

BHAI PARMANAND VIDYA MANDIR

HOLIDAY HOMEWORK

CLASS V

THEME-TECHNOLOGY AND SUSTAINABILITY IMPROVING OUR LIVES



Dear Children,

This holiday, let's take a closer look at how *technology* and *sustainability* are working together to make our world a better place. From solar panels that use sunlight to power homes, to smart inventions that reduce waste and pollution, technology is helping us care for our planet while making life easier and more fun.

Through this theme, you'll explore exciting ways in which science and creativity are shaping a greener, smarter future. Get ready to think, create, and discover how you too can be a part of this change!

Happy learning and enjoy your holidays!

TIPS FOR CHILDREN

- ❖ God gives us 24 hours in a day, let us take out a few minutes for Him and thank Him for the happy moments. Also ask Him to give us strength to cope up with our difficulties.
- ❖ Don't be lazy and become a couch potato! Do exercise and be fit and healthy. Revise all the concepts done in the class.
- ❖ Reading is fun and it helps us develop our vocabulary. Make it a habit to read story books.

TIPS FOR PARENTS

- ❖ Give your child saplings and ask them to plant them and water them and see them grow. Encourage them by saying that they will be presented with gifts for their good deeds.
- ❖ Make them sit by you and ask them what their needs are and satisfy some of the useful ones and explain to them which ones are essential and which ones are not. Give them a feeling that you are there for them.

HOLIDAY HOMEWORK

ENGLISH

Task 1. Pick your favorite story by any one of the following writers–

Explore authors like Ruskin Bond, Louis Sachar, Sudha Murthy, Jacqueline Wilson, R.J. Palacio, Rick Riordan, Subhadra Sen Gupta, Kate DiCamillo, Jeff Kinney.

Follow the Story Mountain to write your own version on an A-4 size sheet. Use the steps given below to plan your story. Also, write about the character you personally relate to and why. How would you reshape the story if you could change the ending?

- ❖ Opening – Introduce the setting and characters.
- ❖ Build-up – Describe a problem or challenge the character faces.
- ❖ Climax – The most exciting part where the problem reaches its peak.
- ❖ Falling Action – The problem begins to get solved.
- ❖ Ending – The story concludes, often with a lesson learned.

Task 2. Vocabulary Enrichment Flashcards – “Treasure Hunt of Words”

Collect 25 new words (20 vocabulary + 5 metaphors) from real life or by reading. Each word should have at least 6 letters.

Additionally, students must paste a cutout on an A4 size sheet from the source where the word is taken from and highlight the chosen word clearly. Attach this sheet with the flashcard being at front.

Write each word in the given format-

Instructions:

- ❖ Make flashcards on plain sheets (Size: 15 × 10 cm).
- ❖ Get them laminated.

❖ Each flashcard should include:

- The word
- Meaning, synonym, and part of speech
- Use it in a sentence
- One symbolic drawing

Sources to explore: Newspapers, magazines, novels, storybooks, or any resource you enjoy during your vocabulary treasure hunt!

Examples of Metaphors:

- ❖ The world's a stage – Life is like a play, and we all have roles to act.
- ❖ He has a heart of stone – He is very cold and unkind.
- ❖ She is the shining star of the class – She stands out in class.
- ❖ Time is a thief – Time passes quickly and steals moments.
- ❖ My brother is a walking dictionary – He knows a lot of words and facts.

The students must use metaphors (other than the ones mentioned above) to make flashcards.

Task 3. Paragraph writing:

Write two paragraphs. (250-300 words)- One from each category below. (Usage of five idioms, three quotations and advanced vocabulary is mandatory.)

A. My Visit to a School on the Moon

OR

My Dream Invention to Clean the World

B. Creating a Balance Between Sustainability and Progress

OR


Plastic from a Wonder to a Blunder

C. Your Inspiration to Work towards a Greener Tomorrow

Instruction-The work must be done on A4 size sheets, compiled in a separate folder and presented in a neat and organized manner.

SCIENCE

Title: Innovative Sustainable Technologies Around the World

 **Task 1-Research one sustainable innovation in India and one from a different country. Compare their goals, materials used, and impact on the environment. Also, present a working model or prototype of one of them.**

Instructions for Students:

❖ Choose and Research:

❖ From India: Choose a sustainable innovation (e.g., solar-powered cold storage, waste-to-bricks technology, water ATM's, solar-powered solutions for agriculture and homes, eco-friendly cutlery and materials, and initiatives focused on renewable energy and waste management).

❖ From Abroad: Choose an innovation from another country (e.g., The Ocean Cleanup from the Netherlands, vertical farming in Singapore, or solar roads in France, renewable energy solutions like floating solar power plants, biomimicry-inspired fog catchers, and sustainable building practices, such as green buildings and solar-powered self-compacting bins).

❖ Compare These Innovations Based on:

- What is the technology and how does it work?
- Which problem does it address?
- Where is it implemented?
- How effective is it?
- What are the challenges in implementing this technology across the world?
- How does it help the environment?
- How can it be adapted or improved further?

❖ Create and Present a Model or Prototype:

- Choose **one** of the two innovations.
- Create a **working or non-working model** using eco-friendly/recyclable materials.
- Label the parts and be ready to explain its working.

❖ Submission Must Include:

- A **comparison chart or table** of both innovations.
- Answers to the questions asked above on A-4 size sheets.

- **Model or the prototype** of your model in action.

🔍 Task 2: Make a working /non-working model on the topic allotted to you as per your roll number. Be ready to explain the functioning and mechanism of your model after the vacations.

- ❖ Periscope (Roll Number 1-4)
- ❖ Model showing Acid rain (Roll number 5-8)
- ❖ Human Excretory system (Roll Number 9-12)
- ❖ Human Skeletal system (Roll Number 13-16)
- ❖ Working model of lungs (Roll Number 17-20)
- ❖ Volcano Model (Roll Number 21-24)
- ❖ Hydroelectric dam (Roll Number 25-28)
- ❖ Soil Formation (Weathering) (Roll Number 29-32)
- ❖ Human eye structure (Roll Number 33-36)
- ❖ Structure of human brain (Roll Number 37-40)

SOCIAL STUDIES

THEME: - TECHNOLOGY AND SUSTAINABILITY IMPROVING OUR LIVES



INSTRUCTIONS:

- ❖ The project should be made using 10 to 15 A-4 sized ruled sheets only.
- ❖ All the sheets should be properly attached in a punch file along with name, roll number and class.
- ❖ Add pictures, drawings, maps and infographics to make your project visually attractive

TASK 1-PROJECT (RESEARCH) WORK

Description: - Make a Project on the topic: -

Refer to the following list in order to find the sub-topic assigned to you based on your roll number:

1. Sub-topic according to Roll no: -

ROLL NUMBERS	SUB-TOPICS	COUNTRIES
a) Roll no: 1 to 5	Sustainable Water Conservation Technologies	India Vs Israel
b) Roll no: 6 to 10	Waste Management and Recycling	India Vs Japan
c) Roll no: 11 to 15	Renewable Energy Resources	India Vs Germany
d) Roll no: 16 to 20	Sustainable Healthcare	India Vs Sweden
e) Roll no: 21 to 25	Smart Cities and Green Buildings	India Vs Singapore

f) Roll no: 26 to 30	Clean Transport (Electric vehicles, Public Transport)	India Vs Netherlands
g) Roll no: 31 to 35	Technology in Education and E-learning	India Vs Finland
h) Roll no: 36 to 40	Sustainable Agriculture Techniques	India Vs Canada

According to the sub-topic and country allotted to you, research on the following parameters and prepare a project:

- ❖ Impact of climate and relief features (mountains, rivers, deserts, coastal areas) on technological development of the country.
- ❖ Mark key cities, landmarks, or project-related locations on map (e.g., solar farms, green buildings, recycling plants) which help in sustainable development of the country.
- ❖ Government initiatives to promote sustainable development in both the countries.
- ❖ Barriers faced by both the countries in adopting sustainable practices (cost, awareness, infrastructure, etc).
- ❖ Compare the sustainable practices that are followed in modern times with that of ancient times.

Also state the reasons for this change or shift in the practices being used.

TASK 2-Revise the chapters done in the class so far.

- ❖ **Chapter 1: Mapping the Earth**
- ❖ **Chapter 2: Latitudes and Longitudes**
- ❖ **Chapter 14: Governing Ourselves**
- ❖ **Chapter 10: The Revolt of 1857**

हिंदी

विषय संवर्धन गतिविधि

विषय : प्रौद्योगिकी और स्थिरता: हमारे जीवन में सुधार



प्रौद्योगिकी और स्थिरता का संगम हमारे जीवन में सकारात्मक परिवर्तन ला रहा है। ऊर्जा उत्पादन, फैशन, उद्योग, औद्योगिक प्रक्रियाएँ और स्मार्ट सिटी जैसे क्षेत्रों में नवाचार के माध्यम से हम पर्यावरण में होने वालों दुष्प्रभावों को कम कर रहे हैं और एक स्थायी भविष्य की ओर अग्रसर हो रहे हैं।

उप विषय 1 : अनुच्छेद लेखन

कार्य-1 सौर ऊर्जा के विषय में जानकारी एकत्रित करके निम्नलिखित प्रश्नों के उत्तर लिखिए-

- (क) सौर ऊर्जा का क्या अर्थ है?
- (ख) सौर ऊर्जा का प्रयोग कहाँ-कहाँ किया जाता है?
- (ग) सौर ऊर्जा कहाँ से प्राप्त होती है?
- (घ) सौर ऊर्जा से होने वाले कोई चार लाभ लिखिए।

कार्य-2 उपर्युक्त प्रश्नोत्तर के आधार पर 'सौर ऊर्जा : भविष्य की आवश्यकता' विषय पर 120 से 150 शब्दों में एक अनुच्छेद लिखिए व विषय से संबंधित चित्र भी चिपकाइए।

उप विषय 2 : पंचतंत्र की कहानियाँ

उपर्युक्त लिंक में दी गई कहानियों को ध्यानपूर्वक पढ़िए व अपनी पसंदीदा कहानी का सार व शिक्षा 80-100 शब्दों में लिखिए।

उप विषय 3 : चित्र वर्णन

दिए गए चित्र का वर्णन 70-80 शब्दों में कीजिए।



- ❖ उपर्युक्त ग्रीष्मावकाश व्याकरण की उत्तर पुस्तिका में पूर्ण कीजिए।
- ❖ पठन कौशल के विकास व शब्द-भंडार में वृद्धि हेतु प्रतिदिन हिंदी समाचार पत्र व पुस्तकें पढ़ें।
- ❖ साहित्य व व्याकरण के कक्षा कार्य को कंठस्थ करें।

MATHEMATICS

Instructions:

- ❖ Choose any ONE task.
- ❖ Use your own researched data in all calculations.
- ❖ Present your work neatly on A4 pastel sheets
- ❖ Apply concepts, show working, and give reasoning wherever needed.

Task 1: Should We Switch to Solar Power?

Part A – Research Work

Research and record the following:

- ❖ Average monthly electricity usage of a small house (in units or kWh).
- ❖ Cost per unit of electricity in your area.
- ❖ Cost of installing a solar panel system suitable for that house.
- ❖ Average solar electricity generation per month for the chosen system.
- ❖ Lifespan and yearly maintenance cost of the system.

Part B – Application and Problem Solving

- ❖ Use your research to calculate the total electricity cost for one year without solar panels.
- ❖ Calculate how much electricity the solar system will generate each month and how much of the house's needs it can cover.
- ❖ Find out how much the family will save each month and year if they install solar panels.
- ❖ Compare the total cost of using solar panels versus using grid electricity for 5 years.
- ❖ Decide which option is more economical and sustainable and explain why?

Modhera's Solar Panel Project

In Modhera (a completely solar powered village in India) each house has a rectangular solar panel installed on its roof. The dimensions of each panel are 2 meters in length and 1.5 meters in width.

Your Tasks:

- ❖ Determine how much space each solar panel covers on the roof.
- ❖ Find out how much material is needed to frame each solar panel.
- ❖ If there are 1,300 houses in Modhera, what is the total area covered by all the solar panels combined?

Part C – HOTS (Higher Order Thinking Skills)

- ❖ Create a **double bar graph** to compare yearly electricity expenses with and without solar panels.
- ❖ If electricity prices increase by $\frac{1}{10}$ th every year, how will this affect your 5-year cost without solar?

Task 2: Which Bulb Is Best?

Part A – Research Work

Research and create a comparison table for Incandescent, CFL, and LED bulbs. Include:

- ❖ Wattage
- ❖ Lifespan (in hours)
- ❖ Cost per bulb
- ❖ Electricity cost per unit (kWh) in your area

Part B – Application and Problem Solving

- ❖ Calculate how much electricity each type of bulb uses in one year (assuming 6 hours of use per day).
- ❖ Calculate the annual electricity cost for each bulb using your researched unit rate.
- ❖ Calculate how many bulbs will be needed over 5 years based on lifespan, and the total cost of replacements.
- ❖ Identify which bulb is most cost-efficient over 5 years.
- ❖ Your house front is a rectangular wall of 1200 cm long and 400 cm high.
 - Find the area and perimeter of the front wall.
 - Lighting rule for Diwali decoration:
 - LED: 1 bulb per 2 m^2
 - CFL: 1 bulb per 1.5 m^2

- Incandescent: 1 bulb per 1 m²

- ❖ How many bulbs of each type will be required to decorate the front wall?
- ❖ Use the number of bulbs and their 10-day electricity cost (from Part B) to find the total lighting cost for the front wall with:
 - LED bulbs
 - CFL bulbs
 - Incandescent bulbs

Part C – HOTS (Higher Order Thinking Skills)

Make a **double bar graph** comparing the 5-year total cost of all three bulbs.

If your school replaces 200 bulbs with LEDs, calculate the money saved in 5 years compared to using CFLs.

Thinking Classroom

Ch- 3 Multiplication and Division (Think Sheet 1 to 5)

Kindly open the link for Mathematics Worksheet

https://docs.google.com/document/d/1Ub0xUCxuuxiyBJgHZUqOEn02_41vx1CKyoNV2lnPog/edit?usp=sharing

HOLIDAY HOMEWORK SUBMISSION DATE - 26.06.25