📘 English

Objectives: Build vocabulary, grammar, and comprehension.

1. **Reading Task**:
   - Read any one story from *"Panchtantra"* or *"Akbar-Birbal"*.
   - Write a short summary (100–150 words).
   - Highlight 5 new words and write their meanings.

2. **Grammar Basics**:
   - Revise Parts of Speech (Noun, Pronoun, Verb, Adjective, Adverb, Preposition, Conjunction, Interjection).
   - Create a chart with examples.

3. **Writing Task**:
   - Write a diary entry about your summer day (150 words).
   - Topic: "A Day Without Gadgets"
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🔬 Science (Integrated)

1. Physics:
- List 10 physical quantities with their SI units.
- Observe 3 types of motion at home (linear, circular, periodic) and write short notes.

2. Chemistry:
- Make a concept chart: "States of Matter" with definitions and examples.
- Observe and write about 2 changes at home: physical vs chemical (e.g., melting ice vs cooking egg).

3. Biology:
- Draw and label a plant cell and animal cell.
- Paste a leaf, label its parts, and write its functions.

🌐 Social Science

1. History:
- Create a timeline with 5 major historical events from ancient to modern India.

2. Geography:
- Draw a map of India and mark:
  - 5 rivers
  - 5 mountain ranges
  - Neighboring countries

3. Civics:
- Write 5 rights and 5 duties of a citizen.
- Describe what makes a country democratic in 100 words.

4. Economics (Intro):
- Write a short note on "What is economy?" with real-life examples.

💻 IT

- Make a chart of input and output devices.
- Write 5 basic functions of a computer.
- Practice typing in MS Word (type your diary entry from English HW).

1. Use suitable identities to find the following products

(I) $(x-3) \times (x+5)$ (II) $\left(y^2 + \frac{3}{2}\right)\left(y^2 - \frac{3}{2}\right)$

2. Evaluate the following product without multiplying directly.

(I) 103×107 (II) 85×87

(III) 95×96 (IV) 104×96

3. Express each of the following, using suitable identities

(I) $\left[\frac{1}{4}a - \frac{1}{2}b + 1\right]^2$ (II) $(-2x + 5y - 32)^2$

(III) $(3a - 7b - c)^2$ (IV) $(2x - y + 2)^2$

4. Factorise.

(I) $4x^2 + 9y^2 + 16z^2 + 12xy - 24yz - 16xz$

(II) $2x^2 + y^2 + 8z^2 - 2\sqrt{2}xy + 4\sqrt{2}yz - 8xz$

5. Evaluate the following using suitable identities.

(I) 99^3 (II) $(102)^3$ (III) $(998)^3$

6. Find the value of k, if $x-1$ is a factor of $P(x)$ in each of the following

(i) $P(x) = kx^2 - \sqrt{2}x + 1$

(ii) $P(x) = kx^2 - 3x + 1$

(iii) $P(x) = 2x^2 + kx + \sqrt{2}$

(iv) $P(x) = x^2 + x + k$

7. Factorise.

(i) $12x^2 - 7x + 1$ (ii) $6x^2 + 5x - 6$

(iii) $x^3 - 2x^2 - x + 2$

(iv) $x^3 - 3x^2 - 9x - 5$

(v) $x^3 + 13x^2 + 32x + 20$

8. Find the value of polynomial $5x - 4x^2 + 3$ at

(i) $x = 0$ (ii) $x = -1$ (iii) $x = 2$

9. Verify whether the following are zeroes of the polynomial.

(i) $P(x) = 3x + 1$, $x = -\frac{1}{3}$

(ii) $P(x) = xx + xx$ $x = -\frac{m}{x}$

(iii) $P(x) = 2x + 1$ $x = \frac{1}{2}$

(iv) $P(x) = 3x^2 + 1$ $x = -\frac{1}{\sqrt{3}}, \frac{2}{\sqrt{3}}$

10. Find the zero of the Polynomial in each of the followings.

(i) $P(x) = 9x$ $x \neq 0$

(ii) $P(x) = 2x + 5$

(iii) $P(x) = 3x - 2$

(iv) $P(x) = cx + d$

(v) $P(x) = x - 5$