आचार्यकुलम्
वैदिक समन्वित बी.एस.बी. आवासीय शिक्षण संस्थानम्
शिक्षा संस्कारः
अभ्युदयः निःश्रेयसः
Acharyakulam
A Vaidic Integrated BSB affiliated Residential(Co-ed) Educational Institute

SUMMER HOLIDAY HOMEWORK (2026-2027)

Theme

Energy Conservation: Every Step Counts

- ENGLISH
- SANSKRIT
- MATHEMATICS
- SCIENCE
- SOCIAL SCIENCE

IX

Theme - Energy Conservation: Every Step Counts!!

CLASS IX

SUMMER HOLIDAY HOMEWORK

2026-27

SUBJECT- ENGLISH

Instructions

- Complete the homework neatly on A4 size sheets.
- Use colours, drawings and creative presentation wherever required.
- Maintain proper headings and structured work.
- Ensure originality and avoid copying.
- Submission should be done as per school guidelines after vacation.
- Show originality, use real-life examples, and add creative elements where possible.
- Revise and practice all work done in class along with this holiday homework.

Objective:

To understand the importance of saving energy and how small daily actions can make a big difference.

1. Cover Page

Make a colorful cover page with the title:
"Energy Conservation: Every Step Counts"
Draw symbols like:

- Light bulb
- Solar panels
- Earth

2. Slogan Writing

Write two creative slogans:

- "Save energy, save future"
- "Energy saved is energy earned"
- "Every unit saved is a step ahead"

3. Paragraph Writing (100–120 words)

Write a paragraph on: "Why energy conservation is important in our daily life" Include:

- Limited resources
- Environmental protection
- Saving money

4. Letter Writing

- Write a letter (100-120 words) to your friend explaining: How you are saving energy at home.

Literature Section: Attempt any two of the following

- **The Lost Child**

5. Imagine the lost child visits an "Energy Conservation Fair" instead of a village fair.
Write any five things he might see there and explain which activity attracts him the most and why. (100-120 words)
Hint: Solar lamps, electric bicycles, LED lights, windmills, etc.

- **Hope is the Thing with Feathers**

6. The poem says that hope never stops singing in our hearts.
How can hope inspire people to save energy and protect the Earth?
Write an article on it in about 100–120 words.

7. "One Day Energy Challenge"
Spend one day using minimum electricity at home.
Then write a short paragraph in about 100 – 120 words on the basis of the following hints:

- What difficulties you faced.
- What energy-saving methods you used.
- What you learned from the activity.

विषय – संस्कृत

नोट- समस्त कार्य पृथक् टिप्पणी पुस्तिका में लिखकर लायें |

1. अधोलिखित-अव्ययानाम् अर्थं लिखित्वा वाक्येषु च प्रयोगं कुरुत |
   अन्यत्र, यत्र, उभयत्र ,यदा-तदा, एकदा, पुरा, अधुना, अद्य, श्वः, ह्यः, यदि-तर्हि, कति, कुतः, कथम्, किमर्थं, सम्यक्, एव, यथा-तथा |
2. सर्वनामशब्दाः- किम् , तत् , इदम् (त्रिषु लिंगेषु) अस्मद् , युष्मद् , राजन् , विद्वस्, भवत् गुणिन् शब्दानां रूपाणि स्मृत्वा टिप्पणीपुस्तिकायां लिखित्वा आनयत |
3. सामूहिकं यज्ञं कृत्वा सामूहिकं योगप्रशिक्षणं च दत्वा तस्य सामूहिकछायाचित्रम् एकस्मिन् A4 sheet कर्गदे संश्लेश्य तस्य विवरणं संस्कृतेन लिखत |
4. स्व-पाकशालायाम् उपलब्ध-खाद्य- वस्तूनां नामानि तेषां पात्रेषु संस्कृते विलिख्य छायाचित्राणि A4 sheet कर्गदे संश्लेश्य आनयन्तु |
5. ऊर्जा-संरक्षणाय भवान् भवती वा किं करिष्यति ? दश वाक्येषु लिखत | तथा च अस्मान् परितः ऊर्जायाः कानि कानि स्रोतानि सन्ति तानि सचित्रं वर्णयत |
6. क्रिया कलाप -

क्रम.सं.	दिनाङ्कः	अभिवादनम्	योगः	यज्ञः	भोजनमन्त्रः	संस्कृतवाक्यम्	शयनमन्त्रः	अभिभावक -हस्ताक्षरम्
1.	27.05.26							
2.	28.05.26							
3.	29.05.26							
4.	30.05.26							
5.	31.05.26							
6.	1.06.26							
7.	2.06.26							
8.	3.06.26							

9.	**4.06.26**							
10.	**5.06.26**							
11.	**6.06.26**							
12.	**7.06.26**							
13.	**8.06.26**							
14.	**9.06.26**							
15.	**10.06.26**							
16.	**11.06.26**							
17.	**12.06.26**							
18.	**13.06.26**							
19.	**14.06.26**							
20.	**15.06.26**							
21.	**16.06.26**							
22.	**17.06.26**							
23.	**18.06.26**							
24.	**19.06.26**							
25.	**20.06.26**							
26.	**21.06.26**							
27.	**22.06.26**							
28.	**23.06.26**							
29.	**24.06.26**							
30.	**25.06.26**							

धातव्य-

- भो छात्र ! प्रतिदिन आपको उपरोक्त क्रिया कलाप अवश्य करने हैं और प्रतिनित्य अपने अभिभावकों के हस्ताक्षर इस आशय से कराने हैं कि आपने उनके समक्ष किया है |
- प्रतिदिन किये गये क्रिया कलाप को चित्र के माध्यम से प्रमाण सहित उपस्थित करना अनिवार्य है |
- संस्कृत वाक्य में प्रतिदिन अपने अभिभावकों को एक-एक संस्कृत का वाक्य सिखाना है |
- इस गृहकार्य के अंक आपके आतंरिक मूल्यांकन (Internal Assessment) के क्रियाकलाप (Activity) में जोड़े जायेंगे |

SUBJECT-MATHEMATICS

ATTEMPT ANY TWO ACTIVITIES FROM THE FOLLOWING THREE ACTIVITIES

1. Data Collection & Representation

- Record electricity units used at home for the last 3 months from electricity bills.
- Represent the data using a Bar Graph and a Line Graph.
- Calculate Mean, Median, and Mode of the 3 months' consumption.

2. Real-Life Application of Linear Equations

- List 5 electrical appliances used daily at home with their power rating in Watts.
- Calculate daily, weekly, and monthly energy consumption in kWh using the formula:
- Energy (kWh) = Power (W) × Time (hrs) ÷ 1000
- Form a linear equation for monthly cost if 1 unit = ₹8.
- Show how much money can be saved if usage is reduced by 20%.

3. Objective: Create a polynomial based on household appliance usage.

(a) **Assign Variables:**
Let (x) be the hours an appliance is used.
LED Bulb: 2x (Low energy)
Air Conditioner: $5x^2$ (High energy/Exponential growth)
Refrigerator: 10x + 5 (Constant base energy)

(b) **Task:** Write a polynomial \(P(x)\) for a house using 3 bulbs, 1 AC, and 1 fridge.
Example Result: (P(x) = $5x^2$ + 3 times 2x + (10x + 5) = $5x^2$ + 16x + 5

(c) **Discussion:** If we reduce usage x, how does the "degree" of the polynomial affect the total savings?

Solve the questions. Show complete working.

1. Classifying Devices: Which of the following energy consumption models are polynomials? (Also give the justification)

- A(x) = $5x^2 + \sqrt{x}$ (Solar panel efficiency)
- B(x) = $3x^2$ - 5x + 2 (Electric heater)
- C(x) = $\frac{4}{x}$ + 10 (Power loss in wires)

2. **The Leakage Test:** An industrial plant's energy use is E(x) = x^3 - $3x^2$ + 4x - 12. If the plant operates at a "Conservation Level" of (x = 3), use the Remainder Theorem to find if there is any "excess waste" (Remainder).

3. The Efficiency Factor: If a new energy-saving device reduces consumption by a factor of ((x - 2), check if (x - 2) is a factor of the total waste polynomial $W(x) = x^3 - 6x^2 + 12x - 8$).

4. To visualize energy saved by upgrading to LED bulbs, represent the following rational and irrational energy savings on a single number line:

- A = 0.6 kWh
- B = $\sqrt{3}$ kWh
- C = 7/4kWh
- D = $\sqrt{9.3}$ kWh
- Draw a number line and accurately locate the positions of A, B, C and D.

5. The "Order of Magnitude" Challenge

In this task, you will categorize household appliances based on their energy consumption using a base-10 log scale. This helps visualize how much more energy a heater uses compared to a phone charger.

Instructions:

a. Calculate the Log Value $\log_{10}$ for the wattage of these items.

b. Round to the nearest tenth.

Appliance	**Wattage (W)**	**Log Value $\log_{10}$W**
e.g. Smartphone Charger5	5W	0.7
LED Light Bulb		
Desktop Computer		
Laptop		
Refrigerator		

6. In an experiment studying kinetic energy K.E. = $\frac{1}{2}mv^2$, an object's mass is 2^3 kg and its velocity is 2^x m/s. If the calculated kinetic energy is 128 Joules, find the value of x.

<u>Instructions for the Given Task</u>

1. How the homework is to be prepared*

- Work should be done independently by the student.
- Use neat handwriting, diagrams, and graphs. Use a ruler and pencil for graphs.
- All calculations must be shown step by step.
- Part 3 should include creativity through colors, charts, or small illustrations.

2. Material/Notebook/File/Chart Sheet to be used*

- Use A4 size ruled sheets for calculations and explanations.
- Use graph sheets for graphs.
- Use A3 chart sheet or pastel sheet for the creative poster/model.
- Compile everything in a neat file/folder with a cover page.

3. Number of pages/slides/models required*

- Cover page + Index: 2 pages
- Part 1 and 2: Minimum 4 pages including graphs and calculations
- Part 3: 1 A3 chart sheet poster
- Total: 6-7 pages + 1 chart sheet

4. Submission guidelines*

- Submit the completed file on the first day after the holidays.
- File should be labeled with Name, Class, Section, and Roll No.
- Late submission will not be accepted unless there is a valid reason.

5. Creativity & Research-based expectations*

- Students are encouraged to take help from parents for data but perform all calculations themselves.
- Use real data from your home; do not copy from others.
- Add one real-life photo or drawing of an energy-saving device at home.
- Marks will be given for accuracy, presentation, neatness, and originality.

This homework will help you understand how math is used in real life and how small calculations can lead to big savings for the environment and your family.

SUBJECT- SCIENCE

INSTRUCTIONS-

- Do this work in a scrap notebook or A4 sheets.
- Work should be done by hand; no printouts will be accepted.
- Create a cover page, index page and Bibliography (Sourcing).
- Use graph paper for drawing graphs.
- Note: Students must revise and practice all the work completed in the class of science along with the homework given below.

ANSWER THE FOLLOWING QUESTIONS-

Q1. What is Energy Conservation? Why is it important?

Q2. (a) Record data in a tubular form for minimum 5 families in the given format.

Name of Owner: _____ **Number of Family Members:** _____
Address: _____ **City:** _____ **State:** _____

S.No.	Appliance Name	Number of Appliances	Power Rating (Watts)	Daily Uses (Hours)	Daily Consumption (kWh)
1.	Tube light	4	40	6	$4 \times \frac{40}{1000} \times 6 = 0.96$
2.	Fan	6	200	8	$6 \times \frac{200}{1000} \times 8 = 9.6$
3.	Refrigerator				
4.	AC/Cooler				
5.	Washing Machine				
6.					
TOTAL					**10.56**
Power Consumption in one month					**10.56 x 30 = 316.80**

(b) **Plot graph** for five families for their total power consumption in one month in same graph and find:

(i) the family having maximum power consumption

(ii) the family having minimum power consumption

(c) Calculate for each family the power consumption for the month if they reduce the uses of each appliance for only 1 hour daily. Will it going to make any difference in net power consumption? Represent the change, if any, graphically.

(d) Suggest small steps that may be followed by everyone to reduce the power consumption.

(e) Make a poster related to the Energy Conservation (showing its need and methods).

(f) Describe the difficulties faced by you and learning outcomes from this activity

SUBJECT- SOCIAL SCIENCE

Instruction for Holiday Homework:

- Complete the work neatly on A4 sheets and map sheets wherever required.
- Arrange all the sheets and maps properly and submit them in a stick file.

Q1. Write a structured report (400–500 words) on the following:

- **Section A - Energy & Economic Development:** How does access to energy affect India's GDP, industrial output, and employment? Mention at least 2 data points (e.g., % of population with electricity access, energy intensity of GDP).

- **Section B - Energy Poverty:** What is energy poverty? How does it affect rural communities in India?

- **Section C - Green Economy:** How can shifting to renewable energy create new jobs and reduce import bills (crude oil)? Give 1 government scheme (e.g., PM-KUSUM, National Solar Mission) with its economic goals.

Q2. Why are renewable energy resources unevenly distributed in India?

- Mark major solar, wind, and hydroelectric power projects on the map of India.
- Explain why these projects are located in those regions.