

Chapter 1 – Introduction to Chemistry

Chapter 1: 1, 3, 5, 8, 9, 10, 12 - 19, 21, 22, 30, 36 (18 total)

Section Review 1.1

1. Match the numbered terms in the right column with the lettered terms in the left column.

- | | | | |
|-------|-------------------------|--|---------------------------|
| _____ | a. Technology | | 1. Life |
| _____ | b. Organic chemistry | | 2. Matter and its changes |
| _____ | c. Biochemistry | | 3. Carbon |
| _____ | d. Chemistry | | 4. Applications |
| _____ | e. Analytical chemistry | | 5. Composition |

3. Explain the difference between *pure* and *applied* chemistry.

Section Review 1.2

5. Name at least three areas of science in which chemistry plays an important role.

- a.
- b.
- c.

Section Review 1.3

8. Describe the steps involved in the scientific method. Provide an example.

9. Distinguish between a *theory*, a *hypothesis*, and a *scientific law*.

10. Why should a hypothesis be developed *before* experiments take place?

Section Review 1.4

12. Explain why it is important to study chemistry every day.

13. Why is chemistry best studied with a pencil in hand?

14. Explain the value of discussing chemistry with others.

15. Briefly describe what your strategy for studying chemistry will be throughout the upcoming year.

Chapter 1 Review

16. Define *chemistry*. What is *matter*? 1.1

17. Describe the difference between chemistry and chemical technology. 1.1

18. Match each numbered term with a lettered term. 1.1

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|-------|----|----------------------|----|----------------|
| _____ | a. | Physical chemistry | 1. | Composition |
| _____ | b. | Organic chemistry | 2. | Life |
| _____ | c. | Analytical chemistry | 3. | Carbon |
| _____ | d. | Inorganic chemistry | 4. | Behavior |
| _____ | e. | Biochemistry | 5. | Without carbon |

19. Refer to problem 19, in your Chapter Review, then match each numbered photograph with the lettered field of chemistry it best represents. 1.2

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|-------|----|----------------------------|----|
| _____ | a. | Materials science | 1. |
| _____ | b. | Energy | 2. |
| _____ | c. | Medicine and biotechnology | 3. |
| _____ | d. | Agriculture | 4. |
| _____ | e. | Environment | 5. |
| _____ | f. | Astronomy and space | 6. |

21. Why is the ozone layer surrounding Earth important? 1.2

22. Provide at least two benefits of replacing some of the steel in automobiles with plastics. 1.2

- a.
- b.

30. You have a sore throat, so you go to the doctor, who examines you and says she thinks you may have strep throat. She takes a sample to test for strep bacteria. What parts of the scientific method is the doctor applying?

36. Criticize the statement, "Theories are proven by experiments."