



BLM ACADEMY SR SEC SCHOOL
HOLIDAY HOMEWORK OF CLASS XI (Science)
Session 2026-27



Dear Parents,

As summer unfolds with brighter mornings and longer days, it offers our children a beautiful chance to slow down, explore, and grow beyond the classroom. Vacations are not only about relaxation—they are precious opportunities to strengthen family bonds and create meaningful experiences together.

A few thoughtful suggestions for the summer holidays:

- **Encourage independence:** Let children take small responsibilities at home to build confidence and life skills.
- **Spend quality family time:** Simple activities like cooking together, evening walks, or storytelling create cherished memories.
- **Support healthy habits:** Maintain balanced routines with proper sleep, outdoor play, and nutritious meals.
- **Explore learning beyond books:** Visit parks, museums, libraries, or engage in nature-based activities to spark curiosity.
- **Teach the value of empathy:** Encourage children to help others, share, and practice compassion in daily life.

May this summer bring joy, positivity, learning, and togetherness to every home. Wishing you and your family a safe, refreshing, and memorable vacation.

Warm regards,

Dr. Gayatri Kanwar

Principal

Subject – English

1. Chapter: We're Not Afraid to Die... If We Can All Be Together
Find out 5 survival skills used by the narrator and his family during emergencies in the chapter.
Mention:
 - i. Survival skill
 - ii. Challenge faced
 - iii. Stages of voyage
 - iv. How it helped them survivePrepare a project file with drawings/illustrations and FAQs.
2. Prepare Chapter Mother's Day for Viva.

Subject- Chemistry

1. Scientific investigations involving laboratory testing and collecting information from other sources in any one of the following topics.
 - a) Checking the bacterial contamination in drinking water by testing sulphide ion
 - b) Study of the methods of purification of water
 - c) Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).
 - d) Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it
 - e) Study the acidity of different samples of tea leaves.
 - f) Determination of the rate of evaporation of different liquids
 - g) Study the effect of acids and bases on the tensile strength of fibers.
 - h) Study of acidity of fruit and vegetable juices.

Subject- Biology

1. Scientific Investigations involving laboratory testing and collecting information from other sources.
A few suggested Projects chapters are
 - a) Diversity of Living Organisms
 - b) Structural Organisation in Plants and Animals
 - c) Cell: Structure and Functions
 - d) Plant Physiology
 - e) Human Physiology

Subject- Physics

1. Scientific investigations involving laboratory testing and collecting information from other sources in any one of the following topics.
 - 1) "How Physics Laws Are Born: The Story of Scientific Thinking and Real-World applications"
 - 2) "Science at Home: Observation and Investigation of Everyday Activities"
 - 3) "Understanding Vectors through Observation and Exploration"

Subject- Mathematics

1. The Function Vending Machines (Art & Logic)
Activity: Design creative, colourful vending machines (Graphs of Elementary Functions) on an A4 paper.
Action: Create "input"(Domain) tokens (numbers or shapes) and "output"(Range) products. Define a rule (e.g., $f(x) = 2x + 1$) or a set of ordered pairs) that determines what comes out for every input.
Goal: To understand that one input leads to one unique output, acting as a reliable mapping system and name the type of Function.

Subject- Optional Subjects

Physical Education

“My Family Fitness Tree”

Task: Students create a family tree, showing favorite physical activities of family members, Traditional games played by grandparents and healthy habits at home

Add: Interviews with elders, Old traditional exercise methods, Food habits comparison

Learning outcome: Understanding evolution of fitness culture.

“Two Week Fitness Diary”

Students record: Daily exercise, Water intake, Sleep hours, Mood after exercise, Step count

Add: Emoji-based mood tracker, Mini drawings, Reflection page

Learning: Practical understanding of healthy lifestyle.

Applied Mathematics

The Function Vending Machines (Art & Logic)

Activity: Design creative, colourful vending machines (Graphs of Elementary Functions) on an A4 paper.

Action: Create "input"(Domain) tokens (numbers or shapes) and "output"(Range) products. Define a rule (e.g., $f(x) = 2x + 1$) or a set of ordered pairs) that determines what comes out for every input.

Goal: To understand that one input leads to one unique output, acting as a reliable mapping system and name the type of Function.

Computer Science

Prepare a detailed and creative project on “**Cyber Security**” highlighting its importance in today’s digital world. The project should include the meaning of cyber security, types of cyber threats, role of firewall, cybercrimes and their effects, preventive measures, and safe internet practices.

Instructions:

- The project should be handwritten.
- Minimum length: 10 A4 sheets.
- Include a cover page, index, relevant pictures/diagrams, and conclusion.
- Students are encouraged to make the project neat, informative, and creative using charts, illustrations, slogans, and real-life examples.
- Proper presentation and originality will be appreciated.

Practical & Viva Chapters: Chapter 5: Getting Started with Python

Chapter 6: Python Fundamentals, Chapter 7: Data handling.

Artificial Intelligence

Study Unit 4: Introduction to Capstone Project. Create an informative and visually appealing Mind Map / Spray Diagram showcasing the key concepts (cover whole chapter). Find one real life problem and draw empathy-map. Consider the following instructions: -

- (i) Use A3 sheet/chart paper (half) for making Mind-Map
- (ii) Use A4 sheet to create Empathy-Map

Psychology

Activity: Observe Learning in Real Life

Choose any one: (i) A child learning cycling (ii) A pet learning commands (iii) Your own study habits

Identify: (i) Trial and error learning (ii) Reinforcement (iii) Practice effects (iv) Motivation

Creative Task: Make a flowchart of: (i) Classical Conditioning (ii) Operant Conditioning (iii)

Observational Learning

OR

Motivation and Emotion

Activity: Understanding Emotions and Motivation

Part A: Emotion Diary Maintain a 5-day emotion diary.

Day	Situation	Emotion Felt	Intensity(1to10)	How you managed it?

Part B: Motivation Survey Ask 10 students: “What motivates you to study?”

Categorize Responses: (i) Intrinsic Motivation (ii) Extrinsic Motivation

Conclusion: Explain which type of motivation is stronger and why?

Music. Vocal & Instrumental

- (i) Discuss the importance of Natyashastra in music and describe the chapters related to music in it.
- (ii) Prepare Raga Bihag for Presentation.

Painting

Prepare a Project / Practical File using the topic “Art of Ajanta”.

Yoga

Prepare a Project/Practical File using one of the following topics.

1. Origin of yoga, history of yoga, importance of yoga
2. Meaning & Importance of Yoga Elements of Yoga Introduction – Asanas, Pranayam, Meditation & Yogic Kriyas
3. Introduction to Geeta/Hath Pradipika /Yog sutra/Gherand Samhita
4. Surya namaskar • Write importance of surya namaskar, Explain 12 steps with pictures
5. Basic types of Asanas. 1. Standing Asanas 2. Sitting Asanas 3. Meditative Asanas 4. Supine line Asanas 5. Prone line Asanas 6. Balancing Asanas 7. Relaxative Asanas Explain any two asana for each. (Technique, benefits, contraindication) with pictures.

Hindi

1. 'उत्तराखंड आंदोलन के सांस्कृतिक स्वर': उत्तराखंड के इतिहास और समाज पर लेखन करने वाले इन लेखकों पर चित्र , प्रमुख रचनाएँ , पुरस्कार , लेखन शैली और साहित्यिक योगदान जोड़कर सुंदर प्रोजेक्ट तैयार कीजिए । (किन्हीं दो कवि)
हिन्दी के समकालीन कवि एवं लेखक लीलाधर जगूड़ी आधुनिक हिंदी कविता के प्रमुख हस्ताक्षर साहित्य अकादमी पुरस्कार से सम्मानित, मंगलेश डबराल सरल भाषा और गहरे सामाजिक सरोकारों के लिए प्रसिद्ध, वीरेन डंगवाल जनवादी चेतना और आधुनिक संवेदनाओं के कवि, गिरीश तिवारी (गिर्दा) इस कार्य हेतु रचनात्मक अभिव्यक्ति, क्राफ्ट तथा चित्रों का उपयोग भी करें।
2. पत्रकारिता के विभिन्न पहलुओं का वर्णन रचनात्मक अभिव्यक्ति, क्राफ्ट तथा चित्रों का उपयोग करते हुए करें. एक फाइल तैयार करें। समस्त कार्य ए 4-शीट में साफ एवं सुंदर तरीके से करें।

Note: All the project report/video will be developed in the following sequence:

- (i) The cover page/slide should include the title, student information, school, and year.
- (ii) List of contents.
- (iii) Acknowledgments and preface (acknowledging the institution, the newspapers read, T.V. channels viewed, the places visited, and the persons who have helped).
- (iv) Introduction.
- (v) Topic with a suitable heading.
- (vi) Planning and activities done during the project, if any.
- (vii) Observations and findings while conducting the project.
- (viii) Conclusions (summarized suggestions or findings, the future scope of study).

Assessment: The above project will be assessed through:

- (i) Project File Submission.
 - (ii) Presentation
 - (iii) Viva Voice/Practical
- Students are advised to prepare thoroughly for the presentation and viva.

Social Emotional Learning (SEL)

Dear Students,

This holiday, we invite you to look inward, reach outward, and grow. These tasks are not just writing exercises, these are real experiences to live, reflect on, and share. There are no wrong answers. Be honest, be curious, and enjoy the process. Happy Holidays!

Think of a time when YOU felt sad, left out, or worried. What did someone say or do that helped you feel better? Now use that memory to help a friend!

Before you write, DO this task with your family during the holiday. Then write about what happened!

Most of us hear — but few of us truly listen. This holiday, do a Listening Experiment and then write about it.

CLASS 11 | Social-Media and Mental Well-being

Before writing, spend 3 days doing a Social Media Audit. Then write your reflections based on real data — your own.

3-Day Audit — Track Each Day:

- How much time did you spend online? Which apps?
- How did you feel BEFORE and AFTER each session?
- Did you scroll, post, create, or chat?
- Did anything make you anxious, jealous, inspired, or happy?

Now Reflect and Write:

1. What patterns did you notice? Were there any surprises?
2. How does your real-life self-compare to your online self?
How do you feel about that gap?
3. Design your own Digital Wellbeing Rules — honest, realistic, specific to YOUR habits. (Not generic advice from a poster.)
4. Share your rules with one trusted person. What did they say?

Family / Holiday Connection: *Optional: Research 'dopamine and social media.' Add a paragraph connecting the science to your own audit findings.*