



Mukand

Mukand Lal Public School

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Holidays Homework

Class - XI (2025-26)





Dear Children

Greetings

Summer vacations are always exciting and overwhelming. Isn't it so? This is the time to take a break from the set routine, explore new interests, hobbies and reconnect with the loved ones.

During vacation you must engage in activities that stimulate your curiosity, broaden your horizons and expand your knowledge. Read books that ignite your creativity. Challenge yourself to learn something new, push your boundaries- whether it's learning a musical instrument, mastering a new sport or developing artistic skills, this is your time to shine and unlock your full potential.

Take care of your health. Go for a walk every day . Do exercise. Help your parents in household chores. Show that you care for them. Spend quality time with your grandparents. Listen to the beautiful stories of their past. Learn games that they used to play.

Above all, have fun! laugh, play, and enjoy the freedom that comes with this vacation.

A very creative and interesting holidays homework has been assigned to each one of you. Use your creativity to complete the projects given. Use eco friendly material. **USE OF THERMOCOL SHEETS OR PLASTIC SHEETS WILL NOT BE ACCEPTED AT ALL.** These projects will be assessed for internal grades and the best ones will be displayed in the annual exhibition.

Enjoy summer break to the fullest and bounce back to school with renewed energy, enthusiasm and a treasure trove of beautiful memories.

Happy Holidaying!!!

Principal



HOLIDAY HOMEWORK

ENGROSSING ENGLISH

❖ ROLL NO. 1-10

UAE's Global Goals Comic Strip

Make a short comic showing UAE as a superhero working to achieve a UN Sustainable Development Goal (e.g., clean energy, quality education).

❖ Roll no. 11-20

UAE in 10 Symbols

Create a poster or slide with 10 symbols (flag, Expo 2020, Burj Khalifa, etc.) and write what each represents in diplomacy or national identity.

❖ Roll no. 21-30

Create a Diplomatic Passport of UAE

Design a "diplomatic passport" with creative pages that explain key international treaties, alliances, and diplomacy tools.

❖ ROLL NO. 31 onwards

Foldable Tent Placard of UAE*

Fold cardboard in a tent shape (inverted "V")

One side: Country name + flag

Back side: Country motto or a quote (e.g., "Unity in Diversity" for India)

NOTE:

- DO WORKSHEETS OF NOTICE WRITING, POSTER, ADVERTISEMENTS AND LETTER TO EDITOR FROM BBC.
- READ AND REVISE VOCABULARY (Already sent in class Groups)

PASSIONATE PHYSICS

TOPIC: FROM ATOMS TO ASTROPHYSICS

Prepare a project report in 1000-1500 words on A4 sheet. Use colourful diagrams, images and cutouts related to the topic.

❖ XI A: Exoplanets and the Search for Life

- Roll no (1-10) : How do scientists detect exoplanets in distant star systems?
- Roll no (11-20) : How do atmospheric compositions of exoplanets compare to Earth's?
- Roll no (21-30) : What are the challenges in studying exoplanet atmospheres?
- Roll no (31-40) : How do gravitational interactions affect the habitability of exoplanets?
- Roll no (41 onwards) : The potential for liquid water on exoplanets: What have we discovered?

❖ XI B: Galaxies and Their Evolution

- Roll no (1-10): How do interactions and mergers between galaxies influence their evolution?
- Roll no (11-20): How do spiral and elliptical galaxies differ in their formation and evolution?
- Roll no (21-30): How does the environment of a galaxy affect its evolution and morphology?
- Roll no (31-40): The impact of cosmic rays and magnetic fields on the evolution of galaxies.
- Roll no (41 onwards): The role of dark energy in the expansion and evolution of galaxies.

❖ XI C: Astronomical Technology and Instrumentation

- Roll no (1-10): How do modern telescopes improve our ability to observe distant galaxies?
- Roll no (11-20): How do radio telescopes contribute to our understanding of cosmic phenomena?
- Roll no (21-30): How do advancements in computing and data analysis impact astronomical research?
- Roll no (31-40): The role of astronomical instrumentation in the search for extraterrestrial life.
- Roll no (41 onwards): The benefits and challenges of using space telescopes like Hubble and James Webb.

CHARISMATIC CHEMISTRY

TOPIC: MYTH-MAGIC MATTER

Prepare a project report in 1000-1500 words on A4 sheets. Use colourful diagrams, images and cutouts related to the topic. (Table of content: Introduction, objective, scope of study, hypothesis, research methodology, data analysis and interpretation, suggestions, bibliography)

❖ XI A:

- **Roll no (1-10):** The Role of ancient magic in development of Chemistry and medicine.
- **Roll no (11-20):** Mythical and magical uses of elements before Scientific Classification.
- **Roll no (21-30):** Astrology to Astronomy (Indigenous Cosmologies).
- **Roll no (31-40):** The role of Chemical phenomena in Magical beliefs.
- **Roll no (41-50):** Magical tricks using elements.

❖ XI B:

- **Roll no (1-10):** Truth behind the Magical tricks.
- **Roll no (11-20):** Creation Myths and the birth of matter.
- **Roll no (21-30):** The Magic of modern technology in popular culture.
- **Roll no (31-40):** BEC (Bose Einstein Condensates) and their applications.
- **Roll no (41 onwards):** Nanomaterials: Manipulating Matter at the Atomic level.

❖ XI C:

- **Roll no (1-10):** Plasma—The fourth state of Matter.
- **Roll no (11-20):** Matter—Antimatter Asymmetry and its implications in Cosmology.
- **Roll no (21-30):** Scientific methods and Magical thinking.
- **Roll no (31-40):** Ethics, Morality and the Myths of Scientist.
- **Roll no (41 onwards):** Identification of the understanding of the States of Matter of water and Air.

BUBBLY BIOLOGY

❖ Roll no. 1 to 5

1. Biomolecules Life without enzymes

Topic “Enzymes Make Life Possible”:

Enzymes: Catalysts of Life – Understanding Their Role in Biological Function and survival.

Write a research paper on vital role of enzymes in life

❖ Roll no.6 to 10

2. Synthetic Biology for Everyday Products

Write a research paper on engineering microorganisms to produce medicines like (insulin), biofuels or biodegradable materials.

❖ Roll no. 11 to 15

3. Advancing Sustainability: A Study of Environment-Friendly Technologies

Write a research paper to explore environment-friendly technologies that contribute to reducing environmental harm and promoting sustainable development. It highlights innovations in energy, transportation, waste management, and construction that minimize ecological footprints.

❖ Roll no. 16 to 20

4. “The Planetary Health Diet: A Sustainable Solution for Human and Environmental Well-being”

Make a power point presentations on Planetary health diet highlighting its dual benefits: promoting human health and mitigating environmental damage

❖ Roll no. 21 to 25

5. Single Crystal X- Ray Crystallography

Write a paper exploring how this technique reveals molecular structures and supports drug discovery.

❖ Roll no. 26 to 30

6. Nanomaterials as Biosensors

Prepare an investigatory project report how nanomaterials improve sensitivity and accuracy in modern bio sensing technologies.

❖ Roll no.31 to 35

7. Protein Engineering for Therapeutics

Make a power point presentations on design and modification of proteins for use in advanced medical treatments.

❖ Roll no. 36 to 38

8. Nucleic Acids in Genetics and Molecular Biology

Write a research paper to analyse the structure, function, and research applications of DNA and RNA, including gene-editing tools.

❖ Roll no. 39 to 40

9. Biomolecules in Personalized Medicine

Write a research paper to analyse how biomolecules guide the development of targeted, individualized therapies.

❖ Roll no. 41 to 42

10. Modified Nucleic Acids and Their Applications

Study the impact of chemical modifications on nucleic acid stability and their role in gene therapy.

❖ **Roll no. 43 to 44**

11.Synthetic Biology and Bioengineering

Write a research paper how engineering principles are used to design new biological systems and functions.

❖ **Roll no. 45**

12 .Bioinformatics and Systems Biology

Write about computational approaches to analysing complex bimolecular data and systems.

AIL Projects

- 1. Leaf Art Collage**
- 2. Representation of Placentation in flowers by Impression painting**
- 3. Create a Plant Kingdom Scrap book**
- 4. 3 D models of the five kingdoms (Clay modelling)**
- 5. Classification Tree Infographic of plants**
- 6. Animal Collage:** Use newspaper cuttings, Fabric or natural materials (leaves, twigs) to create animal collages showing different phyla (e.g., arthropods, molluscs, chordates).
- 7. Kingdom Comic Strip (Visual Narrative)**
Objective: Summarize kingdom characteristics creatively.
- 8. Cell Division Mandala:** Activity: Draw a mandala with symmetrical stages of cell division radiating from the centre.
- 9. Make a 3D model or poster of a “Cell City” where:**
The nucleus = city hall
Mitochondria = power plants
Endoplasmic Reticulum=transport system
- 10. To make transverse section of dicot stem / monocot stem by using coloured beads or other waste materials**
- 11. Topic: Taxonomical Hierarchy: Taxonomy Foldable Activity.**
- 12. Tree of Life Wall Hanging**
(Branches representing the phylums of animal kingdom)

MINDFUL MATHEMATICS

Make projects on the topics given below by using 1000-1500 words .Use colourful diagrams and images related to the topic.

❖ **(Roll no 1- 7) :**

Explain how Pythagoras theorem related to other Mathematics concept like Trigonometry, Navigation and Calculus.

❖ **(Roll no 8-14):**

Analyze the role of Probability in decision making , games , weather forecasting and financial markets.

❖ **(Roll no 15 -21) :**The Fibonacci sequence: a journey through numbers and nature.

❖ **(Roll no 22- 28) :** Explore the concept of Golden ratio and its occurrence in real world.

❖ **(Roll no 29 -35) :**Explore how Trigonometry is used in Navigation system and GPS.

❖ **(Roll no 36-42) :** The Maths behind arrangements and password creation

APPLIED MATHEMATICS

- ❖ Make a project on assessing the individuals under income Tax Act, formula for GST, different Tax heads under GST.(Roll No-1-7)
- ❖ Make a project report on visualizing, analyzing and interpreting percentile and quartile rank scores .(Roll No-8-14)
- ❖ Make a project report on simple and compound interest and how compound interest rates apply on various products.(Roll No-15-21)
- ❖ Make a project report on income Tax. Add income from salary, house property, capital gain, other sources etc. Less deductions like PF,PPF,LIC, Housing Loan, FD etc. (Roll No-22-28)
- ❖ Make a project report on standard deviation and variance, examples of different kind of data to choose and compare different measures of dispersion. (Roll No-29 onwards)

AWESOME ACCOUNTANCY

- ❖ Do Analytical study of all Assets in your family and prepare a record of those.
- ❖ Prepare a report on study of operating and non-operating expenses of proprietary concern with examples and documents.
- ❖ Do visit a nearest Bank and collect banking instruments like cheque, Demand Draft, Pass Book, with drawl and pay in slips etc.

EXCITING ECONOMICS

- ❖ Search out 10 examples of primary data and 10 examples of secondary data.
- ❖ Prepare a questionnaire to know about the monthly income and expenditure of XI class students living in a hostel.
- ❖ Collect information about 25 families, with the help of the following points and prepare the report.
 - a) Number of members in a family.
 - b) Number of females and males.
 - c) Literate and illiterate
 - d) Working and Non working population.
 - e) Source of livelihood.
- ❖ Search about NSSO and write a short note on it.
- ❖ Write five examples for data which is statistics and which is not statistics.
- ❖ Explore at least ten unknown Eco-friendly products manufactured in India and prepare a project file exhibiting the following points:
 - a) Name of the company
 - b) Name of the products
 - c) Material used for manufacturing
 - d) Effects on environment
 - e) Government support and grants
 - f) Capital Invested
 - g) Product line/ and logo, if any
 - h) Financial statements and SWOT (strengths, weakness, opportunities and threats) analysis

BLISSFUL BUSINESS STUDIES

- ❖ Explore at least 10 Eco-friendly Companies in India along with their products capital investment, resources used by them and updated turnover.
- ❖ Explore various schemes announced by Government of India, to promote young Entrepreneurs.
- ❖ Find out various Post Office Saving Schemes.

Projects/ Models

❖ (Roll No. 1 -8)

- Prepare 10 articles from used polythene bags.
- Eco Brick Project(Make eco bricks using non – recyclable plastic and bottles and use them to build benches or structures).

❖ (Roll no 9- 16)

- Prepare 10 eco friendly products from coconut shells.
- Solar Cooker working Model

❖ (Roll no 17- 24)

- Prepare 10 eco friendly products from bamboo sticks.
- Water saving devices (eg. Shower timers, irrigation systems)

❖ (Roll no 25 -32)

- Prepare 10 things from clay (jewellery).
- Prepare model of pollution control devices used in Industries

❖ (Roll no 33 -38)

- Prepare 10 eco friendly products from cardboard.
- Prepare model of manufacturing of cloth by coconut fiber

SASSY PSYCHOLOGY

Section-A

It's based on the NCERT textbook, here's a plan that emphasises experiential learning. This method engages you in activities and reflections that help you understand the psychological concepts through experience. Here's a step-by-step guide:

❖ 1. Understanding Psychology

Chapter: What is Psychology?

- **Activity:** Personal Reflection Journal
- **Task:** Keep a daily journal for a week where you note down your thoughts, emotions, and behaviors.
Reflect on why you might be feeling or behaving in certain ways.
- **Objective:** Understand the scope of psychology and how it applies to everyday life.

****Questions for Reflection**:**

1. How do your feelings influence your behavior?
2. Can you identify any patterns in your thoughts and actions?

❖ 2. Methods of Enquiry in Psychology

Chapter: Methods of Enquiry in Psychology

- **Activity:** Conduct a Simple Survey
- **Task:** Create a short survey on a topic of interest (e.g., study habits, stress levels). Administer it to at least 10 people and analyze the results.
- **Objective:** Learn about survey methods and basic data analysis.

****Questions for Reflection**:**

1. What were the common trends in your data?
2. How reliable do you think your survey is?

Final Submission:

For each activity, compile your observations, reflections, and answers to the questions. Ensure each section includes:

- **Introduction:** Briefly describe the activity and its purpose.
- **Method:** Explain what you did and how you did it.
- **Results:** Summarize your findings.
- **Discussion:** Reflect on what you learned and how it relates to the chapter.

This approach not only helps you understand psychological concepts better but also allows you to apply them to real-life situations, making your learning process engaging and effective.

Prepare any one working models on the science of emotions:

- ❖ **Emotion recognition system** : Develop a facial recognition system that identifies and labels emotions (eg. happy, sad, angry)
- ❖ **James – Lange theory** : Emotions result from physiological responses to stimuli
- ❖ **Plutchik’s Wheel of Emotions** : Eight primary emotions (joy, trust, fear, surprise, sadness, disgust, anger, anticipation)
- ❖ **Schachter – Singer two factor theory** : Emotions arise from cognitive labelling of physiological arousal .
- ❖ **Neurotransmitter simulation** : Develop a simulation that demonstrates the role of neurotransmitters (e.g. dopamine, serotonin) in emotional regulation.
- ❖ **Circumplex model of emotions**
- ❖ **Body sensations associated with emotions**
- ❖ **Levels of emotional intelligence .**

Section- B

Case Profile

❖ Choose one topic from topics given below:

- 1) Learning disorder
- 2) Eating disorder
- 3) ADHD

❖ File should consist of :

- Cover page
- Certificate
- Acknowledgement
- Index
- Introduction
- Study (you can add case study)
- Conclusion
- You can add pictures or draw them

The file should be well made and decorated.

PEPPY POLITICAL SCIENCE

1. Make a file of detailed analysis on “OPERATION SINDOOR” with respect to Indo-Pak relations.
2. Discuss the issues and debate around the topic “Right to property” and “Legislature vs Judiciary”, with special reference to the following cases.
 - (a) Golaknath case
 - (b) Kesavananda Bharti case
3. Learn and revise all the completed chapters.

