PRAGYAN PUBLIC SCHOOL, JEWAR
Summer Vacation Homework
Class: 10th

CLASS 10 – EK BHARAT SHRESHTHA BHARAT HOMEWORK				
Uttar Pradesh – Arunachal Pradesh Collaboration				
"Exploring the Language, Culture, Heritage and Lifestyle of Arunachal Pradesh"				
ENGLISH HOLIDAY HOMEWORK				
Student & Group	**Task**	**Working**	**Evidence**	**Reflection**
Student 1 – Group English	Arunachal Language Activity	Collect 15 words from Monpa or Nyishi language with Hindi and English meanings	Prepare vocabulary chart with pronunciation	Decorative language chart
Student 2 – Group English	Culture Comparison	Compare the traditions of Uttar Pradesh and Arunachal Pradesh	Include dress, food, dance and lifestyle	Pictures or drawings
Student 3 – Group English	Folk Tale Retelling	Read one folk tale of Arunachal Pradesh and rewrite it in your own words	Story writing with moral value	Story illustration
Student 4 – Group English	Tourism Brochure	Design a tourism brochure for Tawang and Itanagar	Use slogans and cultural symbols	Brochure
Student 5 – Group English	Traditional Music Study	Research tribal music and musical instruments of Arunachal Pradesh	Information chart	Instrument sketches
Student 6 – Group English	Reflection Writing	"What I Learned About Arunachal Culture and Language"	Personal reflection writing	Decorative page
HINDI HOLIDAY HOMEWORK				

Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group Hindi	अरुणाचल के प्रसिद्ध पर्व	लोसार, सोलुंग एवं न्योकुम जैसे त्योहारों की जानकारी लिखिए	त्योहार तालिका एवं चित्र	कौन-सा पर्व सबसे रोचक लगा
Student 2 – Group Hindi	प्राकृतिक सौंदर्य वर्णन	अरुणाचल प्रदेश के पर्वत, नदियाँ एवं जंगलों का वर्णन कीजिए	अनुच्छेद एवं रेखाचित्र	प्रकृति संरक्षण क्यों आवश्यक है
Student 3 – Group Hindi	जनजातीय जीवन शैली	अरुणाचल की किसी एक जनजाति की जीवनशैली पर जानकारी लिखिए	भोजन, घर एवं पहनावे का विवरण	उनकी कौन-सी परंपरा अच्छी लगी
Student 4 – Group Hindi	हस्तकला अध्ययन	बाँस एवं लकड़ी से बने अरुणाचल के हस्तशिल्प की जानकारी एकत्र कीजिए	चित्र एवं विवरण	हस्तकला को बढ़ावा क्यों देना चाहिए
Student 5 – Group Hindi	वन्यजीव एवं पक्षी अध्ययन	अरुणाचल प्रदेश के प्रसिद्ध पशु-पक्षियों की जानकारी लिखिए	सूची एवं चित्र	कौन-सा जीव सबसे आकर्षक लगा
Student 6 – Group Hindi	अनुभव लेखन	“यदि मैं अरुणाचल प्रदेश की यात्रा करूँ” विषय पर रचनात्मक लेख लिखिए	कल्पनात्मक लेखन	भारत की विविधता से क्या सीख मिलती है
MATHEMATICS HOLIDAY HOMEWORK				
Student & Group	**Task**	**Working**	**Evidence**	**Reflection**
Student 1 – Group Mathematics	Tribal Art Geometry Study	Observe tribal art patterns of Arunachal Pradesh and identify geometrical shapes and symmetry	Draw geometrical tribal designs	Design sheet
Student 2 – Group Mathematics	Traditional Food Cost Analysis	Compare prices of traditional foods of UP and Arunachal Pradesh	Create comparative table and bar graph	Food budget chart
Student 3 – Group Mathematics	Language Data Representation	Collect 20 Monpa or Nyishi words and classify them according to number of letters	Create tally marks and bar graph	Data graph
Student 4 – Group Mathematics	Cultural Interest Survey	Conduct survey on favourite Arunachal festival, dance or food	Represent data using pie chart	Survey report
Student 5 – Group Mathematics	Traditional House Measurement Study	Observe traditional houses of Arunachal Pradesh and estimate dimensions using ratio and proportion	Draw labelled house model	Measurement sheet

Student 6 – Group Mathematics	Festival Expense Planning	Prepare budget for Arunachal cultural exhibition in school	Calculate expenses for food, costumes and decoration	Budget table
SCIENCE HOLIDAY HOMEWORK				
Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group Science	Traditional Food Nutrition Study	Compare nutritional values of Arunachal and UP traditional foods	Prepare nutrition chart	Food chart
Student 2 – Group Science	Traditional Clothing and Climate Study	Study how traditional clothes protect people in cold climate	Explain scientifically	Clothing illustrations
Student 3 – Group Science	Bamboo and Wood Usage Research	Research scientific uses of bamboo and wood in Arunachal culture	Prepare information sheet	Sketches or pictures
Student 4 – Group Science	Herbal Medicine Research	Study medicinal plants used by tribal communities	Prepare medicinal plant chart	Plant drawings
Student 5 – Group Science	Traditional Cooking and Fuel Study	Compare cooking methods and fuels used in both states	Comparative analysis	Chart work
Student 6 – Group Science	Sustainable Tribal Lifestyle Study	Research eco-friendly habits of Arunachal tribes	Explain conservation methods	Poster or notes
SOCIAL SCIENCE HOLIDAY HOMEWORK				
Student & Group	Task	Working	Evidence	Reflection
Student 1 – Group SST	Political Map Work	Mark Arunachal Pradesh and Uttar Pradesh on political map of India	Mark capitals and tourist places	Colourful map
Student 2 – Group SST	Tribal Community Research	Study Monpa and Nyishi tribes	Collect cultural information	Tribal chart

Student 3 – Group SST	Festival Comparison	Compare festivals of UP and Arunachal Pradesh	Comparative table	Festival pictures
Student 4 – Group SST	Food and Lifestyle Study	Compare food habits and traditional houses	Use pictures and charts	Comparative sheet
Student 5 – Group SST	Tourism Research	Research tourist places of Arunachal Pradesh	Prepare brochure	Brochure
Student 6 – Group SST	National Integration Writing	Write 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 Monpa or Nyishi language basics	Include greetings and common words	PPT screenshots
Student 2 – Group Computer	Digital Tourism Poster	Design Arunachal tourism poster	Use cultural elements and slogans	Poster printout
Student 3 – Group Computer	Internet Research	Research Arunachal folk dances and music	Collect digital information	Research notes
Student 4 – Group Computer	Spreadsheet Activity	Enter food cost and population data digitally	Create graphs and tables	Spreadsheet printout
Student 5 – Group Computer	Cultural Infographic	Create infographic on Arunachal culture	Include language, festivals and food	Infographic printout
Student 6 – Group Computer	QR Code Activity	Create QR code linked to Arunachal tourism information	Digital linking activity	QR printout

SUBJECTIVE HOME WORK

ENGLISH

Task 1:Literature Connect

Choose any two chapters/poems from First Flight / Footprints Without Feet

Do:

Summary

Character sketch

Values learned

HOTS questions (5)

Alternate ending / creative continuation

Task 2: Vocabulary Building

A-Write:

5 new words daily

Meaning

Synonym

Antonym

Sentence

B-Write:

20 idioms

20 phrasal verbs

20 one-word substitutions

Task 3:Writing Skill

A-You are concerned about the increasing pollution in your city. Write a letter to the Editor of a national daily highlighting the problem and suggesting solutions.

B-Write a letter to the Editor on the issue of poor sanitation and unhygienic conditions in your neighbourhood.

HINDI

अभ्यास पुस्तिका में
1-अपठित गद्यांश
2-अपठित काव्यांश
3-वाक्य विचार

4- वाच्य
कार्य प्रपत्र पूरा करेंगे।

MATHS

https://docs.google.com/document/d/1Ho29mT2fLgGI7B6BJDSy0oegu6lHYldM/edit?usp=sharing&ouid=104486219441541975862&rtpof=true&sd=true

SCIENCE

SUMMER HOLIDAY HOMEWORK 2026-27
10th BIOLOGY
1.What is the role of saliva in digestion?
2.Differentiate between autotrophic and heterotrophic nutrition.
3.Why is the small intestine considered the main site of absorption?
4.State two functions of hydrochloric acid in the stomach.
5What is the importance of stomata in plants?
6Write the balanced chemical equation for aerobic respiration.
7.Differentiate between aerobic and anaerobic respiration.
8.Why do muscles produce cramps during heavy exercise?
9What is transpiration? Mention one advantage of transpiration in plants.
10.Explain the role of haemoglobin in respiration.
11.Differentiate between autotrophic and heterotrophic nutrition. Explain the process of photosynthesis with the help of a balanced chemical equation. Mention any three factors affecting photosynthesis.
12.A farmer observed that plants growing under a tree had pale leaves and poor growth. Explain the reason is based on the process of photosynthesis. Suggest two ways to improve plant growth.

13. Describe the mechanism of breathing in humans. Explain how oxygen and carbon dioxide are transported during respiration.
14.During heavy exercise, a person experiences muscle cramps. Explain why this happens. How is this related to aerobic and anaerobic respiration?
15. Explain the structure and working of the human heart with a labelled diagram. Why is double circulation necessary in humans?
16. A patient has low haemoglobin levels. Predict how it would affect oxygen transport and body functions. Suggest dietary measures to improve the condition.
17. Explain the transport of water and minerals in plants. Describe the role of xylem, transpiration and root pressure.
18.Plants kept in humid conditions show slower transpiration rates. Explain how this affects the upward movement of water and minerals in plants.
19.Compare the process of transportation in plants and animals. Mention at least four differences based on transport medium, pumping organ, speed and materials transported.
20.A person suffers from both lung disease and blockage in arteries. Explain how these problems together affect respiration and transportation in the body. Why can this condition become life-threatening?

10th CHEMISTRY

Q1. A substance X is used as an antacid. When it reacts with hydrochloric acid, it produces a gas Y which turns lime water milky. Identify X and Y. Write the balanced chemical equation for the reaction involved.
Q2. Why does distilled water not conduct electricity, whereas rainwater does? Explain with reference to the presence of ions.
Q3. Dry hydrogen chloride gas does not change the color of dry blue litmus paper, but hydrochloric acid does. Give reasons for this observation.
Q4. A baker forgot to add baking powder while making a cake, resulting in a flat, hard cake.
What is the chemical formula of the main constituent of baking powder?
How does it help in making the cake fluffy? Write the chemical reaction.
Q5. You are given two solutions, A and B. The pH of solution A is 6 and the pH of solution B is 8.
Which solution has a higher hydrogen ion concentration?
Which one is acidic and which one is basic?
Q6. What is observed when a swift current of chlorine gas is passed over slaked lime at 313 K? Identify the product formed and write its chemical equation.

Q7. While diluting an acid, why is it recommended that the acid should be added to water slowly with constant stirring, and not water to the acid?
Q8. A metal compound A reacts with dilute hydrochloric acid to produce effervescence. The gas evolved extinguishes a burning candle. If one of the compounds formed is calcium chloride, identify A and the gas evolved.
Q9. Fresh milk has a pH of 6. How do you think the pH will change as it turns into curd? Explain your answer.
Q10. What is the water of crystallization? Write the chemical formula of copper sulfate crystals before and after heating, noting any color changes.
Q11.(a) Describe an activity to show that acids conduct electricity only when dissolved in water.
(b) Name the ions responsible for the acidic and basic behavior of substances.
(c) Why do alcohol and glucose solutions not show acidic character even though they contain hydrogen?

Q12.(a) What is the "Chlor-alkali process"? Why is it given this name?
(b) Name the three commercially important products formed in this process.
(c) Write the balanced chemical equation for the process and state one major use for each product.
Q13. Explain the significance of pH in everyday life by addressing the following points:
(a) How does pH affect our digestive system, and how is hyperacidity treated?
(b) What role does pH play in causing tooth decay, and how can it be prevented?
(c) How do plants and animals protect themselves through chemical warfare? Give two examples.
Q14. An inorganic salt X of a sodium alkali is a constituent of baking powder. On heating, it decomposes to give a salt Y, water, and a gas Z. Gas Z turns lime water milky. Salt Y on recrystallization gives a compound W used in the glass and paper industry.
(a) Identify X, Y, Z, and W.
(b) Write the balanced chemical equations for the decomposition of X and the formation of W.
Q15.(a) What is Plaster of Paris (POP) chemically? How is it prepared from gypsum? Write the chemical equation.
(b) Why should the Plaster of Paris be stored in moisture-proof containers? Show the reaction involved.
(c) State two major applications of POP.
Q16.(a) Equal lengths of magnesium ribbons are taken in test tubes A and B. Hydrochloric acid is added to test tube A, while acetic acid is added to test tube B. In which test tube will the fizzing occur more vigorously and why?
(b) Differentiate between strong acids and weak acids using this context.
Q17. A sanitary worker used a white chemical powder X having a strong smell of chlorine to disinfect the water tank of a school.
(a) Identify the chemical compound X and write its chemical name.
(b) How is this compound manufactured? Write the chemical equation.
(c) What happens when this compound is left exposed to air for a long time?
Q18. Give reasons for the following observations:
(a) Sodium hydrocarbonate is used in soda-acid fire extinguishers.
(b) Tartaric acid is an essential ingredient in baking powder alongside sodium bicarbonate.
(c) The color of green vitriol changes on heating.
(d) Regular salt becomes sticky or damp during the rainy season.
Q19.(a) What are indicators? Distinguish between synthetic indicators and olfactory indicators with examples.
(b) How will a solution of sodium carbonate react with:
(i) Litmus paper?
(ii) Phenolphthalein?
(iii) Methyl orange?
Q20. Match the following salts with the nature of their aqueous solutions (Acidic, Basic, or Neutral) and explain the reason behind each classification by writing the parent acid and base:
(a) Sodium Acetate
(b) Ammonium Chloride
(c) Potassium Sulfate
(d) Sodium Carbonate

10th PHYSICS

1.If the image formed by a lens for all positions of the object placed in front of it is always virtual, erect and diminished, state the type of the lens. Draw a ray diagram in support of your answer. If the numerical value of focal length of such a lens is 20 cm, find its power in new cartesian sign conventions.

2.State the laws of refraction of light. If the speed of light in vacuum is 3 × 108 m/s, find the speed of light in a medium of absolute refractive index 1.5.

3.The image of a candle flame placed at a distance of 40 cm from a spherical lens is formed on a screen placed on the other side of the lens at a distance of 40 cm from the lens. Identify the type of lens and write its focal length. What will be the nature of the image formed if the candle flame is shifted 25 cm towards the lens? Draw a ray diagram to justify your answer.

4.An object of height 6 cm is placed perpendicular to the principal axis of a concave lens of focal length 5 cm. Use lens formula to determine the position, size and nature of the image if the distance of the object from the lens is 10 cm.

5.Draw ray diagram to show the path of the refracted ray in each of the following cases. A ray of light incident on a concave lens
(i) is parallel to its principal axis, (ii) is passing through its optical centre and (iii) is directed towards its principal focus.

6.What is the principle of reversibility of light? Show that the incident of light is parallel to the emergent ray of light when light falls obliquely on a side of a rectangular glass slab.

7.What is understood by lateral displacement of light? Illustrate it with the help of a diagram. List any two factors on which the lateral displacement in a particular substance depends.

8.Draw a ray diagram in each of the following cases to show the formation of image, when the object is placed:
(i) between the optical centre and principal focus of a convex lens.
(ii) anywhere in front of a concave lens.
(iii) at 2F of a convex lens.

9.Define the following terms :
(i) Power of lens
(ii) Principal focus of a concave mirror
(b) Write the relationship among the object distance (u), image distance (v) and the focal length (f) of a (i) Spherical lens (ii) Spherical mirror.

10.The absolute refractive indices of glass and water are 4/3 and 3/2 respectively. If the speed of light in glass is 2 ×108 m/s, calculate the speed of light in (i) vacuum, (ii) water.

11.The absolute refractive indices of glass and water are 1.5 and 1.33 respectively. In which medium does light travel faster? Calculate the ratio of speeds of light in the two media.

12.To construct a ray diagram we use two light rays which are so chosen that it is easy to know their directions after refraction from the lens. List these two rays and state the path of these rays after refraction. Use these two rays to locate the image of an object placed between ‘f’ and ‘2f’ of a convex lens.

13.(a) Water has refractive index 1.33 and alcohol has refractive index 1.36. Which of the two mediums is optically denser? Give reason for your answer.
(b) Draw a ray diagram to show the path of a ray of light passing obliquely from water to alcohol.
(c) State the relationship between angle of incidence and angle of refraction in the above case.

14.A real image 2/3rd of the size of an object is formed by a convex lens when the object is at a distance of 12 cm from it. Find the focal length of the lens.
15.What is meant by the power of a lens? Write its SI unit. A student uses a lens of focal length 40 cm and another of -20 cm. Write the nature and power of each lens.
16.Draw ray diagrams to show the formation of three times magnified (a) real, and (b) virtual image of an object by a converging lens. Mark the positions of O, F and 2F in each diagram
17.The image of an object formed by a lens is of magnification -1. If the distance between the object and its image is 60 cm, what is the focal length of the lens? If the object is moved 20 cm towards the lens, where would the image be formed? State reason and also draw a ray diagram in support of your answer.
18. A magnified, virtual, and erect image is formed by a convex lens.Explain the condition under which this occurs with the help of a ray diagram, and discuss one real-life device that uses this principle.
19. Why does a fish under water see the world above as compressed and closer than it really is?Explain using the concept of refraction at curved surfaces and the refractive index of water.
20.Explain, with a ray diagram and reasoning, why the image formed by a concave lens is always virtual, erect, and diminished, regardless of the object distance.

SUMMER HOLIDAY HOMEWORK 2026-27

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17.The image of an object formed by a lens is of magnification -1. If the distance between the object and its image is 60 cm, what is the focal length of the lens? If the object is moved 20 cm towards the lens, where would the image be formed? State reason and also draw a ray diagram in support of your answer.
18. A magnified, virtual, and erect image is formed by a convex lens.Explain the condition under which this occurs with the help of a ray diagram, and discuss one real-life device that uses this principle.
19. Why does a fish under water see the world above as compressed and closer than it really is?Explain using the concept of refraction at curved surfaces and the refractive index of water.
20.Explain, with a ray diagram and reasoning, why the image formed by a concave lens is always virtual, erect, and diminished, regardless of the object distance.

SOCIAL SCIENCE

1. Locate and label the following Indian National Congress Sessions on the given political outline of India with appropriate symbols:-
(1.1) Calcutta Session (Sept. 1920) (1.2) Nagpur Session (Dec. 1920)
(1.3) Madras Session (1927) (1.4) Lahore Session (1929)

2 Locate and level the following important centres of the Indian National Movement.
(2.1) Champaran – Movement of Indigo Planters.
(2.2) Kheda - Peasant Satyagraha.
(2.3) Ahmedabad -Cotton Mill Workers Satyagraha
(2.4) Amritsar - Jallianwala Bagh Incident
(2.5) Chauri Chaura – Calling off the Non-Cooperation Movement.
(2.6) Dandi Starting place of Civil Disobedience Movement.

3 Locate and label the following Dams on the given political outline map of India with appropriate symbols:
(3.1) Salal. (3.2) Bhakra Nangal. (3.3) Tehri (3.4) Rana Pratap Sagar. (3.5) Sardar Sarovar.
(3.6) Hirakud. (3.7) Tungabhadra (3.8) Nagarjuna Sagar.

4 : Locate the largest producer states of the following crops and write their names on the lines marked.
4.1. Sugarcane 4.2. Tea 4.3. Coffee 4.4. Rubber 4.5. Cotton 4.6 Jute

5 Locate and label the following Nuclear Power Plants on the given political outlines map of India with appropriate symbols.
(5.1) Narora (5.2) RawatBhata (5.3 Kakrapara (5.4) Trapur (5.5) Kaiga. (5.6) Kalpakkam

6 Locate and label the following Iron and Steel centres on the given political outline map of India with appropriate symbols :
(6.1) Burnpur (6.2) Durgapur (6.3) Bokaro (6.4) Jamshedpur (6.5) Raurkela. (6.6) Bhilai
(6.7) Vijay nagar (6.8) Bhadravati (6.9) Visakhapatnam (6.10) Salem.

7 Locate and label the following Software Technology parks. On the given political outline map of India with appropriate symbols.
(7.1) Mohali (7.2) Noida (7.3) Jaipur (7.4) Gandhi nagar (7.5) Indore (7.6) Mumbai (7.7) Pune
(7.8) Kolkata (7.9) Bhubaneshwar (7.10) Visakhapatnam (7.11) Hyderabad (7.12) Bangalore (7.13) Mysore
(7.14) Chennai (7.15) Thiruvanatapuram

8 Locate and label the following International Airports. On the given political outline map of India with appropriate symbols:
(8.1) Amritsar (Raja Sansi). (8.2) Delhi (Indira Gandhi International). (8.3) Mumbai (ChhatrapatiShivaji).
(8.4) Chennai (MeenamBakkam). (8.5) Thiruvanatapuram (Nedim Bacherry). (8.6) Kolkata (Netaji Subhash Chandra Bose).
(8.7) Hyderabad (Rajiv Gandhi).

IT

Section B - Employability Skills
Unit - II Chapter 4

Part A – Subjective Work

Read the chapter properly and understand the theoretical part in the chapter and do the following:-

Write the Answer of following Questions:

1. What is Goal Seek?
2. Define Solver.
3. What is a Scenario in spreadsheets?
4. What is meant by What-If Analysis?
5. Define Optimization.
6. What is the use of Scenario Manager?
7. What is a constraint in Solver?
8. Define target value.
9. What is a changing cell?
10. What is the main purpose of Solver?

Part B – Practical Work
Activity 1: Student Result Sheet

Create a spreadsheet showing marks of 5 students in the following subjects:

- English
- Hindi
- Mathematics
- Science
- Social Science

Perform the Following:

- Calculate Total Marks
- Calculate Percentage
- Find Highest Marks
- Find Lowest Marks
- Apply grading using IF function

Percentage	Grade
Above 90	A1
75 – 90	A
60 – 74	B
45 – 59	C
Below 45	D

Grade Criteria

AI

Pragyan Public School, Jewar, GB Nagar
Summer vacation Homework

Class-X-D/F Sub: Artificial intelligence

Instructions:

- Make a PPT for the following topics.
- First go through the topics in your book of artificial intelligence then create PPT.
- In the first slide, you will mention the student name ,School logo ,class ,subject and topic-"summer vacation homework".
- Prepare at least two slides per topic.

Topics:

1. APPLICATIONS OF AI IN DAILY LIFE
2. DOMAINS OF AI
3. DIFF BETWEEN RULE BASED AND LEARNING BASED AI APPROACHES
4. DIFF BETWEEN SUPERVISED AND UNSUPERVISED AND REINFORCEMENT LEARNING MODELS
5. DIFF BETWEEN ARTIFICIAL INTELLIGENCE AND NOT ARTIFICIAL INTELLIGENCE .

Make a Project file (Do any two Project)

1. Print AI Project Cycle Stages
2. Ethical Decision Quiz
3. Fruit Classifier using Supervised Learning
4. Data Clustering with KMeans
5. Reinforcement Logic Simulator

6. Train-Test Split Visualizer
7. Accuracy Calculation from Model
8. Confusion Matrix Generator
9. Basic Statistics Calculator
10. CSV Data Analysis with Pandas
11. Face Detection using OpenCV
12. Grayscale Image Converter
13. Edge Detection using Convolution
14. Sentiment Analyzer using TextBlob
15. Rule-Based Chatbot in Python

Make a Practical file (Do any 10 Programs)

1. Sum of Two Numbers
2. Calculate Area of a Circle
3. Check Whether a Number is Even or Odd
4. Find the Largest Among Three Numbers
5. Check Whether a Year is a Leap Year
6. Calculate Factorial of a Number Using Loop
7. Generate Fibonacci Series
8. Check Whether a Number is Prime
9. Perform Basic List Operations
10. Calculate Sum of Elements in a List
11. Perform Basic Dictionary Operations
12. Write Data to a Text File
13. Read Data from a Text File
14. Count Number of Vowels in a Text File
15. Search for a Word in a Text File

File Sequence:

1. Cover page 2. Index 3.Certificate 4.Acknowledgement 5.Content Page
6.Bibliography 7.Thank you

JIVA HOMEWORK