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CLASS 9 SCIENCE - PRACTICE QUESTIONS

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CLASS 9

# Science

## Chapterwise PYQs

10 sections | 29 questions | 2022, 2023, 2025

**Previous school-examination questions**

Selected and rewritten questions are grouped under the current chapters or course topics. Each question shows its examination year. A chapter appears only when a verified question is available.

## Choose a chapter or topic


| | | |
|---|---|---|
| **Exploration** | | |
| Chapter 2 | Cell: The Building Block of Life | 5 |
| Chapter 3 | Tissues in Action | 7 |
| Chapter 4 | Describing Motion Around Us | 5 |
| Chapter 5 | Exploring Mixtures and their Separation | 4 |
| Chapter 6 | How Forces Affect Motion | 2 |
| Chapter 7 | Work, Energy, and Simple Machines | 1 |
| Chapter 8 | Journey Inside the Atom | 1 |
| Chapter 9 | Atomic Foundations of Matter | 1 |
| Chapter 10 | Sound Waves: Characteristics and Applications | 1 |
| Chapter 11 | Reproduction: How Life Continues | 2 |


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CHAPTER 2

## Cell: The Building Block of Life

Exploration

1. 2023
   Define a prokaryotic cell and compare its chromosome number with a typical eukaryotic cell.

2. 2023
   Identify the cell's energy-producing organelle and describe its two membranes.

3. 2023
   Draw a plant cell, identifying the cell-sap compartment, membrane-biogenesis organelle and food-making organelle.

4. 2022
   Draw a prokaryotic cell and label two structures.

5. 2022
   Name two plant-cell organelles, apart from the nucleus, containing their own DNA and ribosomes.

CHAPTER 3

## Tissues in Action

Exploration

6. 2025
   Compare bone and cartilage in function and matrix composition.

7. 2025
   Name two locations of cuboidal epithelium and explain the name skeletal muscle.

8. 2025
   Describe smooth-muscle cells and identify three locations in the human body.

9. 2023
   Compare the two conducting plant tissues by transported material and direction of movement.

10. 2023

Identify the water-resistant material in cork, the tissue helping aquatic plants float and the process of cellular specialisation.

11. 2022

Explain why water hyacinth floats and why voluntary muscles are called skeletal muscles.

12. 2022

Compare apical and lateral meristems by location and function.

CHAPTER 4

## Describing Motion Around Us

Exploration

13. 2025

A satellite completes a circular orbit of radius 42,000 km in 24 hours. Calculate its speed.

14. 2023

Give two differences between average speed and average velocity.

15. 2022

Can an object travel a non-zero distance yet have zero displacement? Explain through an example.

16. 2022

A car covers 360 km in five hours. Calculate its speed in m/s.

17. 2022

A van's velocity rises uniformly from 5 m/s to 25 m/s. Find its average velocity.

CHAPTER 5

## Exploring Mixtures and their Separation

Exploration

**18.** 2023

Give an everyday Tyndall-effect example and distinguish smoke from fog as aerosols.

**19.** 2023

How much sodium carbonate is needed for 160 g of an 8% mass-by-mass solution?

**20.** 2022

Identify the dispersed phase and dispersion medium in smoke and milk.

**21.** 2022

Calculate the mass percentage of a solution containing 40 g salt and 320 g water.

CHAPTER 6

## How Forces Affect Motion

Exploration

**22.** 2025

A 5 kg object accelerates from 3 to 7 m/s in 2 s under constant force. Find the force and velocity after five further seconds.

**23.** 2022

State Newton's second law and show how the first law follows from it.

CHAPTER 7

## Work, Energy, and Simple Machines

Exploration

**24.** 2025

An object is lifted upwards. Explain which force does positive work and which does negative work.

CHAPTER 8

## Journey Inside the Atom

Exploration

**25.** 2025

Bromine has isotopes of masses 79 and 81 with abundances 49.7% and 50.3%. Calculate average atomic mass.

CHAPTER 9

## Atomic Foundations of Matter

Exploration

**26.** 2025

Identify Dalton's postulate corresponding to conservation of mass.

CHAPTER 10

## Sound Waves: Characteristics and Applications

Exploration

**27.** 2025

Calculate the wavelength of a 120 kHz sound wave travelling at 344 m/s.

CHAPTER 11

## Reproduction: How Life Continues

Exploration

**28.** 2025

State three differences between mitosis and meiosis.

**29.** 2023

Define cell division, name its two principal types and state three differences between them.

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