

CLASS 9 SCIENCE

CHAPTER 2 • CELL: THE BUILDING BLOCK OF LIFE

MCQs • Multiple-Choice Practice

1. Which statement best describes a cell?

- A. Smallest unit of matter
- B. Basic structural and functional unit of life
- C. Group of tissues
- D. Non-living structure

2. Which type of cell does not have a well-defined nucleus?

- A. Plant
- B. Animal
- C. Prokaryotic
- D. Eukaryotic

3. In a prokaryotic cell, genetic material is mainly found in the:

- A. Nucleolus
- B. Nucleoid region
- C. Golgi apparatus
- D. Vacuole

4. Which structure surrounds all cells?

- A. Cell wall
- B. Nuclear membrane
- C. Cell membrane
- D. Chloroplast

5. Which organelle contains chromosomes and genetic information in a eukaryotic cell?

- A. Nucleus
- B. Ribosome
- C. Lysosome
- D. Vacuole

6. The functional segments of DNA are called:

- A. Chromosomes
- B. Genes
- C. Ribosomes
- D. Plastids

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7. Which organelle is mainly associated with energy production?

- A. Mitochondria
- B. Golgi apparatus
- C. Vacuole
- D. Cell wall

9. Which organelle helps in packaging and transporting cellular materials?

- A. Golgi apparatus
- B. Nucleus
- C. Ribosome
- D. Cell wall

11. Which plastid contains chlorophyll and carries out photosynthesis?

- A. Leucoplast
- B. Chromoplast
- C. Chloroplast
- D. Ribosome

8. Which organelle is involved in protein synthesis?

- A. Ribosome
- B. Lysosome
- C. Vacuole
- D. Chloroplast

10. Which structure forms a network involved in internal transport and synthesis?

- A. Endoplasmic reticulum
- B. Chloroplast
- C. Vacuole
- D. Nucleoid

12. Which plastids contain pigments responsible for bright colours in flowers and fruits?

- A. Chromoplasts
- B. Leucoplasts
- C. Chloroplasts
- D. Lysosomes

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13. Leucoplasts are mainly associated with:

- A. Colour production
- B. Food storage
- C. Protein digestion
- D. Cell division

15. The fluid inside a plant cell vacuole is called:

- A. Cytosol
- B. Cell sap
- C. Plasma
- D. Stroma

17. Which pair is correctly matched?

- A. Chloroplast—protein synthesis
- B. Mitochondria—energy release
- C. Ribosome—water storage
- D. Vacuole—genetic information

14. A mature plant cell usually has:

- A. Many small vacuoles only
- B. One large central vacuole
- C. No vacuole
- D. Only a nuclear vacuole

16. Which structure provides additional rigidity outside the cell membrane in plant cells?

- A. Cell wall
- B. Nucleoid
- C. Ribosome
- D. Nucleolus

18. Which cells generally have membrane-bound organelles?

- A. Prokaryotic
- B. Eukaryotic
- C. Viruses
- D. Viroids

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19. Which is a major difference between prokaryotic and eukaryotic cells?

- A. Prokaryotes have a membrane-bound nucleus
- B. Eukaryotes lack DNA
- C. Eukaryotes have a well-defined nucleus
- D. Prokaryotes always have chloroplasts

21. Osmosis is best described as movement of:

- A. Solute particles only
- B. Water through a selectively permeable membrane
- C. Proteins through the nucleus
- D. DNA through the cell wall

23. Why may a plant wilt when it does not receive enough water?

- A. Nucleus disappears
- B. Vacuole loses water and cells become less firm
- C. Chloroplasts become chromosomes
- D. Ribosomes stop existing

20. What is the main role of the cell membrane?

- A. Stores chromosomes
- B. Forms the cell's selective boundary
- C. Makes chlorophyll
- D. Produces cell walls

22. Diffusion generally involves movement of particles from:

- A. Lower to higher concentration
- B. Higher to lower concentration
- C. Nucleus to nucleolus only
- D. Cell wall to chloroplast

24. Cell division is the process by which:

- A. New cells are formed from pre-existing cells
- B. Tissues turn into organs
- C. Cells become non-living
- D. DNA is removed

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25. Mitosis generally produces:

- A. Two genetically identical daughter cells
- B. Four genetically different daughter cells
- C. One daughter cell
- D. Four cells with double chromosomes

27. Which statement about mitosis is correct?

- A. Produces cells with half chromosome number
- B. Helps in growth and repair
- C. Occurs only in bacteria
- D. Always produces four cells

29. Which is NOT a membrane-bound organelle?

- A. Mitochondrion
- B. Golgi apparatus
- C. Ribosome
- D. Endoplasmic reticulum

26. Meiosis is important mainly for:

- A. Photosynthesis
- B. Sexual reproduction and genetic diversity
- C. Protein synthesis
- D. Water storage

28. Cancer cells are characterised by:

- A. Controlled division only
- B. Loss of control over cell division
- C. Absence of DNA
- D. Absence of cytoplasm

30. Which sequence correctly represents increasing organisation?

- A. Cell → tissue → organ → organ system
- B. Organ → cell → tissue → organism
- C. Tissue → cell → organ → organ system
- D. Cell → organ → tissue → organism

ANSWER KEY

Chapter 2 • Cell: The Building Block of Life

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	C	3	B	4	C	5	A
6	B	7	A	8	A	9	A	10	A
11	C	12	A	13	B	14	B	15	B
16	A	17	B	18	B	19	C	20	B
21	B	22	B	23	B	24	A	25	A
26	B	27	B	28	B	29	C	30	A

Quick Revision: Cell structure • Plant & animal cells • Prokaryotic & eukaryotic cells • Cell organelles • Plastids • Vacuoles • Diffusion & osmosis • Mitosis & meiosis • Cancer cells