



**RADHA KRISHAN ACADEMY, SHAHPUR KALAN**  
**UNDER THE FLAGSHIP OF**  
**PRAGYAN PUBLIC SCHOOL, JEWAR**  
**SUMMER VACATION HOME WORK**  
**CLASS: IX**

CLASS 9 – EK BHARAT SHRESHTHA BHARAT HOMEWORK				
Uttar Pradesh – Meghalaya Collaboration				
“Learning the Language, Culture and Heritage of Meghalaya”				
ENGLISH HOLIDAY HOMEWORK				
Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group English	Meghalaya Language Explorer	Collect 15 Khasi or Garo words with English and Hindi meanings	Vocabulary chart with pronunciation	Which word sounded interesting
Student 2 – Group English	Culture Comparison	Compare traditions of Meghalaya and Uttar Pradesh	Include dress, food and dance	Pictures or drawings
Student 3 – Group English	Folk Tale Retelling	Rewrite one Meghalaya folk tale in your own words	Story writing with moral	Story illustration
Student 4 – Group English	Tourism Advertisement	Design tourism advertisement for Shillong	Use slogans and local words	Poster or brochure
Student 5 – Group English	Traditional Music Study	Research Meghalaya folk music and instruments	Information chart	Instrument sketches
Student 6 – Group English	Reflection Writing	“What I Learned About Meghalaya Culture and Language”	Reflection writing	Decorative page
HINDI HOLIDAY HOMEWORK				
Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group Hindi	मेघालय के प्रसिद्ध स्थान	मेघालय के 5 प्रमुख पर्यटन स्थलों की जानकारी लिखिए	स्थान सूची एवं चित्र	कौन-सा स्थान घूमने योग्य लगा
Student 2 – Group Hindi	वर्षा एवं प्राकृतिक वातावरण	मेघालय में अधिक वर्षा होने के कारण खोजिए	कारण एवं तथ्य लेखन	प्रकृति लोगों के जीवन को कैसे प्रभावित करती है
Student 3 – Group Hindi	हस्तशिल्प अध्ययन	मेघालय की पारंपरिक हस्तकला एवं बाँस उत्पादों की जानकारी लिखिए	चित्र एवं विवरण	हस्तशिल्प को बढ़ावा क्यों देना चाहिए

Student 4 – Group Hindi	पारंपरिक खेल	मेघालय के स्थानीय खेलों की जानकारी एकत्र कीजिए	खेल सूची एवं चित्र	कौन-सा खेल सबसे रोचक लगा
Student 5 – Group Hindi	प्राकृतिक संसाधन	मेघालय के जंगलों, झरनों एवं खनिजों पर जानकारी लिखिए	तथ्य तालिका	प्राकृतिक संसाधनों का संरक्षण क्यों आवश्यक है
Student 6 – Group Hindi	सांस्कृतिक अनुभव लेखन	“मेघालय की यात्रा से मुझे क्या सीख मिलेगी” विषय पर लेख लिखिए	रचनात्मक लेखन	भारत की विविधता से क्या सीख मिलती है

### MATHEMATICS HOLIDAY HOMEWORK

#### Class 9 – Uttar Pradesh & Meghalaya Collaboration

Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group Mathematics	Traditional Dress Pattern Study	Observe Meghalaya traditional dress patterns and identify geometrical shapes and symmetry	Draw patterns using geometrical concepts	Design sheet
Student 2 – Group Mathematics	Food Cost Comparison	Compare cost of traditional foods of Meghalaya and Uttar Pradesh	Prepare price table and calculate total cost	Comparative chart
Student 3 – Group Mathematics	Language Data Collection	Collect 20 Khasi/Garo words and classify them according to word length	Create tally marks and bar graph	Graph sheet
Student 4 – Group Mathematics	Cultural Survey Activity	Survey classmates about favourite Meghalaya cultural activity	Represent data using pie chart	Survey graph
Student 5 – Group Mathematics	Traditional House Measurement	Observe Meghalaya traditional houses and estimate dimensions using ratio and proportion	Draw labelled house model	Measurement sheet
Student 6 – Group Mathematics	Festival Budget Planning	Prepare budget for Meghalaya cultural celebration in school	Calculate decoration, food and costume expenses	Budget table

### SCIENCE HOLIDAY HOMEWORK

#### Class 9 – Uttar Pradesh & Meghalaya Collaboration

Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group Science	Traditional Food Nutrition Study	Compare nutritional values of Meghalaya and UP traditional foods	Prepare nutrition chart	Food chart
Student 2 – Group Science	Traditional Clothing and Climate	Study how Meghalaya traditional clothes suit rainy climate	Explain scientifically	Clothing illustrations
Student 3 – Group Science	Bamboo Usage Research	Research scientific uses of bamboo in Meghalaya culture	Prepare information sheet	Pictures or sketches
Student 4 – Group Science	Herbal Medicine Study	Research medicinal plants used by Meghalaya tribes	Prepare medicinal plant chart	Plant illustrations
Student 5 – Group Science	Traditional Cooking Methods	Compare cooking methods of Meghalaya and UP	Identify fuel and heat sources	Comparative chart

Student 6 – Group Science	Sustainable Lifestyle Study	Study eco-friendly habits of Meghalaya tribal communities	Explain conservation practices	Poster or notes

### SOCIAL SCIENCE HOLIDAY HOMEWORK

Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group SST	Political Map Work	Mark Meghalaya and UP on India map	Capitals and tourist places	Colourful map
Student 2 – Group SST	Tribal Community Study	Research Khasi, Garo and Jaintia tribes	Collect cultural information	Tribal chart
Student 3 – Group SST	Festival Comparison	Compare festivals of both states	Comparative table	Festival pictures
Student 4 – Group SST	Food and Lifestyle Study	Compare food and traditional houses	Use pictures and charts	Comparative sheet
Student 5 – Group SST	Tourism Research	Research tourist places of Meghalaya	Prepare brochure	Brochure
Student 6 – Group SST	National Integration Writing	Role of Ek Bharat Shreshtha Bharat	Article writing	Decorative page

### COMPUTER / AI HOLIDAY HOMEWORK

Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group Computer	Digital Language Presentation	Create PPT on Khasi/Garo language basics	Include greetings and words	PPT screenshots
Student 2 – Group Computer	Digital Tourism Poster	Design Meghalaya tourism poster	Use cultural elements	Poster printout
Student 3 – Group Computer	Internet Research	Research Meghalaya folk dances and music	Collect digital information	Research notes
Student 4 – Group Computer	Spreadsheet Activity	Enter rainfall and population data	Create graphs digitally	Spreadsheet printout
Student 5 – Group Computer	Cultural Infographic	Create infographic on Meghalaya culture	Include language and festivals	Infographic printout
Student 6 – Group Computer	QR Code Activity	Create QR code linked to Meghalaya tourism information	Digital linking activity	QR printout

## SUBJECTIVE HOME WORK

### ENGLISH

#### Task 1: Reading Journal

Read one English book/storybook/novel during holidays.

#### Suggested:

The Diary of a Young Girl

The Blue Umbrella

The Alchemist

Gulliver's Travels

#### Write:

Title of book

Author

Main characters

Summary (150 words)

Favourite quote

Moral/lesson learned

Your review (5 lines)

#### Task 2: Newspaper File

Read newspaper daily and paste 5 articles each on:

Education

Environment

Sports

Science & Technology

Inspiring Personalities

Write vocabulary from each article: Word – Meaning – Sentence

#### Task 3: Writing Skills

A-Write a Diary Entry about the happiest day of your life. Describe what made it special. ( in about 120 words.)

B-You helped someone in need today and felt deeply satisfied. Write a diary entry expressing your feelings and experience.

( in about 120 words.)

### HINDI

1- उपसर्ग प्रत्यय- चार्ट बनाएँगे।

2-पाठ-संवादहीन एवं भारति जय विजय करे पाठों से बीस-बीस अतिलघुत्तरीय प्रश्नोत्तर लिखेंगे।

### MATHS

## Holiday Homework Assignment

Class IX – Mathematics

### Chapter 1: The World of Numbers

1. Define natural numbers with examples.
2. Write the difference between whole numbers and integers.
3. Represent -5 and +3 on the number line.
4. State whether 0 is a rational number or not.
5. Write three irrational numbers.
6. Find the successor and predecessor of 999.
7. Arrange the following in ascending order: -2, 5, 0, -7, 9.
8. Express  $\frac{3}{4}$  as a decimal number.
9. Write the additive inverse of -15.
10. Find the absolute value of -27.
11. Classify the following as rational or irrational:  $\sqrt{2}$ ,  $\frac{7}{8}$ ,  $\pi$ , 0.5.
12. Write the properties of whole numbers.
13. Find the product of (-8) and (+6).
14. State the closure property for integers under addition.
15. Draw a number line and represent five integers(-5, 7, -2, -9 and 3) on the same number line.

### Chapter 2: Lines and Angles

1. Define complementary and supplementary angles.
2. If one angle is  $35^\circ$ , find its complement.
3. If one angle is  $120^\circ$ , find its supplement.
4. Two angles are supplementary. If one angle is  $75^\circ$ , find the other.
5. State the vertically opposite angle theorem.
6. Find the value of x if two vertically opposite angles are  $(3x + 10)^\circ$  and  $100^\circ$ .
7. Define a transversal line.
8. State the condition for two lines to be parallel using corresponding angles.
9. If alternate interior angles are equal, what can you say about the lines?
10. Find x if two corresponding angles are  $(2x + 15)^\circ$  and  $75^\circ$ .
11. Define adjacent angles with an example.
12. Explain a linear pair of angles.
13. Find the value of x if adjacent angles are  $(x + 20)^\circ$  and  $(2x + 10)^\circ$  forming a linear pair.
14. State and prove the angle sum property of a triangle.
15. Find the third angle of a triangle if two angles are  $45^\circ$  and  $65^\circ$ .

### Chapter 3: Coordinate Geometry

1. Define Cartesian planes.
2. What are the coordinates of the origin?
3. Name the four quadrants in the coordinate plane.
4. Plot the point (3, 4) on the Cartesian plane.
5. In which quadrant does the point (-5, 2) lie?
6. In which quadrant does the point (-4, -7) lie?
7. Find the abscissa of the point (6, -3).
8. Find the ordinate of the point (-2, 8).
9. Write the coordinates of a point on the x-axis.
10. Write the coordinates of a point on the y-axis.

11. Plot the points A(2,3), B(-2,3), C(-2,-3), and D(2,-3).
12. State the signs of coordinates in the third quadrant.
13. Find the distance of the point (0,5) from the x-axis.
14. Find the distance of the point (-7,0) from the y-axis.
15. Draw a Cartesian plane and mark any five points of your choice.

Complete all questions neatly in your Mathematics notebook.

## SCIENCE

### 9th BIOLOGY

1. What is cytoplasm?
2. Name the major cell organelles present in the cytoplasm.
3. What is the function of the nucleus?
4. What is chromatin material?
5. What are chromosomes? Where are they found?
6. What is the role of mitochondria in a cell?
7. Why are mitochondria called the “powerhouse of the cell”?
8. What are ribosomes? State their function.
9. Differentiate between smooth endoplasmic reticulum and rough endoplasmic reticulum.
10. What is the function of the Golgi apparatus?
11. Explain the structure and functions of the nucleus in detail.
12. Describe the structure and functions of mitochondria.
13. Explain the structure and functions of endoplasmic reticulum.
14. Describe the structure and functions of Golgi apparatus.
15. Explain the role of lysosomes in the cell. Why are they called “suicidal bags”?
16. Differentiate between plant cells and animal cells with suitable points.
17. Explain the structure and functions of vacuoles in plant and animal cells.
18. What are plastids? Explain their types and functions.
19. Describe the structure of a typical cell with labelled parts.
20. Explain the functions of different cell organelles in maintaining life activities of the cell.

### 9h CHEMISTRY

1. What is meant by Earth as a system?
2. Name the four major spheres of the Earth system.
3. What is the role of the atmosphere in supporting life?
4. Define biosphere.
5. How does the Sun act as the main source of energy for Earth?
6. What matters? Give two examples found on Earth.
7. Explain the term ecosystem.
8. How are living organisms dependent on non-living things?
9. What is the importance of water in the Earth system?
10. How do plants help in maintaining balance in nature?
11. Explain the concept of "Our Earth as a System" with examples.
12. Describe the interaction between matter, energy, and life on Earth.
13. Explain the four spheres of Earth and their importance.
14. How does energy flow through the Earth system? Explain with examples.
15. Describe the Hydrological cycle and its importance for life.
16. Explain the relationship between the atmosphere and biosphere.
17. How do human activities affect the Earth system?
18. Describe the importance of plants and animals in maintaining ecological balance.
19. Explain how matter cycles in nature with suitable examples.
20. Write a detailed note on the importance of conserving Earth's natural resources.

### **9th PHYSICS**

1. Define force.
2. What is meant by balanced forces?
3. What are unbalanced forces?
4. State Newton's First Law of Motion.
5. Define inertia.
6. Name the three types of inertia.
7. Why does a passenger fall backward when a moving bus starts suddenly?
8. What happens to the motion of a body when balanced forces act on it?
9. Give one example of unbalanced force from daily life.
10. Why does a coin fall into the glass when the card beneath it is flicked quickly?
11. Explain Newton's First Law of Motion with two suitable examples.
12. Differentiate between balanced and unbalanced forces with examples.
13. Explain the term inertia. Describe the different types of inertia with examples.
14. A book lying on a table remains at rest. Explain this situation using balanced forces.
15. Why do passengers in a moving bus lean forward when the bus stops suddenly? Explain using the concept of inertia.
16. Describe an activity to show that unbalanced forces can change the state of motion of an object.
17. Explain how force can:  
change the speed of an object,  
change the direction of motion,  
change the shape of an object.
18. What is the importance of Newton's First Law of Motion in daily life? Explain with suitable examples.
19. Explain why dust particles come out of a carpet when it is beaten with a stick.

20. State and explain the law of inertia. How is inertia related to mass?

### SOCIAL SCIENCE

Students are instructed to complete the following work during the summer vacation:

1. Complete the Map Workbook up to Page No. 23.
  2. Complete the Lab Manual up to Page No. 23.
- Answer the following questions neatly in your notebook:
1. Explain the disciplines of Social Science.
  2. How is the electoral roll prepared in India?
  3. Explain the functions of the Chief Election Commissioner of India.
  4. What challenges are faced by the Election Commission of India?
  5. Compare Democracy and Dictatorship.
  6. Explain the importance of Democracy.
  7. Enlist the functions of prime minister of India.
  8. Explain the power of the president of India.

### AI

#### Task 1: AI Around Us Activity

Observe your surroundings and identify 10 AI-based applications/devices used in daily life.

Example:

- Google Maps
- YouTube Recommendations
- Face Unlock
- Alexa/Siri
- Smart Watch
- ChatGPT

Make a table:

S.No	AI Application	Where You Use It	How AI Helps
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#### Task 2: AI Research Work

Topic:

“Impact of Artificial Intelligence on Human Life”

Write in about 250 words:

- Introduction of AI
- Areas where AI is used
- Advantages of AI
- Disadvantages of AI
- Future scope of AI

- Your conclusion

Add relevant pictures/drawings.

Task 3: AI Ethical Debate

Write your views on the following topic:

“Will AI Replace Humans in Future?”

Include:

- Your opinion
- Reasons supporting your answer
- Real-life examples

*(150–200 words)*

Task 4: Data Collection Activity

Collect data from 10 people by asking:

“Which AI application do you use the most?”

Examples:

- Instagram
- YouTube
- Google Assistant
- Netflix
- ChatGPT

Present the data:

- In tabular form
- Draw a bar graph/pie chart
- Write 5 observations from the data

Task 5: AI Model / Poster Making

Create any ONE:

- AI Robot Model
- Smart City Model
- Poster on “Future with AI”
- AI in Education chart

Use waste material/chart paper creatively.

Task 6: Coding Activity

Using Scratch/App Inventor/Blockly: Create any one project:

- AI Quiz Game
- Chatbot
- Voice Assistant
- Smart Calculator
- Future AI School Animation

Paste screenshots and explain the working in 5 points.

Task 7: Case Study Activity

Study any ONE AI technology:

- Self-driving Cars
- AI in Healthcare
- ChatGPT
- Facial Recognition

- AI in Agriculture
- Write:
- What is it?
  - How does it work?
  - Benefits
  - Risks
  - Interesting facts