

Learning targets for biology chapter-1

When you are answering biology questions, please follow RARE response.

Restate the question

Answer the question with a

Reason and a piece of Evidence

Chapter 1

Please answer on a separate piece of paper. Explain all diagrams and figures. Do not copy the caption or print out figures.

1. What are the smallest units into which water can be subdivided and still have the properties of water?
2. What are elements?
3. Who discovered atoms? What are atoms?
4. 97% of all compounds present in organisms contain which 6 elements? What are the other 3% called?
5. What are subatomic particles? Explain each subatomic particle.
6. Explain and give examples of isotopes. Give names of Isotopes that are used in biological research?
7. Explain the law of conservation of matter.
8. List and describe the 3 different types of bonds and give examples of each bond.
9. Explain hydrogen bonds in detail and draw and explain Figures 1.9 and 1.10 also
10. Explain the pH scale, and how is based on a logarithmic scale. Give examples of how small changes in pH can have severe effects on organisms.
11. Define and give examples of monosaccharide, disaccharides and polysaccharides. Draw figure 1.17 and figure 1.18 b
12. What are the two functions of lipids?
13. Explain the difference between unsaturated fats and saturated fats. Give examples of both.
14. Explain the importance of phospholipids and cholesterol and draw figure 1.20
15. Give some examples of what proteins do and different parts of the body made of proteins
16. Explain the chemical makeup of amino acids and draw figure 1.21
17. How are amino acids connected?
18. List and describe the four different structures of a protein.
19. Why are nucleic acids so important?
20. What are the basic units of nucleic acids?
21. Explain the difference between RNA and DNA, and draw figures 1.24 and 1.25
22. Who discovered the structure of the DNA model? Whose ideas did they use to make their discovery?
23. Explain the structure of DNA and specific pairing of bases.
24. What is DNA Replication?
25. How does DNA store information?