____ & _____
11. Identify the 3 common categories of lipids

12. Compare saturated and unsaturated fats.

For questions 13-15, use the table below.

Effect of Carbon Bonds on Melting Points			
Fatty Acid	Number of Carbons	Number of Double Bonds	Melting Points (°C)
Stearic Acid	18	0	69.6
Oleic Acid	18	1	14
Linoleic Acid	18	2	-5
Linolenic Acid	18	3	-11

13. a. Which of the four fatty acids is saturated? _____
b. Which are unsaturated? _____

14. How does the melting point change as the number of carbon-carbon double bonds increase?

15. If room temperature is 25 C, which fatty acid is a solid at room temperature? _____

Which is liquid at room temperature? _____

16. What elements do nucleic acids contain? _____

17. What is the monomer of nucleic acids called? _____

18. Using Figure 2-16 as a reference, draw a picture of a nucleotide and label the 3 parts that make up the monomer.

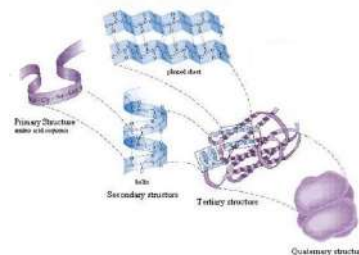


19. What are the functions of nucleic acids?

20. Identify the two types of nucleic acids.

21. What are amino acids? _____

22. Identify the functions of a protein.



23. How do proteins differ from each other? _____

24. Describe the 4 levels of structure in proteins.

Primary: _____

Secondary: _____

Tertiary: _____

Quarternary: _____