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Class 10 Science

Summer Vacation Homework (2026-27)

Chapters Covered: (Revise all these chapters for PT-1)

1. Chemical Reactions and Equations
2. Acids, Bases and Salts
3. Life Processes

I. Assignment Skills (Written Work)

Chemical Reactions and Equations:

- Write balanced chemical equations for the following types of reactions with 5 examples each:
 - a) Combination
 - b) Decomposition
 - c) Displacement
 - d) Double displacement
 - e) Redox reaction
- Define oxidation and reduction with examples.

Acids, Bases and Salts:

- Make a comparative chart of acids and bases: taste, pH, litmus test, reaction with metals, etc.
- Explain the preparation and uses of:
 - a) Baking Soda
 - b) Washing Soda
 - c) Bleaching Powder

Life Processes:

- Write short notes on the following processes:
 - a) Nutrition in human beings
 - b) Respiration (aerobic & anaerobic)
 - c) Transportation in humans
 - d) Excretion in plants and animals

II. Creative Work

- Draw and label:
 - Human digestive system
 - Human respiratory system
 - Human Excretory system
 - Heart, Stomata and Nephron
 - pH scale with common substances

- Create a mind map on “Types of Chemical Reactions” with examples.
- Make a science comic strip showing the journey of food through the human body.

Pages must include- Introduction, Diagram page, Key points, Daily life applications, Fun facts/Conclusion.

III. Activity Work (Home-Based Practical Skills)

- Acid-Base Indicator Test: Use natural indicators (turmeric, red cabbage, beetroot) to test substances like lemon juice, soap, curd, baking soda. Record observations and categorize each substance.
- Observe chemical changes at home (e.g., rusting of iron, vinegar + baking soda reaction). Record observations and explain the reaction type.

Make a video of these activities with explanation in uniform and share to me.

IV. Project Work

1. Model/Working Project:

- “Types of Chemical Reactions” – Use cutouts, diagrams, or 3D materials to represent each type.

2. Research Project File (6–8 pages):

Select any one topic -

- Topic: “Role of Acids and Bases in Daily Life”
- Topic: “Importance of Life Processes in Human Survival”
- Topic: “Water: A Medium of Transportation in Plants”

Include definitions, diagrams, real-life examples, and creative presentation.

Project file must include- Cover page (Name, Class, Section and Roll no.)

Index, Introduction, Detailed explanation with diagrams, One real life example / case study, Conclusion

V. Poster Making

Create one colorful poster on A3 size sheet on any ONE topic:

1. “Say No to Junk Food – Yes to Healthy Living”
2. “Prevent Acid Rain – Save Soil and Water”
3. “Life Processes: The Cycle of Survival”
4. “Think Before You React – Chemical Reactions Around Us”

VI. Practical work –

1. A. Finding the pH of the following samples by using pH paper/universal indicator: **Unit-I**
 - a) Dilute Hydrochloric Acid
 - b) Dilute NaOH solution
 - c) Dilute Ethanoic Acid solution

- d) Lemon juice
- e) Water
- f) Dilute Hydrogen Carbonate solution

B. Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with:

- a) Litmus solution (Blue/Red)
- b) Zinc metal
- c) Solid sodium carbonate

2. Performing and observing the following reactions and classifying them into:

- a) Combination reaction
- b) Decomposition reaction
- c) Displacement reaction
- d) Double displacement reaction
 - Action of water on quicklime
 - Action of heat on ferrous sulphate crystals
 - Iron nails kept in copper sulphate solution
 - Reaction between sodium sulphate and barium chloride solutions

3. Preparing a temporary mount of a leaf peel to show stomata.

4. Experimentally show that carbon dioxide is given out during respiration.

Submission Guidelines:

- Use separate copy for assignment of summer vacation.
- Make a practical notebook for practical work and separate file for Project and Creative work.
- Include your name, class, and roll number on every file/poster.
- Be neat, creative, and original in your work.