

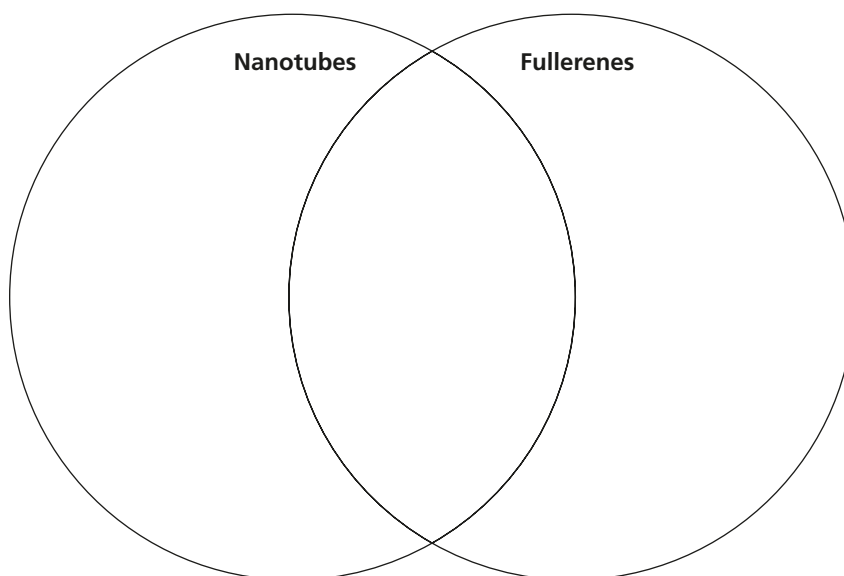
**Carbon Chemistry** ▪ *Reading/Notetaking Guide***Properties of Carbon** (pp. 292–295)

*This section explains why carbon can form a huge variety of different compounds. It also describes the different forms of pure carbon.*

**Use Target Reading Skills**

*Use the Venn diagram to compare and contrast nanotubes and fullerenes. Write the phrases listed below in the correct sections of the diagram. Write the similarities in the center, overlapping section. Write the differences in the outside parts of the circles.*

- Made from carbon atoms
- Arranged in long, hollow tube
- Arranged in hollow sphere
- Nicknamed buckyballs
- Conduct electricity and heat

**Carbon Atoms and Bonding** (p. 293)

1. Circle the letter of the number of valence electrons a carbon atom has available for bonding.  
a. 2                      b. 4                      c. 6                      d. 8
2. The transfer or sharing of valence electrons creates chemical \_\_\_\_\_.
3. Is the following sentence true or false? Carbon atoms form more bonds than most other atoms. \_\_\_\_\_

**Carbon Chemistry** ▪ *Reading/Notetaking Guide*

4. Circle the letter of the number of bonds each carbon atom is able to form.

- a. 2                      b. 4                      c. 6                      d. 8

5. What are three ways carbon atoms can be arranged in molecules?

a. \_\_\_\_\_ b. \_\_\_\_\_

c. \_\_\_\_\_

**Forms of Pure Carbon** (pp. 294–295)

6. Why can the pure element of carbon exist in different forms?

---

---

7. Complete the table about forms of pure carbon.

Forms of Carbon			
Form	Arrangement of Carbon Atoms	Properties	Use
a. Diamond			
b.		Soft, slippery	Pencils, lubricants
c.	Hollow sphere	Enclose an open area	Possibly carry medicines through the body
d.	Long, hollow tube		Conductors in electronic devices

8. Under what conditions do diamonds form?

---

---