

# Module 02 Quiz: Chemistry of Life

Name: \_\_\_\_\_ Date: \_\_\_\_\_

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## Part A: Multiple Choice (7 points)

*Choose the best answer for each question. (1 point each)*

1. An atom with 6 protons, 6 neutrons, and 6 electrons has an atomic number of:
  2. A) 6
  3. B) 12
  4. C) 18
  5. D) 0
6. Which type of bond involves the transfer of electrons from one atom to another?
  7. A) Covalent bond
  8. B) Ionic bond
  9. C) Hydrogen bond
  10. D) Peptide bond
11. Water's unique properties are largely due to:
  12. A) Ionic bonds
  13. B) Hydrogen bonds
  14. C) Nonpolar covalent bonds
  15. D) Double bonds
16. A solution with a pH of 2 is:
  17. A) Strongly basic
  18. B) Neutral

19. C) Strongly acidic
20. D) Slightly basic
21. Which element forms the backbone of organic molecules?
22. A) Oxygen
23. B) Hydrogen
24. C) Nitrogen
25. D) Carbon
26. Water is described as a polar molecule because:
27. A) It contains only hydrogen atoms
28. B) The electrons are shared equally
29. C) It has an unequal distribution of charge
30. D) It dissolves all substances
31. Which property of water helps moderate Earth's climate?
32. A) Low specific heat
33. B) High specific heat
34. C) Low surface tension
35. D) Low boiling point

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## Part B: Free Response (3 points)

*Answer each question in complete sentences.*

1. (1 point) Explain the difference between a covalent bond and an ionic bond.

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1. (1 point) Describe two properties of water and explain how each is important for living organisms.

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1. (1 point) If blood has a normal pH of 7.4, what would happen to body functions if the pH dropped to 6.8? Explain why pH balance is important.

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