



**NEW G.M.T. SEN. SEC. PUBLIC SCHOOL**  
**Haibowal Kalan, Ludhiana**



**Summer Holidays Homework**  
**Class – XI Science**  
**Session - 2024-2025**



## PREFACE

Dear Parents and Students,

Summer vacation is around the corner, bringing with itself a much needed respite from hectic school days. We hope that you will thoroughly enjoy the vacations and make the most of this summer. While it is indeed important that you relax and refresh yourselves, it is also important that you exercise your minds.

Keeping this in mind, we have designed various exciting activities to keep the students engaged and active during the summer vacation. These fun projects/ assignments would enhance learning skills, help understand concepts better, and make for a great crash course aimed at improving academic output.

These activities will not only help you to revise what was taught, but will also enrich your knowledge. These projects will be assessed as Subject Enrichment Activity, Portfolio or Art Integrated activity.

We encourage parents to motivate and support the students to ensure the given work is completed in time, to the best of their ability. Your support and encouragement both have a huge impact on your child's learning ability.

Wishing you a fun filled, safe summer vacation.

### **Summer Tips to be followed**

- “A healthy mind resides in a healthy body”- Pay attention to your health, go for morning and evening walks, drink lots of water, avoid the consumption of junk food, eat healthy and stay healthy.
- Open your mind for reading newspapers, novels, blogs and stories that will help you in increasing your vocabulary.
- Indulge yourself into activities like cooking, singing, dancing, aerobics, cycling, trekking, swimming, art and craft, river rafting and gardening. And share your experience with your family and friends.
- Spend quality time with your grandparents and parents, talk to them regarding their experience of school.

### **General Guidelines for the projects:**

Following essentials are required to be fulfilled for its preparation and submission.

1. The total length of the project will be of 25 to 30 pages.
2. The project should be handwritten.
3. The project should be presented in a neat folder.
4. The project report should be developed in the following sequence
  - Cover page should include the Title of the Project, Student information, School and Year.
  - List of contents.
  - Acknowledgements and preface (acknowledging the institution, the places visited and the persons who have helped).
  - Introduction.
  - Topic with suitable heading.
  - Planning and activities done during the project, if any.
  - Observations and findings of the visit.
  - Conclusions (summarized suggestions or findings, future scope of study).
  - Photographs (if any).
  - Appendix
  - Teacher's observation.

## **English**

**Watch the following movies according to roll numbers and Make a project file writing the movie reviews as according to the movies allotted:**

**Roll no. 1-10** English movie (The social network)

**Roll no. 11-20** English movie (Freedom writers)

**Roll no. 21-30** English movie (Theory of everything)

**Roll no. 30 onwards** English movie (The great debaters)

## **Physics**

### **Section -A**

**List of topics for investigatory projects.**

1. To study and investigate the motion of the pendulum.
2. To study of Pascal's Laws and its application.
3. To study and determine the density of solids.
4. To study the energy conservation in two dimensions.
5. To study the Newton's third law of motion.
6. To study the verification of Archimedes principle.
7. To study the law of conservation of linear momentum and its application.
8. To study the physics project on relation for uniformly accelerated motion.

### **Section –B**

#### **Activity work**

1. Making a neat and clean chart on different Example on projectile motion  
Roll no. (1, 7, 13, 19, 25, 31, 37)

2. Making working model on different type of motion  
 Rectilinear motion  
 Circular motion  
 Rotational motion  
 Oscillatory motion  
 Roll no. (2, 8, 14, 20, 26, 32, 38)
3. Making flow chart on significant figure  
 Roll no (3, 9, 15, 21, 27, 33)
4. Making a neat and clean chart on Vector and it's type  
 Roll no (4, 10, 16, 22, 28, 34)
5. Making a chart on a Indian Satellite  
 Roll no (5, 11, 17, 23, 29, 35)
6. Making a chart on frame of reference and it's type  
 Roll no (6, 12, 18, 24, 30, 36)

## Chemistry

1. Experiments provide insight into cause-and-effect by demonstrating what outcome occurs when a particular factor is manipulated. Prepare a CHEMISTRY INVESTIGATORY PROJECT on the topic assigned according to Roll no .Use A4 size sheets for the project including various newspaper clippings, images, latest discoveries and inventions relevant to the topic. Follow the given headings in the project:
  - a) INTRODUCTORY PAGE
  - b) CERTIFICATE
  - c) ACKNOWLEDGEMENT
  - d) INDEX/CONTENTS
  - e) INTRODUCTION
  - f) AIM
  - g) CHEMICALS REQUIRED
  - h) PROCEDURE/EXPERIMENT(S)
  - i) OBSERVATIONS
  - j) RESULT
  - k) CONCLUSION
  - l) BIBLIOGRAPHY
2. Study the methods of purification of water. (Roll no. 1, 7, 13, 19, 25, 31, 37)
3. Investigation of the foaming capacity of different washing soaps and the effect of addition of sodium carbonate on it. (Roll no.2,8,14,20,26,32,38)
4. Study the acidity of different samples of tea leaves. (Roll no 3,9,15,21,27,33)
5. Determination of the rate of evaporation of different liquids. (Roll no.4,10,16,22,28,34)
6. Study the effect of acids and bases on tensile strength of fibres . (Roll no 5,11,17,23,29,35)
7. Study of acidity of fruits and vegetable juices. Roll no 6,12,18,24,30,36).
8. Complete your practicals as discussed in the class.
9. Prepare chart on following topics
  - (i) Structure of the atom ( Roll no 1 to 7)

- (ii) Concentration terms (Roll no 8 to 14)
- (iii) Periodic table (Roll no 15 to 21)
- (iv) Electronic configuration of elements (1-30) Roll no (22 to 28)
- (v) Mole concept (Roll no 29 to last)

## **Biology**

1. Biology Investigatory Project ( uses the scientific method to study and test an idea about how something works. It involves researching a topic, formulating a working theory (or hypothesis) that can be tested, conducting the experiment, and recording and reporting the results. Prepare a BIOLOGY INVESTIGATORY PROJECT on the topic assigned according to Roll no .Use A4 size sheets for the project including various newspaper clippings, images, latest discoveries and inventions relevant to the topic. Follow the given headings in the project:

- a) INTRODUCTORY PAGE
- b) CERTIFICATE
- c) ACKNOWLEDGEMENT
- d) INDEX/CONTENTS
- e) AIM
- f) INTRODUCTION
- g) CONCLUSION
- h) BIBLIOGRAPHY

### **TOPICS**

- i. Kingdom ,monera.
  - ii. Kingdom Fungi.
  - iii. Kingdom plant (Algae).
  - iv. Kingdom plant(Bryophytes).
  - v. kingdom plant(Pteridophytes).
  - vi. Gymnospermes.
  - vii. Angiosperms.
  - viii. Kingdom animal(chordata).
  - ix. Kingdom animal(arthropoda).
  - x. Kingdom animal(Echinodermata).
  - xi. Morphology of flowering plant.
  - xii. Anatomy of flowering plant.
2. Complete your practicals as discussed in the class.
3. Prepare chart on following topics .
- (i) Structure of the animal cell.
  - (ii) Structure of the plant cell.
  - (iii) Types of chromosomes.
  - (iv) Mitosis.
  - (v) Meiosis.

4. Prepare Model on any one of the following topics
  1. Digestive System.
  2. Human heart.
  3. Human lungs.
5. Human kidney.

## Mathematics

### **Art Integrated Project:**

In chart size of each word 4 to 5 inches

1. Draw a charts for Graphs of  $\text{Sin}x$  and  $\text{Cos}x$  also express the following:(Roll no.2,3,6)
  - a) Increasing and decreasing order
  - b) Period of  $\text{Sin}x$  and  $\text{Cos}x$ .
  - c) Tangents for  $\text{Sin}x$  and  $\text{Cos}x$ .  
(<https://youtu.be/R6JCwzA8xX4?si=36GdodQqfXDqcTOh>)
2. Generate a power set which containing following sets: (Roll no.11,14,16)
  - a)  $N$ =The sets of natural numbers.
  - b)  $Q$ =The set of rational numbers.
  - c) The set of prime numbers.
  - d) The set of integers.  
([https://youtu.be/FOQn8afAvLE?si=PdssjyXec263zF\\_v](https://youtu.be/FOQn8afAvLE?si=PdssjyXec263zF_v))
3. Draw a chart for trigonometric table of the values  $0^\circ$  to  $360^\circ$  for the following functions:(Roll no.17,18,23)
 

a) $\text{Sin}x$	b) $\text{Cos}x$	c) $\text{Tan}x$	d) $\text{Cot}x$
e) $\text{Sec}x$	f) $\text{Cosec}x$		

  
(<https://youtu.be/a8Ra2u-f0S0?si=GhJ3EzbajcGdFWMw>)  
 (<https://youtu.be/8KM2536N1mQ?si=ahxk6ifz5wklcxpR>)
4. Draw a chart for all the laws and properties using for sets.(Roll no.26,29,30)  
(<https://youtu.be/FNkNCuRKmPY?si=W7oTNN-7w-8nYsX1>)
5. Draw a chart for following Identities:(Roll no.31,33,35)
  - a) Reciprocal identities
  - b) Pythagorean identities
  - c) Sum and Difference identities  
(<https://youtu.be/kfoeYTmVuyg?si=4f195f8XhLJsq8vG>)
6. Draw the Venn diagrams for the following:(Roll no.36,37)
 

(i) $A-B$	(ii) $B-A$	(iii) $A \cap B \cap C$
(iv) $(A \cup B) \cap C$	(v) $B \subset A$	

  
(<https://youtube.com/playlist?list=PLWtojMI0l6YW23nfnxaRfhKK9SvBdGkyg&si=MznfgOsPQjSW0Xzu>)

Note: Complete your practical files.

# **Physical Education**

**Project files works:** Make one project for any game of your choice.

- |               |               |              |              |              |
|---------------|---------------|--------------|--------------|--------------|
| 1. Athletics  | 2. Archery    | 3. Badminton | 4. Kho – Kho | 5. Chess     |
| 6. Volleyball | 7. Basketball | 8. Judo      | 9. Taekwondo | 10. Skating. |

## **Unit -1**

You choice any one game and write the game.

- History of the games
- Latest Rules
- Fundamental Skills
- Specification of play field and related sports equipment
- Related sports terminology

## **Unit – 2**

- Importance tournament and venues
- Sports personalities
- Sports Awards
- Proper Sports Gear and its Importance
- Common sports injuries and its prevention
- Specific Exercise of Warm up and Conditioning

## **Music**

**Topic:-**

1. Description of following Raags:- Raag Bihag, Raag Bhim Plasi, Raag Bhairavi, Chhota Khayal Bandish with notation and Tanas .
2. Anyone Bada Khayal and one Dhamar
3. Description of Raag Jaunpuri
4. One devotional song.
5. Description Of following Talas:-  
Teental, Ek Taal, Chautal - Igun, Dugun and Chaugun
6. Model of any one Instrument:-  
Tanpura, Harmonium, Sitar, Tabla, Guitar, Dholak, Damru and Veena