

KENDRIYA VIDYALAYA GUNUPUR

SUBJECT: MATHEMATICS
AUTUN BREAK HOLIDAY HOME WORK

CLASS: VII
SESSION: 2026-27

Complete your Homework Note-Book and Do the Activity-works in A4 paper only.

Activity 1: Explore large numbers in real-life situations.

1. Collect five large numbers from a newspaper, book, product label or reliable information source—for example, population figures or distances.
2. Write each number using the Indian and International place-value systems, wherever applicable.
3. Write the number names and identify the place value of two selected digits in each number.
4. Arrange the numbers in ascending order and estimate their approximate values.

Submit: A table containing the numbers, number names, place values, comparison and sources.

Activity 2: Use arithmetic expressions to calculate household expenses.

1. Prepare a sample shopping list of at least five items with quantities and prices.
2. Write an arithmetic expression for the total cost.
3. Include a discount or an additional charge in a separate example and calculate the final amount.
4. Create two expressions using brackets and different operations. Solve them by following the correct order of operations.

Submit: Your shopping bill, expressions, step-by-step calculations and a short explanation of why the order of operations matters.

Activity 3: Investigate decimal numbers through measurement.

1. Measure the length of five household objects to the nearest centimetre or millimetre, depending on the measuring tool.
2. Record the measurements in centimetres using decimal notation wherever appropriate.
3. Arrange the measurements in ascending order.
4. Choose two measurements and calculate their sum and difference.
5. Find an example of decimal numbers on a product label or bill and explain what the decimal represents.

Submit: A measurement table, a comparison of values and all calculations with units.

Activity 4: Translate everyday situations into algebraic expressions.

1. Let the price of one notebook be ₹ x . Write an expression for the cost of 5 notebooks.
2. If a student has ₹ p and spends ₹35, write an expression for the remaining amount.
3. Write an expression for the perimeter of a rectangle with length l and breadth b .
4. Create three situations of your own and represent each using letters and numbers.
5. Substitute suitable numerical values into two of your expressions and calculate the results.

Submit: Five real-life situations, their algebraic expressions and the evaluated answers.

Activity 5: Explore geometry and mathematical patterns.

1. Identify parallel and intersecting lines in a window, tiled floor or notebook.
2. Draw two parallel lines crossed by a transversal. Mark the angles and investigate pairs of equal or supplementary angles.
3. Draw a triangle and measure its three interior angles. Find their sum and write your observation.
4. Create one number puzzle or pattern inspired by Chapter 6 and explain the rule.
5. Verify your triangle angle-sum observation with a second triangle of a different shape.

Submit: Labelled diagrams, angle measurements, calculations and your original number puzzle.

केंद्रीय विद्यालय गुणपुर (Kendriya Vidyalaya Gunupur)

शरदकालीन अवकाश गृहकार्य (Autumn Break Homework)

कक्षा 7 – हिंदी (पाठ्यपुस्तक: मल्हार) | सत्र: 2026-27

मुख्य विषय (Theme): पर्यावरण, कला और हमारी संस्कृति

सामान्य निर्देश (General Instructions):

- सभी कार्य साफ़, सुंदर और स्पष्ट लिखावट में करें।
- गतिविधियाँ (Activities) चित्र, क्राफ्ट या रंगीन स्केच पेन की सहायता से आकर्षक बनाएँ।
- A4 साइज़ शीट / स्क्रेप बुक का उपयोग करें।
- यह कार्य आपकी रचनात्मकता (Creativity), विषय-समझ और प्रयोगात्मक अधिगम पर आधारित है।

गतिविधि 1: 'शरदकालीन पर्व एवं संस्कृति' (Illustrated Magazine/ पत्रिका)

शरद ऋतु में आने वाले प्रमुख त्योहारों (जैसे दशहरा, दीपावली, छठ आदि) पर 2-3 पन्नों की एक हस्तनिर्मित लघु-पत्रिका (Mini Magazine) तैयार करें। इसमें त्योहार का महत्व, चित्र और एक सुंदर स्वरचित बधाई संदेश शामिल करें।

गतिविधि 2: 'पर्यावरण संरक्षण हेतु विज्ञापन लेखन' (Creative Poster & Ad)

त्योहारों के दौरान प्रदूषण-मुक्त (Eco-Friendly) उत्सव मनाने का संदेश देते हुए एक आकर्षक 'विज्ञापन' (Advertisement) बनाएँ। उसमें स्लोगन (Slogan) और सुंदर चित्रों का प्रयोग करें।

गतिविधि 3: 'पाठ्यपुस्तक मल्हार पर आधारित सचित्र डायरी लेखन'

अवकाश के दौरान बिताए गए अपने सबसे प्रिय दिन का वर्णन एक 'डायरी के पन्ने' के रूप में करें। 'मल्हार' पुस्तक की किसी एक कविता या कहानी से जोड़ते हुए अपनी भावनाओं को व्यक्त करें।

केंद्रीय विद्यालय गुणपुर - आपकी शरदकालीन छुट्टियाँ अनंदमय और ज्ञानवर्धक हों!

Class 7 SST
KV GUNUPUR (Winter homework)

Chapter -Barter system

- (a) Buying goods with money
- (b) Exchange of goods for goods
- (c) Exchange of goods for services using money
- (d) Banking system

Which problem is commonly faced in the barter system?

- (a) Easy storage
- (b) Double coincidence of wants
- (c) Uniform value
- (d) Use of coins

Which of the following was used as money in ancient times?

- (a) Plastic cards
- (b) Shells
- (c) Credit cards
- (d) Cheques

Why was money introduced?

- (a) To increase barter
- (b) To overcome problems of barter
- (c) To reduce trade
- (d) To stop exchange

Which of the following is a function of money?

- (a) Means of exchange
- (b) Source of pollution
- (c) Cause of inflation
- (d) Decoration

Coins are usually made of:

- (a) Paper
- (b) Plastic
- (c) Metals
- (d) Wood

Chapter-The Rise of Empires

1. Describe the Mauryan Empire and explain the role of Chandragupta Maurya.
2. Explain the administration of Ashoka and the importance of his Dhamma policy.
3. Explain the causes for the rise of large empires in ancient India.
4. Explain the military, administrative and economic features of any one Indian empire.
5. Describe how trade, agriculture and crafts helped the growth of ancient empires.
6. Explain how regional powers later replaced the great empires.

Chapter-The Age of Reorganisation

1. Explain the important features of the Sunga dynasty. What role did they play in restoring Brahmanism and reviving art and culture?

2. Describe the administration and achievements of the Satavahana dynasty. How did they contribute to trade and agriculture?
3. Who were the Cheras? Describe their geographical region, economy and cultural contributions.
4. Explain the rise of the Cholas after the Mauryas. Describe their administration with special reference to village self-government.
5. Discuss the importance of the Pandya kingdom in ancient South India. What were their achievements in trade, literature and culture?
6. Describe how the Cheras, Cholas and Pandyas played a major role in Indian Ocean trade. Explain their connection with Roman traders.
7. Compare the political systems of the Cheras, Cholas and Pandyas. How were they similar and different?
8. Explain how the Satavahanas helped in linking the north and south of India. Describe their contributions to roads, ports and trade routes.
9. Describe the cultural progress (art, literature, architecture, inscriptions) made during the Sunga, Satavahana and early South Indian dynasties.

KENDRIYA VIDYALAYA GUNUPUR
Autumn Break Holiday Homework – English

CLASS-VII

Session 2026–27

Theme: Explore • Research • Create • Write • Communicate

Dear Students,

The autumn break is an opportunity to learn English beyond textbooks. This holiday homework is designed to develop your reading, writing, vocabulary, grammar, research and creative thinking skills through enjoyable, real-life activities.

- Daily time: 15–20 minutes
- Duration: 10 days of guided activities, followed by project completion and revision as needed.
- Materials: English notebook or scrapbook, pencil, colours and age-appropriate books or trusted online resources with adult guidance.
- Important: Write in your own words. Do not copy entire paragraphs from the internet. Interview family members, observe your surroundings and use your imagination.

Common daily activity: Learn your verbs!

- Every day you must practice 5 daily-use verbs each day for 10 days. Learn their meanings, three forms and one original sentence for each verb.

Example: go – went – gone – I go to school every day.

❖ **Local Word Collector**

Collect 10 English words from newspapers, advertisements or public signboards. Give meanings, **synonyms and original sentences**.

❖ **Interview an Inspiration**

Interview a parent, grandparent or community member about a life lesson. Write 8 questions and a report of 120 words.

❖ **Our Local Heritage**

Research a historical place, tradition or cultural practice in your locality. Write 120–150 words and include a drawing or photograph.

❖ **Reading Detective**

Read a short story. Identify its theme, setting, main characters, conflict and message. Write 5 questions you would ask the author.

❖ **English Around Me**

Observe common English mistakes on signs, notices or advertisements. Record 5 examples and rewrite them correctly.

❖ **Poetry in Nature**

Write a poem of 12–16 lines about nature, friendship or your hometown. Identify two poetic devices you have used.

❖ **Young Journalist**

Prepare a one-page newspaper containing a headline, a local-interest news report, a short interview and a vocabulary corner.

Final creative project: Create a mini newspaper titled “The Young Reporter”. Include your best research report, interview, vocabulary and poem.

अत्र इदम् अवधेयम्

- 'रसायनम्' इति शब्दः आयुर्वेदशास्त्रे 'औषधम्' इत्यस्मिन् विषये प्रयुज्यते।
- 'कृतवतु' -प्रत्ययस्य प्रयोगः भूतकालार्थे अपि भवति।

पठ् + कृतवतु = (पुंलिङ्गे) पठितवान् (एकवचनम्) पठितवन्तः (बहुवचनम्)
(स्त्रीलिङ्गे) पठितवती (एकवचनम्) पठितवत्यः (बहुवचनम्)

उदाहरणानि - सः पठितवान्।
छात्रः पठितवान्।
छात्राः पठितवन्तः।
त्वं पठितवान्।
अहं पठितवान्।

सा पठितवती।
राधिका पठितवती।
बालिकाः पठितवत्यः।
त्वं पठितवती।
अहं पठितवती।



वयम् अभ्यासं कुर्मः

१. अधोलिखितानां प्रश्नानाम् एकपदेन पदद्वयेन वा उत्तराणि लिखन्तु—

- (क) कः प्रसिद्धः चिकित्सकः आसीत्?
- (ख) अन्यस्मिन् दिवसे कौ आगतौ?
- (ग) कः खिन्नः आसीत्?
- (घ) रुग्णस्य परिस्थितिः कथम् आसीत्?
- (ङ) नागार्जुनः सहायकरूपेण कं चितवान्?
- (च) कां विना चिकित्सकः न भवति?
- (छ) नागार्जुनः युवकौ केन मार्गेण गन्तुं सूचितवान्?

२. अधोलिखितानां प्रश्नानां पूर्णवाक्येन उत्तरं लिखन्तु—

- (क) अहोरात्रं नागार्जुनः कुत्र कार्यं करोति स्म?
- (ख) नागार्जुनः महाराजं किं निवेदितवान्?
- (ग) प्रथमः युवकः कथं कार्यं कृतवान्?

- (घ) द्वितीयः युवकः राजमार्गे रोगिणं दृष्ट्वा किं कृतवान् ?
 (ङ) सेवायाः भावनां विना किं न भवेत् ?

३. उदाहरणानुसारम् अधोलिखितानां पदानां स्त्रीलिङ्गरूपाणि लिखन्तु —

एकवचनम्

बहुवचनम्

१ (क) पठितवान्	—	पठितवती	—	पठितवत्यः
(ख) गतवान्	—		—	
(ग) लिखितवान्	—		—	
(घ) खादितवान्	—		—	
(ङ) क्रीडितवान्	—		—	
(च) हसितवान्	—		—	
(छ) निवेदितवान्	—		—	
(ज) सूचितवान्	—		—	

४. उदाहरणानुसारम् अधोलिखितानां पदानां पुलिङ्गरूपाणि लिखन्तु।

एकवचनम्

बहुवचनम्

(क) पठितवती	—	पठितवान्	—	पठितवन्तः
(ख) कृतवती	—		—	
(ग) दृष्टवती	—		—	
(घ) दत्तवती	—		—	
(ङ) प्रक्षालितवती	—		—	
(च) धावितवती	—		—	

५. उदाहरणानुसारं वाक्यानि परिवर्तयन्तु —

- यथा - पिता कषायं पिबति। पिता कषायं पीतवान्।
 अहं पुस्तकं नयामि। अहं पुस्तकं नीतवान् / नीतवती।
 (क) युवकः आपणं गच्छति। —

अत्र इदम् अवधेयम्
'नमः' शब्दस्य योगे चतुर्थी विभक्तिः भवति। यथा - भास्कराय नमः।

४. पाठे विद्यमानानां 'नमः' युक्तशब्दानां सङ्ग्रहं कृत्वा लिखन्तु -

यथा - मित्राय नमः।

(क)

(ख)

(ग)

(घ)

(ङ)

(च)

(छ)

(ज)

(झ)

(ञ)

(ट)



५. उदाहरणानुसारं कोष्ठकात् पदानि स्वीकृत्य वाक्यानि रचयन्तु -

अग्निः, आचार्या, त्रिवर्णध्वजः, जनकः, वृक्षः, देवी,
भगिनी, मातामही, जननी, पृथिवी, नदी

यथा - अग्नये नमः।

(क)

(ख)

३. पाठात् समुचितं पदं चित्वा अधः रिक्तस्थानानि पूरयन्तु —

- (क) प्रत्येकस्मात् पूर्वम् एकः मन्त्रः भवति ।
 (ख) वयं प्रतिदिनं करवाम ।
 (ग) स्वस्थं स्वस्थं च प्राप्नवाम ।
 (घ) एकेन सूर्यनमस्कारस्य बहूनि प्रयोजनानि वदामि ।
 (ङ) आदित्यस्य ये कुर्वन्ति दिने दिने ।

अधोलिखितानि शब्दरूपाणि पठन्तु अवगच्छन्तु च ।

लिङ्गम्	शब्दः	चतुर्थी विभक्तिरूपाणि		
		एकवचनम्	द्विवचनम्	बहुवचनम्
अकारान्त- पुंलिङ्गम्	छात्र	छात्राय	छात्राभ्याम्	छात्रेभ्यः
	नायक	नायकाय	नायकाभ्याम्	नायकेभ्यः
	आदित्य	आदित्याय	आदित्याभ्याम्	आदित्येभ्यः
आकारान्त- स्त्रीलिङ्गम्	आचार्या	आचार्यायै	आचार्याभ्याम्	आचार्याभ्यः
	योगिता	योगितायै	योगिताभ्याम्	योगिताभ्यः
	बालिका	बालिकायै	बालिकाभ्याम्	बालिकाभ्यः
ईकारान्त- स्त्रीलिङ्गम्	शालिनी	शालिन्यै	शालिनीभ्याम्	शालिनीभ्यः
	नदी	नद्यै	नदीभ्याम्	नदीभ्यः
	भगिनी	भगिन्यै	भगिनीभ्याम्	भगिनीभ्यः
अकारान्त- नपुंसकलिङ्गम्	आसन	आसनाय	आसनाभ्याम्	आसनेभ्यः
	भोजन	भोजनाय	भोजनाभ्याम्	भोजनेभ्यः
	फल	फलाय	फलाभ्याम्	फलेभ्यः

अतिरिक्तम् अध्ययनम् वर्णमात्रा-परिचयः



श्रद्धा - नमस्ते अध्यापक-महोदय ! षष्ठ-कक्षायाः पाठ्यपुस्तके वर्णमात्रायाः पाठे कश्चित् संदेहः अस्ति ।
वर्णमात्रायाः पाठस्य प्रारम्भे वयं पूर्वं स्वराणां द्वे मात्रे दृष्टवन्तः -

• (१) 'ह्रस्वः' - एकमात्रः (२) 'दीर्घः' - द्विमात्रः च ।

परन्तु अग्रे पाठस्य अन्ते स्वराणां तृतीया मात्रा अपि कश्चित् प्रदर्शिता -

• (३) 'प्लुतः' - त्रिमात्रः इति ।

कः एषः स्वराणां 'प्लुतः' नाम त्रिमात्रः ?

अध्यापकः - श्रद्धे ! समीचीनं प्रश्नं पृष्ठवती । सामान्यतः अन्य-भारतीय-भाषासु स्वराणां प्रायः द्वे मात्रे एव भवतः - 'ह्रस्वः', 'दीर्घः' च । अत एव पाठे पूर्वं सरलतार्थं द्वे मात्रे एव प्रदर्शिते ।

परन्तु संस्कृत-भाषायां वस्तुतः सर्वेषां स्वराणां त्रिमात्रः अपि कश्चिद् उपभेदः भवति । यथा -

ह्रस्वः (एकमात्रः - १)	दीर्घः (द्विमात्रः - २)	प्लुतः (त्रिमात्रः - ३)
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१. समानाक्षराणि

अ	आ	अ३
इ	ई	इ३
उ	ऊ	उ३
ऋ	ॠ	ऋ३
ऌ	-	ऌ३

२. सन्ध्यक्षराणि

-	ए	ए३
-	ऐ	ऐ३
-	ओ	ओ३
-	औ	औ३

‘उ’कारान्ताः पुलिङ्गशब्दाः

‘उ’कारान्तः (शम्भु = श + म् + भ् + उ) अत्र अन्तिमवर्णः ‘उ’ अतः ‘उ’कारान्तः इति।

‘उ’कारान्तः पुलिङ्गः ‘शम्भु’-शब्दः

विभक्तिः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमा	शम्भु	शम्भू	शम्भवः
द्वितीया	शम्भुम्	शम्भू	शम्भून्
तृतीया	शम्भुना	शम्भुभ्याम्	शम्भुभिः
चतुर्थी	शम्भवे	शम्भुभ्याम्	शम्भुभ्यः
पञ्चमी	शम्भोः	शम्भुभ्याम्	शम्भुभ्यः
षष्ठी	शम्भोः	शम्भवोः	शम्भूनाम्
सप्तमी	शम्भौ	शम्भवोः	शम्भुषु
सम्बोधनम्	हे शम्भो !	हे शम्भू !	हे शम्भवः !

एवम् – मनु, वायु, पशु, ऋतु, शिशु, भानु, विष्णु इत्यादयः

‘उ’कारान्तः पुलिङ्गः ‘गुरु’-शब्दः

विभक्तिः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमा	गुरुः	गुरू	गुरवः
द्वितीया	गुरुम्	गुरू	गुरून्
तृतीया	गुरुणा	गुरुभ्याम्	गुरुभिः
चतुर्थी	गुरवे	गुरुभ्याम्	गुरुभ्यः
पञ्चमी	गुरोः	गुरुभ्याम्	गुरुभ्यः
षष्ठी	गुरोः	गुर्वोः	गुरुणाम्
सप्तमी	गुरौ	गुर्वोः	गुरुषु
सम्बोधनम्	हे गुरो !	हे गुरू !	हे गुरवः !

एवम् – तरु, रिपु, प्रभु, इक्षु, शत्रु इत्यादयः

‘ऋ’कारान्ताः पुलिङ्गशब्दाः

‘ऋ’कारान्तः (पितृ = प् + इ + त् + ऋ) अत्र अन्तिमवर्णः ‘ऋ’ अतः ‘ऋ’कारान्तः इति।

‘ऋ’कारान्तः पुलिङ्गः ‘पितृ’-शब्दः

विभक्तिः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमा	पिता	पितरौ	पितरः
द्वितीया	पितरम्	पितरौ	पितृन्
तृतीया	पित्रा	पितृभ्याम्	पितृभिः
चतुर्थी	पित्रे	पितृभ्याम्	पितृभ्यः
पञ्चमी	पितुः	पितृभ्याम्	पितृभ्यः
षष्ठी	पितुः	पित्रोः	पितृणाम्
सप्तमी	पितरि	पित्रोः	पितृषु
सम्बोधनम्	हे पितः !	हे पितरौ !	हे पितरः !

एवम् – भ्रातृ, जामातृ इत्यादयः

‘ऋ’कारान्तः पुलिङ्गः ‘नेतृ’-शब्दः

विभक्तिः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमा	नेता	नेतारौ	नेतारः
द्वितीया	नेतारम्	नेतारौ	नेतृन्
तृतीया	नेत्रा	नेतृभ्याम्	नेतृभिः
चतुर्थी	नेत्रे	नेतृभ्याम्	नेतृभ्यः
पञ्चमी	नेतुः	नेतृभ्याम्	नेतृभ्यः
षष्ठी	नेतुः	नेत्रोः	नेतृणाम्
सप्तमी	नेतरि	नेत्रोः	नेतृषु
सम्बोधनम्	हे नेतः !	हे नेतारौ !	हे नेतारः !

एवम् – कर्तृ, धातृ, नप्तृ इत्यादयः

८. अधः प्रदत्तानां क्रियापदानां त्रिषु पुरुषेषु त्रिषु वचनेषु चलिट् लकारस्य रूपाणि लिखन्तु—

	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः	भवति	.....	.....
मध्यमपुरुषः	.....	.....	.....
उत्तमपुरुषः	.....	.....	.....

	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः	अस्ति	.....	.....
मध्यमपुरुषः	.....	.....	.....
उत्तमपुरुषः	.....	.....	.....

	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः			
मध्यमपुरुषः			
उत्तमपुरुषः			इच्छामः

	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः			आगच्छन्ति
मध्यमपुरुषः			
उत्तमपुरुषः			

कोष्ठके विद्यमानानां शब्दानां चतुर्थी-विभक्तेः रूपाणि प्रयुज्य वाक्यानि पुनः लिखन्तु—

यथा—सैनिकः (देश) जीवनं प्रयच्छति।

.....सैनिकः देशाय जीवनं प्रयच्छति।

(क) माता (याचक) वस्त्रं ददाति।

(ख) पौत्रः (पितामही) औषधं ददाति।

(ग) अहं (भगिनी) उपायनं ददामि।

(घ) पिता (सेविका) वेतनं ददाति।

(ङ) त्वं (मित्र) पुष्पं ददासि।

(च) देवः (भक्त) आशीर्वादं ददाति।

(छ) आरक्षकः (चोर) दण्डं ददाति।

आत्मनेपदिधातूनां लृट्-लकारस्य रूपाणि (भविष्यत्कालः)

लृट्-लकारः (वर्तमानकालः)

'भाष्'-धातुः				'यत्'-धातुः			
पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्	पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः	भाषिष्यते	भाषिष्येते	भाषिष्यन्ते	प्रथमपुरुषः	यतिष्यते	यतिष्येते	यतिष्यन्ते
मध्यमपुरुषः	भाषिष्यसे	भाषिष्येथे	भाषिष्यध्वे	मध्यमपुरुषः	यतिष्यसे	यतिष्येथे	यतिष्यध्वे
उत्तमपुरुषः	भाषिष्ये	भाषिष्यावहे	भाषिष्यामहे	उत्तमपुरुषः	यतिष्ये	यतिष्यावहे	यतिष्यामहे

एवम् - स्पर्ध्, वृध् (वर्ध्), कूर्द, कम्प्, राज् इत्यादयः

परस्मैपदि-धातूनां लङ्-लकारस्य रूपाणि (भूतकालः)

भूतकालः (वर्तमानकालः)

'पठ्'-धातुः				'लिख्'-धातुः			
पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्	पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः	अपठत्	अपठताम्	अपठन्	प्रथमपुरुषः	अलिखत्	अलिखताम्	अलिखन्
मध्यमपुरुषः	अपठः	अपठतम्	अपठत	मध्यमपुरुषः	अलिखः	अलिखतम्	अलिखत
उत्तमपुरुषः	अपठम्	अपठाव	अपठाम	उत्तमपुरुषः	अलिखम्	अलिखाव	अलिखाम

एवम् - लिख्, खाद्, वद्, प्रच्छ् (पृच्छ्), मिल्, क्रीड्, हस्, चल्, त्यज्, स्मृ (स्मर्), पा (पिब), नी (नय्), भू (भव्), दृश् (पश्य्) गम् (गच्छ्) इत्यादयः

विशेष-धातवः

'अस्'-धातुः				'कृ'-धातुः			
पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्	पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः	आसीत्	आस्ताम्	आसन्	प्रथमपुरुषः	अकरोत्	अकुरुताम्	अकुर्वन्
मध्यमपुरुषः	आसीः	आस्तम्	आस्त	मध्यमपुरुषः	अकरोः	अकुरुतम्	अकुरुत
उत्तमपुरुषः	आसम्	आस्व	आस्म	उत्तमपुरुषः	अकरवम्	अकुर्व	अकुर्म

'श्रु'-धातुः				'दा'-धातुः			
पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्	पुरुषः	एकवचनम्	द्विवचनम्	बहुवचनम्
प्रथमपुरुषः	अश्रृणोत्	अश्रृणुताम्	अश्रृण्वन्	प्रथमपुरुषः	अददात्	अदत्ताम्	अददुः
मध्यमपुरुषः	अश्रृणोः	अश्रृणुतम्	अश्रृणुत	मध्यमपुरुषः	अददाः	अदत्तम्	अदत्त
उत्तमपुरुषः	अश्रृणुवम्	अश्रृणुव	अश्रृणुम	उत्तमपुरुषः	अददाम्	अदद्व	अदद्व



तव त्वं पूषन अपावृषु
केन्द्रीय विद्यालय संगठन

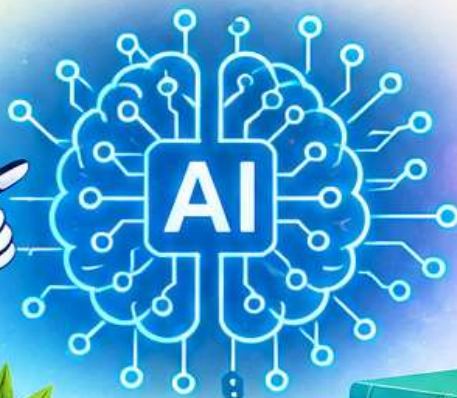
KENDRIYA VIDYALAYA GUNUPUR



Autumn Break Holiday Home Work

Subject :
ARTIFICIAL INTELLIGENCE

Subject Teacher :
Chandra Sekhar Sahu



Machine
Learning



Robotics



Data
Science



Automation



KENDRIYA VIDYALAYA GUNUPUR
ACTIVITY-BASED WORKSHEET
SUBJECT: ARTIFICIAL INTELLIGENCE (AI)

ACTIVITY 1: AI AROUND ME

Observe and Identify

Look around your home or school and identify **5 devices/apps/services that use AI**.

S.No.	AI Application/Device	Where do you use it?	What does AI do?
1			
2			
3			
4			
5			

Think & Answer

Which AI application do you use most often? Why?

● **ACTIVITY 2: AI OR NOT AI?**

Write **AI** if the example involves Artificial Intelligence and **N** if it does not.

1. ☐ A calculator adding $25 + 35$
2. ☐ Face unlock on a smartphone
3. ☐ A voice assistant recognising your speech
4. ☐ A traditional wall clock
5. ☐ YouTube recommending videos
6. ☐ A washing machine following a fixed timer
7. ☐ Google Maps predicting traffic
8. ☐ A smart camera detecting a person

Challenge

Choose **one answer marked AI** and explain how AI helps in it.

ACTIVITY 3: HUMAN BRAIN VS AI

Complete the table.

Human Intelligence	Artificial Intelligence
Can understand emotions	
Learns from experiences	
Can use common sense	
	Can process large amounts of data
	Can perform repetitive tasks quickly

Think!

Can AI completely replace human intelligence? Give one reason.

ACTIVITY 4: THE AI LEARNING GAME

Imagine you are training an AI to identify animals.

Give the AI some examples:

Training Data

Animal	Features
Dog	Four legs, tail, fur, barks
Cat	Four legs, tail, fur, meows
Cow	Four legs, large body, gives milk
Bird	Two legs, wings, feathers

Now identify the animal:

Case 1

- Four legs
- Fur
- Tail
- Says "Meow"

Answer: _____

Case 2

- Two legs
- Wings
- Feathers
- Can fly

Answer: _____

Case 3

- Four legs
- Large body
- Gives milk

Answer: _____

Think!

What did the AI use to identify the animals?

- ☐ Guessing
 - ☐ Training data/features
 - ☐ Magic
 - ☐ Random choice
-

ACTIVITY 5: DATA DETECTIVE

AI needs **data** to learn.

Imagine you are designing an AI system that recommends books to students.

Write **5 pieces of data** that could help the system recommend a suitable book.

1. _____
2. _____
3. _____
4. _____
5. _____

Challenge

Why should the data given to an AI system be **accurate and useful**?

● ACTIVITY 6: FIND THE BIAS

Two students apply for a school activity.

An AI system gives preference to students from one particular group because most previous selected students belonged to that group.

Answer the following:

1. Is this fair?

☐ Yes ☐ No

2. What problem can occur?

3. How can we make the AI system fairer?

Remember 💡

AI should be designed and used fairly.

ACTIVITY 7: AI PROBLEM SOLVER

Choose one problem from your school or community.

Examples:

- Wasting electricity
- Traffic management
- Waste segregation
- Water conservation
- School attendance
- Finding lost objects
- Library management

My Problem

Problem: _____

My AI Solution

What data will the AI need?

Who will benefit from your solution?

● **ACTIVITY 8: DESIGN YOUR OWN AI**

Imagine you are an **AI inventor!**

Draw or describe your own AI-based device/app.

Name of my AI:

What problem does it solve?

How does it work?

Who will use it?

Draw your AI below:

| DRAW HERE |

ACTIVITY 9: AI ETHICS – RIGHT OR WRONG?

Write **R** for Responsible and **W** for Wrong/Irresponsible.

1. ___ Using AI to learn a difficult topic.
2. ___ Using AI to spread fake information.
3. ___ Checking AI-generated information before using it.
4. ___ Sharing someone's private information with an AI tool.
5. ___ Using AI to generate ideas for a project.
6. ___ Using AI to cheat in an examination.
7. ___ Giving credit when AI-generated material is used.
8. ___ Using AI to create harmful content.

My Rule for Responsible AI Use

I will always _____

ACTIVITY 10: CREATE AN AI POSTER

Create a colourful poster on **“AI for a Better Future.”**

Your poster should contain:

- ☐ A suitable title
- ☐ At least 3 applications of AI
- ☐ One benefit of AI
- ☐ One responsible-use message
- ☐ Drawing/pictures
- ☐ A slogan

Suggested Slogans

- **“Use AI Wisely, Build the Future Brightly!”**
- **“AI is Powerful – Use It Responsibly!”**
- **“Smart Technology, Responsible Humanity!”**

REFLECTION CORNER

Complete the sentences:

Today I learned:

The most interesting activity was:

One thing I did not know about AI was:

One responsible way I will use AI is:

MINI AI QUIZ

1. What does AI stand for?

2. Give two examples of AI applications.

3. Why is data important for AI?

4. What is AI bias?

5. Write one advantage and one limitation of AI.

Advantage: _____

Limitation: _____

KENDRIYA VIDYALAYA GUNUPUR

CLASS VII - SCIENCE WORKSHEET

Chapters: Heat Transfer in Nature & Measurement of Time and Motion

Student's Name:

Roll No:

Section:

Date:

Max. Marks: 40

Time Allowed: 1 hr 15 min

SECTION A: MULTIPLE CHOICE QUESTIONS (10 MARKS)

Choose the correct option. Each question carries 1 mark.

1. The transfer of heat in liquids and gases primarily takes place by:
(a) Conduction (b) Convection
(c) Radiation (d) Insulation
2. The SI unit of speed is:
(a) **km/h** (b) **m/min**
(c) **m/s** (d) **km/min**
3. Sea breeze blows during which part of the day?
(a) Night (b) Day
(c) Early morning only (d) Throughout day and night
4. The instrument used to measure the speed of an automobile is:
(a) Odometer (b) Speedometer
(c) Barometer (d) Anemometer
5. Which of the following modes of heat transfer does not require any medium?
(a) Conduction (b) Convection
(c) Radiation (d) Both Conduction and Convection
6. The distance-time graph for an object moving with a uniform speed is a:
(a) Curved line (b) Straight line
(c) Circle (d) Zig-zag line
7. Woolen clothes keep us warm during winter because wool is a:
(a) Good conductor of heat (b) Poor conductor of heat
(c) Radiator of heat (d) Conductor of electricity
8. The time period of a simple pendulum depends upon its:
(a) Weight of the bob (b) Size of the bob
(c) Length of the string (d) Color of the bob
9. Land breeze blows during:
(a) Day time (b) Night time
(c) Afternoon (d) Noon
10. The basic unit of time is the:
(a) Minute (b) Hour
(c) Second (d) Millisecond

SECTION B: FILL IN THE BLANKS (10 MARKS)

Fill in the blanks with appropriate words. Each question carries 1 mark.

1. The hotness of an object is reliably measured by its _____ .
2. Heat flows from a body at a higher temperature to a body at a _____ temperature.
3. The distance moved by an object in a unit time is called its _____ .
4. A _____ is used to measure the total distance traveled by a vehicle.
5. Energy from the sun reaches the earth through the process of _____ .
6. The motion of a simple pendulum is an example of _____ motion.
7. Dark-colored surfaces absorb _____ heat compared to light-colored surfaces.
8. The time taken by a pendulum to complete one full oscillation is called its _____ .
9. Conduction is the primary mode of heat transfer in _____ .
10. A train moving on a straight railway track has _____ motion.

SECTION C: ONE WORD / VERY SHORT ANSWER (10 MARKS)

Answer each question in one word or a single sentence. Each question carries 1 mark.

1. What is the SI unit of time?
Ans: _____
2. Name the device used to record the distance moved by vehicles.
Ans: _____
3. Which mode of heat transfer involves the actual movement of fluid particles?
Ans: _____
4. What type of clothes are preferred during summer seasons?
Ans: _____
5. What does a straight line parallel to the time axis on a distance-time graph indicate about an object?
Ans: _____
6. Name the process by which heat is transferred through solids.
Ans: _____
7. During which time of the day does land breeze occur?
Ans: _____
8. What is the motion of the earth around the sun called?
Ans: _____
9. Give one example of a natural periodic event used for measuring time in ancient days.
Ans: _____
10. Why are handles of cooking utensils often made of plastic or wood?
Ans: _____

SECTION D: MATCH THE FOLLOWING (10 MARKS)

Match the items in Column A with their correct descriptions in Column B. Each correct match carries 2 marks.

Column A	Column B
1. Conduction	A. Measures the speed of a vehicle

Column A	Column B
2. Sea Breeze	B. Transfer of heat through solid materials
3. Speedometer	C. Periodic and to-and-fro motion
4. Odometer	D. Occurs during the day when land heats up faster than water
5. Simple Pendulum	E. Measures the total distance covered by an automobile

SUBJECT ENRICHMENT ACTIVITY

CLASS VII - SCIENCE (PHYSICS)

Topic: Demonstration and Study of Ancient Time Measurement Devices

Student's Name:

Roll No:

Class & Sec:

Date of Submission:

Max. Marks: 05 Marks

Activity Type: Individual
Project

1. OBJECTIVE & LEARNING OUTCOME

Objective: To understand, construct, and demonstrate various ancient methods used to measure time before the invention of modern mechanical and digital clocks.

Learning Outcomes:

- Understand the concept of periodic natural phenomena used by ancient civilizations for tracking time.
- Explore the working principles of the Sundial, Sand Clock (Hourglass), and Water Clock (Clepsydra).
- Appreciate the evolution of timekeeping technology from simple shadow positions to modern quartz clocks.

2. ANCIENT METHODS OF MEASURING TIME

A. The Sundial (Sun-shadow Measurement)

Working Principle: Uses the change in the position and length of a shadow cast by the Sun as it moves across the sky during daytime.

- **Key Component:** A *Gnomon* (a triangular plate or stick) mounted on a flat dial marked with hour lines.
- **Method:** As the sun rises in the east, moves across the sky, and sets in the west, the gnomon casts a shadow pointing towards different marked hour positions.
- **Limitation:** Works only on sunny days; cannot measure time at night or on cloudy days.
- **Famous Indian Example:** The *Samrat Yantra* at Jantar Mantar (Jaipur and Delhi).

B. Sand Clock (Hourglass)

Working Principle: Based on the uniform rate of flow of dry fine sand through a narrow opening under gravity.

- **Construction:** Two vertically connected glass bulbs with a narrow neck in between. One bulb contains a fixed quantity of fine sand.
- **Method:** When inverted, sand flows from the top bulb to the bottom bulb over a fixed interval (e.g., exactly 1 hour or 5 minutes).
- **Limitation:** Measures only fixed intervals of time; must be manually turned over repeatedly.

C. Water Clock (Clepsydra / Jal Yantra)

Working Principle: Measures time by the regulated flow of water into or out of a container.

- **Inflow Water Clock:** Water drips continuously into a graduated vessel; the rising water level indicates elapsed time.
- **Outflow Water Clock:** A container with a small hole at the bottom empties water at a steady rate.
- **Ancient Indian Jal Yantra:** A metallic bowl with a small hole floated in a larger vessel of water. The bowl gradually filled and sank after a fixed duration (known as a *ghati*).
- **Limitation:** Water flow rate can change with temperature, evaporation, or sediment blockage in the hole.

D. Natural Periodic Events

Ancient people also relied on natural periodic repetitions to keep track of larger time intervals:

- **One Day:** Time taken between one sunrise and the next sunrise.
- **One Month:** Time interval between one new moon and the next new moon.
- **One Year:** Time taken by the Earth to complete one revolution around the Sun (marked by repeating seasons).

3. DIY HANDS-ON ACTIVITY TASK FOR STUDENTS

Task Instructions: Choose ANY ONE of the following working models to build at home using low-cost / recycled materials:

1. **Cardboard Sundial:** Make a flat cardboard base marked with 12 hour lines and attach a triangular cardboard gnomon. Test it under direct sunlight and record shadow positions.
2. **Plastic Bottle Sand Clock:** Connect two small plastic bottles at their mouths using a washer or drilled cap. Fill fine dry sand in one bottle and time its flow using a stopwatch.
3. **Drip Water Clock:** Use a plastic cup with a tiny pinhole at the bottom suspended over a clear graduated cup. Mark water height levels at 1-minute intervals.

4. STUDENT OBSERVATION RECORD SHEET

Fill in this section after completing your model demonstration:

1. **Model Chosen by Student:** _____
2. **Materials Used:** _____
3. **Time Interval Measured by Model (e.g., 5 mins, 1 hour):** _____
4. **Comparison with Modern Digital Stopwatch:**
 - Time indicated by ancient model: _____
 - Actual time on digital stopwatch: _____
 - Difference / Error observed: _____
5. **One advantage and one limitation of your chosen model:**
Advantage: _____
Limitation: _____

5. ASSESSMENT CRITERIA & MARKING RUBRIC (5 MARKS)

Criteria	Description	Max Marks	Marks Obtained
Model / Demonstration	Creativity, neatness, and proper working condition of the ancient device model.	2 Marks	
Observation Sheet	Accuracy of observations, comparison with modern clocks, and clear error analysis.	2 Marks	
Timely Submission	Submitting the project and sheet within the stipulated date.	1 Mark	
TOTAL MARKS		05 Marks	

Teacher's Signature & Date

Remarks / Feedback