Learn, Explore, Create and Shine this Summer!"

Summer Learning Adventure Book

DAV PUBLIC SCHOOL

UPPAL'S SOUTHEND, SECTOR-49, GURUGRAM

HOLIDAYS HOMEWORK

CLASS - IX

SESSION : 2026-27

Dear Students of Grade IX,

✨🎒📖 Welcome to Your Summer Adventure Zone! 😎🚀🌈

Summer vacations are a time to relax, rejuvenate, and create joyful memories. At the same time, they also offer an opportunity to dwell into self-learning, reflection, and skill enhancement. The holiday homework has been thoughtfully designed to help you revisit the concepts taught in class, strengthen your understanding, and improve your readiness for the upcoming academic challenges.

Complete the assignments with sincerity, creativity, and originality. Let this be a journey of learning beyond textbooks, where curiosity becomes your greatest teacher.

Wishing you a productive and refreshing vacation!

ENGLISH

1. Complete the project given in the textbook Kaveri on page no 95-96
2. Complete the Assignments of Unit 1 and Unit 2

Unit 1
How I Taught My Grandmother to Read
Assignment

1. Write a short note on the Transport system in author's Childhood
2. Describe the theme of Kashi Yatre
3. Explain the statement, 'My student had passed with flying colours'
4. State the reason for the narrator and others eagerly waiting for the bus
5. Who speaks the line, The happiness of this orphan girl is more important than worshipping Lord Vishweshwara at Kashi? What does this line show about speaker's character?
6. Answer the following questions by choosing the correct option

I. What is the name of grandmother?
   a) Ajantakka
   b) Krishtakka
   c) Mangalakka
   d) Kashitakka

II. What is the name of the Wednesday magazine?
   a) Sonaveera
   b) Jalveera
   c) Karmaveera
   d) Vijayveera

III. Which novel did the writer give to her grandmother?
   a) Kashi Yatre
   b) Emma
   c) Malgudi Days
   d) Panchtantra

IV. Identify the message given in the story
   a) Learning has an age bar
   b) Wealth is of no use if you are uneducated
   c) We can overcome any obstacle if we are determined to do it
   d) If we are rich we should not get educated

V. Complete the phrase: "Her joy_____

a) was for sometime
b) knew no bounds
c) was momentary
d) knew boundaries

7. How are the grandmother and the narrator different in their personalities, values, and actions? Identify their unique traits and perspectives, and also explore any similarities they may share Additionally, consider how their interactions contribute to the overall development and themes of the story

8. My grandmother too never went to Kashi, and she identified herself with the novels protagonist So more than anybody else she was the one most interested in knowing what happened next in the story and used to insist that I read the serial out to her After hearing what happened next in Kashi Yatre, she would join her friends at the temple courtyard where we children would also gather to play hide and seek She would discuss the latest episode with her friends At that time, I never understood why there was so much of debate about the story

a) In what way did the Grandmother relate herself to Kashi Yatre in the story?
b) Why could the Grandmother not read the serial herself?
c) The leading character in a drama/ film or novel is known a _____
d) State the reason for the discussion of the serial at the temple courtyard
e) Identify the tone of the speaker when she says, I never understood why there was so much of debate about the story.

Avva is everything all right? Are you ok?

I used to call her Avva, which means mother in the Kannada spoken in north Karnataka

She nodded but did not reply I did not understand and forgot about it In the night, after dinner, we were sleeping in the open terrace of the house It was a summer night and there was a full moon Avva came and sat next to me Her affectionate hands touched my forehead I realized she wanted to speak I asked her, “What is the matter?”

i. What kind of relation did Avva and narrator share?

_____

ii. List the meaning of the phrase, ‘Her affectionate hands’

_____

iii. State the reason, why Avva did not reply to the question asked by the narrator?

_____

iv. Fill in the blank to complete the given analogy:

Remember: _____ :: summer: winter

BHARAT OUR LAND

1. Discuss how has the poet expressed his deep admiration for his motherland in the poem? Justify your response with examples from the poem.

2. Read the given lines and answer the questions briefly:

Here Brahma- knowledge has taken root,
And the Buddha preached his dhamma here
Of hoary antiquity is Bharat,
She's peerless, let's praise her!

a) What knowledge has found its base in Bharat?

_____

b) How can we say that Bharat has an ancient connection to knowledge and religion?

_____

c) What picture does the word 'hoary' and 'antiquity' used together paint for Bharat?

_____

d) Who should be Bharat' peers?

_____

3. Write a 'Concrete Poem' appreciating any of the holy river of Indian subcontinent, highlighting its significance in people's lives.

4. Based on your reading of the poem supply the describing words for the different physical features of India

Sno	Adjective	Physical features
1	Mighty	
2		Ganga
3		Upanishads
4	Sunny golden	
5		Warriors
6	Divinest	
7		Sage
8		Antiquity

MUTIPLE ASSESSMENT ACTIVITY

Create a collage with visuals, quotes and keywords highlighting India's rich culture and diversity

Unit 2

THE POT MAKER

1. Sentila acquired the skill of pottery making but her mother was unwilling to pass down the skill to her How does this episode highlight the idea of fate and external control in the society?

2. During the next pot making session, Sentila observed how her mother held the left hand and the spatula, how she slackened the rhythm when fashioning the mouth of the pots and how a strip of elongated dough was added to the mouth to make the rim

   a) What is the reason for Sentila' keen observation?

   b) Identify the words that help explain the crucial process of making a pot

   c) What all tools are needed for the making of a pot based on the above extract?

   d) Why was the mother not explaining the process to Sentila?

3. Create an advertisement for offering a course on Pottery Making to the 9th class students during vacations Include some essential details from the lesson you have read

4. **Read each riddle and fill in the correct answer**

   a) I was called by the council to uncover the truth,
   About a mother's refusal and her daughter's pursuit
   Who am I? _____

   b) We shaped the clay with skill and grace,
   Watched closely by someone in every place
   Who are we? _____ potters

   3. I loved the craft with all my heart,
   Yet from my mother, kept it apart
   Who am I? _____

   4. I stood beside her, showed her the way,
   Helping her learn a little each day
   Who am I? _____

   5. I spoke unknowingly, my words were heard,
   About my tiring work, every single word
   Who am I? _____

   6. We stood in order, row by row,
   Revealing a secret only keen eyes know
   How many were we? _____ rows

7. I worked and practised year after year,
   Slowly overcoming doubt and fear
   How long did I learn? _____ year(s)

8. With practice and patience, I gained my art,
   Making fine pots with a confident heart
   What did I become? _____

5. Guess the truth behind each clue 

1. I was called to settle a matter unclear,
   About teaching pottery year after year
   (Mesoba was called by the council) _____
1. From the very start, I was ready to teach,
   Sharing my skill within easy reach
   (Arenla was willing to teach Sentila) _____
2. By watching others, I learnt the art,
   Observing each movement from the start
   (Sentila learnt by observing potters) _____
3. I spoke my dream both loud and clear,
   So my mother could always hear
   (Sentila shared her passion openly) _____
4. I guided her hands and showed her the way,
   Helping her improve day by day
   (Onula supported Sentila) _____
5. I said my work was easy and paid me well,
   A joyful story I loved to tell
   (Sentila's mother found pottery easy and rewarding) _____
6. Only one row stood in the shed that day,
   Nothing more was there on display
   (Onula saw only one row of pots) _____
7. A year went by, yet nothing she gained,
   The skill of pottery still unexplained
   (Sentila failed to learn pottery) _____

GIFTS OF GRACE: HONOURING OUR VOCATIONS

1. The poem talks about various professions that facilitate smooth functioning of our country. Comment on how do these vocations define their identity

2. Read the extract and answer the questions:

I hear Bharat celebrating, the varied vocations
I hear;
Those of craftsperson, each one celebrating their
Craft, woven with colours and myriad hues

a) What is Bharat celebrating?

b) What all vocations are heard of in India?

c) From the above extract find a word that can replace 'innumerable'

d) How do craftsperson celebrate their craft?

e)

3. How would society express their gratitude towards these craftsperson Reflect and discuss

4. Fill in the table with positive and hardships of a craftsperson life-

Craftsperson	Happiness factor	Hardship
Artisan		
Carpenter		
Electrician		
Boatmen		
Shoemaker		
Cook		

भाषा • अभिव्यक्ति • साहित्य

HINDI

1.रैदास के पद

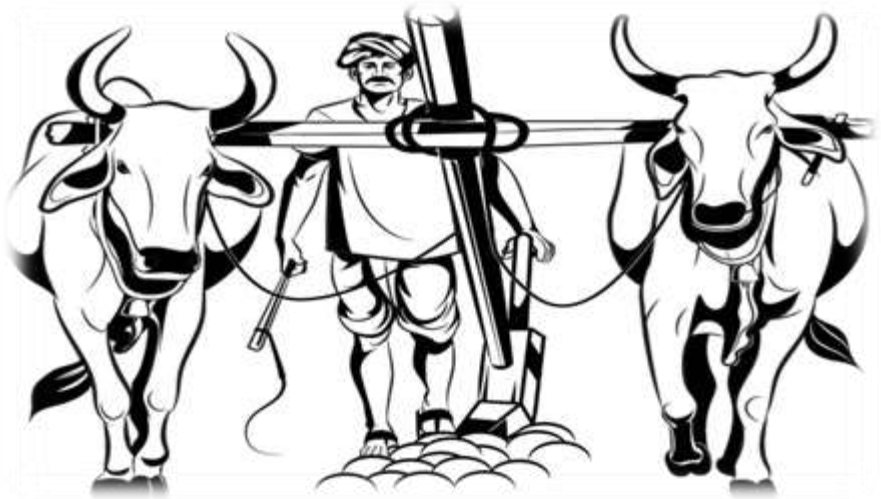
'जो तुम तोरौ राम मैं नहिं तोरौ' पंक्ति में भक्त का प्रभु से अटूट रिश्ता बताया गया है। ठीक वैसे ही आपके पिता भी आपको अपने मित्र के साथ सहयोग करते हुए अटूट और सच्ची मित्रता निभाने की सलाह दे रहे हैं। आपकी उनके साथ हुई बातचीत को संवाद के रूप में आकर्षक ढंग से एक A4 आकार की शीट पर लिखिए। (सतत विकास लक्ष्य -17 लक्ष्य के लिए भागीदारी)

2. दो बैलों की कथा

गया के घर पहुँचने पर हीरा और मोती को स्नेह नहीं मिला और सूखा भूसा खाने को दिया।

कल्पना कीजिए कि यदि वे पत्र के माध्यम से अपनी बात झूरी तक पहुँचा पाते तो क्या लिखते? एक अनौपचारिक पत्र आकर्षक ढंग से एक A4 आकार की शीट पर लिखकर वर्णन कीजिए।

(सतत विकास लक्ष्य- 2, शून्य भुखमरी, 10- आसमानताओं में कमी)



प्रथम: पाठ: - सत्यं शिवं सुन्दरं संस्कृतम्

★ पाठात् T आरेख-माध्यमेन दश विशेष्य-विशेषणयो: संचयं कृत्वा A4-पत्रे लिखत।

★ 2. अधोलिखितानां विषयाणाम् अनुसारेण प्रत्येकं विषयस्य पुस्तकद्वयस्य मुख्य- पृष्ठयोः संकलनं कृत्वा A4-पत्रे विलेप्य। (A4-पृष्ठे) पुस्तकस्य नाम लेखकस्य नामोल्लेखं च कुरुत।

विषय-तालिका -

1. वास्तुकला -

2. आयुर्विज्ञानम् -

3. वैदिकं गणितम् -

4. वैमानिकं विज्ञानम् -

5. भूविज्ञानम् –

द्वितीय: पाठ: - सुखस्य मूलं धर्म:, धर्मस्य मूलं अर्थ:

★ पाठात् शब्द-चक्र-माध्यमेन दीर्घसन्धे:, गुणसन्धे:, यण्-सन्धे: च उदाहरणानि चित्वा A4-पत्रे प्रस्तुतं कुरुत।

★2. अधोलिखितानां शब्दानां भावं चित्र-माध्यमेन स्पष्टं कुरुत -

1. न्यायपूर्णं धनार्जनम्

2. औचित्यपूर्ण: धनसंचय:

3. योजनानुसारेण अर्थनिवेश:

4. समयानुसारं लाभांश:

Shapes • Logic • Numbers

MATHEMATICS

TASK: MAKE A HOLIDAY HOMEWORK REGISTER AND DO THE FOLLOWING EXERCISE SETS FROM NCERT BOOK (**GANIT MANJRI):**

CHAPTER 1: Orienting Yourself: The Use of Coordinates

EX Set 1.1, 1.2 and End-Of-Chapter Exercise

CHAPTER 2: Introduction to Linear Polynomials

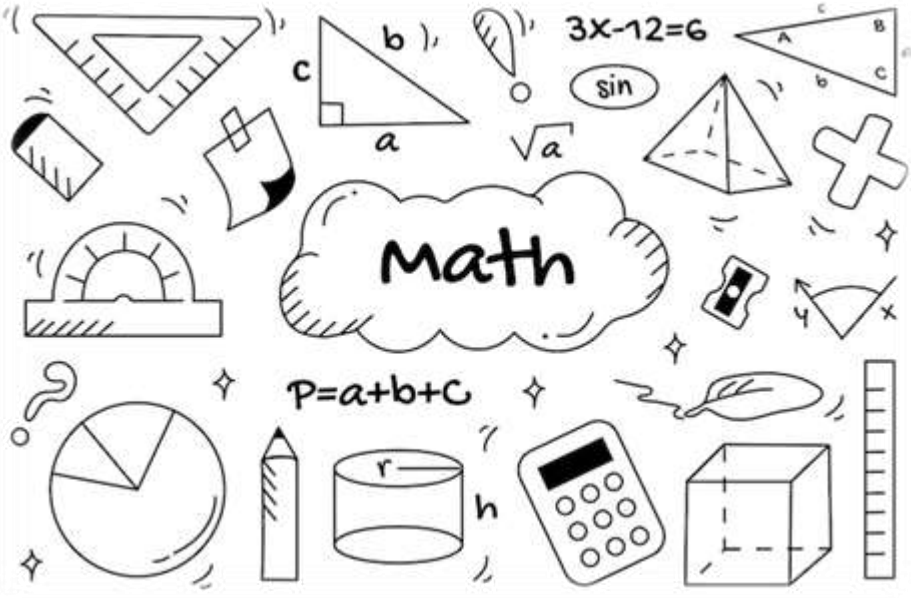
EX Set 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 and End-Of-Chapter Exercise

CHAPTER 3: The World of Numbers

EX Set 3.1, 3.2, 3.3, 3.4, 3.5 and End-Of-Chapter Exercise

CHAPTER 6: Measuring Space: Perimeter and Area

EX Set 6.1, 6.2, 6.3 and End-Of-Chapter Exercise



Explore • Discover • Experiment

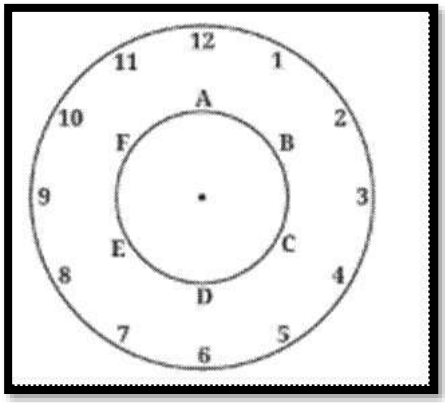
SCIENCE

PHYSICS

Task 1: **Activity**: The Mystery of the Disappearing Numbers ✨

Take a cardboard disc (radius ~ 8 cm). Write numbers 1 to 12 on the outer part (7 cm from the Centre) and the letters 'ABCDEF' on the inner part (4 cm from the Centre), using the same font size. Spin the disc slowly, then faster and observe how the numbers and letters appear. Why do the numbers fade or disappear while the letters remain visible? Are the speeds of the numbers and letters the same or different? Justify your answer. (Questions to be done on on A4 size sheet)

Make your activity colourful, neat, and creative using sketches, borders, and labels.



Task 2: Complete the assignment: **Chapter 4- Describing motion around us (To be done in Notebook)**

Assignment

Ch 4- Describing motion around us

1. What is the nature of the distance-time graphs for uniform and non-uniform motion of an object?

2. What can you say about the motion of an object whose distance-time graph is a straight line parallel to the time axis?

3. A bus starting from rest moves with a uniform acceleration of 0.1 m s^{-2} for 2 minutes. Find (a)the speed acquired, (b) the distance travelled.

4. A train is travelling at a speed of 90 km/h. Brakes are applied so as to produce a uniform acceleration of – 0.5 m s^{-2}. Find how far the train will go before it is brought to rest.

5. A racing car has a uniform acceleration of 4 m s-2. What distance will it cover in 10s after start?

6. A cyclist completes one round of a circular track of diameter 140 m in 35 s. Find:

a) The total distance covered by the cyclist in 3 minutes 30 seconds.

b) The displacement of the cyclist at the end of this time.

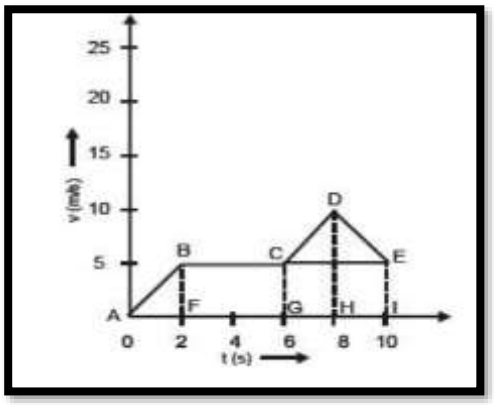
7. Sneha travels from her home to the library at an average speed of 24 km/h. While returning along the same route, the roads are clearer, so her average speed becomes 36 km/h. Find the average speed for the entire journey.

8. Riya cycles from point P to point Q along a straight road of length 400 m in 4 minutes. She then turns back and cycles 150 m towards point R in another 2 minutes. Find:

a) Riya's average speed and average velocity from P to Q.

b) Riya's average speed and average velocity from P to R.

9. Study the graph and answer the following questions:



a) What is the velocity of the object at 2 s?
b) During which time interval is the object moving with constant velocity?
c) What is the maximum velocity attained by the object?
d) Is the object accelerating between 2 s and 6 s?
e) Name the interval showing retardation.
f) Which part of the graph represents uniform acceleration from rest?
g) Find the acceleration of the object between 0-2 seconds.
h) Find the displacement of the object between 0-6 s.
i) Find the total displacement of the body

10. A motorcycle moving with a speed of 5m/s is subjected to an acceleration of 0.2 m/s^2. Calculate the speed of the motorcycle after 10 seconds, and the distance travelled in this time.

11. A bus running at a speed of 18 km/h is stopped in 2.5 seconds by applying brakes. Calculate the retardation produced.

12. Two cars start together from the same point. Car A accelerates at 2 m/s^2 and Car B accelerates at 3 m/s^2. After 8 s, which car will be farther from the starting point? Justify with calculations.

13. A bus moving at 18 m/s applies brakes and stops in 6 s, while another bus moving at the same speed stops in 3 s. Which bus experiences greater retardation? Explain.

14. A ball rolling on the ground slows uniformly and stops after travelling 12 m in 4s. Find its initial velocity.

15. A runner completes a race by first accelerating uniformly and then moving with constant velocity. Sketch the possible velocity–time graph and explain the motion.

CHEMISTRY

TASK 1: HOME CHEMISTRY LAB ON WHEELS

Students will collect and organize simple materials in a decorated shoebox/carton box.

TECHNIQUE	MATERIAL REQUIRED
FILTERATION	PLASTIC BOTTLE, NEWSPAPER, MUDDY WATER
EVAPORATION	SALT, WATER, BOWL
CRYSTALLIZATION	SALT, SUGAR, WATER, THREAD
MAGNETIC SEPARATION	MAGNET, IRON NAILS, SALT, BOWL
HANDPICKING	PULSES MIXED WITH STONE IN ONE ZIP LOCK PACKET
THRESHING/WINNOWING	SMALL FAN, TRAY, BITS OF PAPER
CENTRIFUGATION	THREAD, SMALL EMPTY HOMOPEOTHIC TUBES, INCENCE STICK ASH IN A PACKET
SEPARATING FUNNEL	EMPTY PRIL/VIM LIQUID SOAP BOTTLE, OIL AND WATER MIXTURE IN A CLOSED CONTAINER
CHROMATOGRAPHY	TISSUE PAPER, SKETCHPEN COLOUR, SCALE, PENCIL, TAPE

TASK 2: Complete the assignment: **Chapter 5- Exploring mixtures and their separation (To be done in Notebook)**

MULTIPLE CHOICE QUESTIONS

1.The solubility of a saturated solution at some known temperature on heating:

(A) increases
(B) decreases
(C) remains the same
(D) none of the above

2. When the temperature of a saturated solution is raised:

(A) becomes super-saturated
(B) becomes unsaturated
(C) remains saturated
(D) none of the above

3. A saturated solution at 80°C is cooled to 20°C. During the fall in temperature:

(A) the solution remains saturated
(B) crystals of solute appear at its base
(C) the solubility of the solute decreases
(D) all of these

4. The solubility of potassium nitrate is 62 g / 100 g of water at 313 K. The amount of potassium nitrate required to prepare a saturated solution at 313 K in 50 g of water is:

(A) 31 g
(B) 35 g
(C) 31.5 g
(D) 32.5 g

5. A heterogeneous unstable mixture of insoluble particles of a solute that spreads throughout a solvent is called:

(A) colloidal solution
(B) heterogeneous mixture
(C) suspension
(D) none of these

6. Which is the incorrect statement regarding suspensions?

(A) The solute particles have a tendency to remain suspended in the solvent.
(B) The diameter of the suspended particles is more than 1000 nm.
(C) The particles of solute can be filtered out.
(D) The path of light through a suspension is visible

NUMERICALS:

1. (a) A solution is made by dissolving 50 g of potassium nitrate in 250 g of water. Calculate the concentration of potassium nitrate solution. [16.67%]

(b) 200 g of common salt is dissolved in 800 g of water to get a solution. Calculate the concentration of salt solution. [20%]

2. a) How much water should be added to 80 g of common salt, so as to obtain 20% salt solution? [320 g]

(b) How much water should be added to 50 g of lead nitrate crystals, so as to obtain 10% solution? [450 g]

3. (a) A solution of acetone contains 20 g of acetone in 500 mL of water. Calculate the mass by volume concentration of the solution. [4.0% (w/v)]

(b) A solution of alcohol in water contains 250 g of alcohol in 500 mL of water. Calculate the mass by volume concentration of alcohol solution. [50% (w/v)]

4. Arran has prepared 0.01% (by mass) solution of sodium chloride. Which of the following correctly represents the composition of the solution?

(a) 1.00 g of NaCl + 100 g of water

(b) 0.11 g of NaCl + 100 g of water

(c) 0.01 g of NaCl + 99.99 g of water

(d) 0.10 g of NaCl + 99.90 g of water

CASE STUDY:

A homogeneous mixture has a uniform composition and is called a solution. In a solution, the substances mix completely and cannot be seen separately, such as salt dissolved in water.

When sand is mixed with water, it forms a suspension. The particles are insoluble, spread throughout the liquid, and settle down after some time. Suspensions are unstable mixtures with larger particles.

A colloid is intermediate between a solution and a suspension. In a colloid, particles neither dissolve completely nor settle down. Colloids show the Tyndall effect, which is the scattering of light through the mixture.

Answer the following questions

(i) A homogeneous mixture of two or more substances is called a _____solution.

(a) solution (b) solute (c) solvent (d) suspension

(ii) A heterogeneous mixture of insoluble particles of solute, spreads throughout a solvent and solute particles settle down after keeping undisturbed for some time is called a _____

(a) solution (b) true solution (c) colloidal solution (d) suspension

(iii) A heterogeneous solution in which the solute particles neither dissolve nor settle down in the solvent is called a _____.

(a) solution (b) true solution (c) colloidal solution (d) suspension

(iv) Which is a heterogeneous mixture?

(a) Sulphur dissolved in carbon disulphide
(b) Iron dissolved in carbon tetrachloride
(c) Sugar solution
(d) Starch dissolved in water

(v) Which is a homogeneous mixture?

(a) Steel (b) Fruit juice

(c) Mixture of iron and sulphur (d) Mixture of sand and sugar

BIOLOGY

Complete the following assignment (only taught portion) on separate A4 sized sheets

CHAPTER 2- CELL: THE BUILDING BLOCK OF LIFE

ASSERTION- REASONING TYPE QUESTIONS

DIRECTION : In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

1. **Assertion (A):** A cell swells up when present in a hypotonic solution.

   Reason(R): More water molecules enter the cell than they leave.

2. **Assertion(A) :** The endoplasmic reticulum which lacks ribosomes is called smooth endoplasmic reticulum

   Reason (R): SER is mainly involved in protein synthesis.

3. **Assertion(A):** Mitochondria and chloroplasts are semiautonomous organelles.

   Reason(R): They are formed by division of pre-existing organelles and contain DNA but lack protein synthesizing machinery

4. **Assertion(A):** Plasma membrane is selectively permeable.

   Reason(R): Plasma membrane allows some molecules to pass through it more easily than others.

OBJECTIVE QUESTIONS

Answer in one word:

1. Biological term given to heat-loving bacteria
2. The solution where extracellular medium has greater solute concentration than intracellular medium
3. Change observed in plant cell when placed in a hypertonic solution.
4. Hydrophobic part of lipid molecule
5. Change observed in an animal cell when placed in a hypotonic solution.
6. Single circular DNA molecule associated with proteins without nuclear membrane
7. Outer membrane of nuclear envelope is continuous with this cell organelle.
8. Cell's post office

9. Single membrane-bound sac filled structures with digestive enzymes.
10. Inner membrane folds of mitochondria
11. Semi-fluid substance inside the cell
12. A sac with single semi-permeable membrane and is also filled with cell sap
13. Potato and Taro are rich in this type of plastid

MULTIPLE CHOICE QUESTIONS

1. A cell will swell up if

(a) The concentration of water molecules in the cell is higher than the concentration of water molecules in the surrounding medium.

(b) The concentration of water molecules in the surrounding medium is higher than the concentration of water molecules in the cell.

(c) The concentration of water molecules is same in the cell and in the surrounding medium

(d) The concentration of water molecules does not matter.

2. Which of the following statement marks as a difference between plant cell and animal cell?

(a) Plant cells have cell wall which animal cells do not.

(b) Plant cells do not have vacuole while animal cells do have.

(c) Plant cells have only cell membrane while animal cells have both cell wall as well as cell membrane.

(d) Plant cells have more plastids while animal cells have few plastids.

3. Endoplasmic reticulum one of the cell organelles, exists as a membranous network that extends from outer membrane of nucleus to the plasma membrane making a connection between them.

Which of the following statements is not related to the endoplasmic reticulum?

(a) It behaves as transport channel for proteins between nucleus and cytoplasm.

(b) It transports materials between various regions in cytoplasm.

(c) It can be the site of energy generation.

(d) It can be the site of some biochemical activities of the cell.

4. A vacuole is a space or cavity within the cytoplasm of a cell, enclosed by a membrane and typically containing fluid. They are a kind of storage sacs that are very large sized in plant cell as compared to that in the animal cell. Which among the following is not a function of the vacuole?

(a) They help to store the toxic metabolic by-products of the plant cell.

(b) They provide turgidity and rigidity to the plant cell.

(c) They help to maintain the osmotic pressure in the cell.

(d) They help the plant in its growth by the process of cell division.

5.You must have observed that a fruit when unripe is green but it becomes beautifully coloured when ripe. According to you what is the reason behind this colour change.

(a) Chloroplasts change to chromoplasts (b) Chromoplasts change to chromosomes

(c) Chloroplasts change to chromosomes (d) Chromoplasts change to chloroplasts

6. Rahul's mother was going to make pickle. For this she cut the vegetables into small pieces and put them in the sun for few hours. Rahul was observing all her activities very curiously and asked his mother if why she had put the salted vegetables in the sun. Among the following what might be the most appropriate answer for his question?

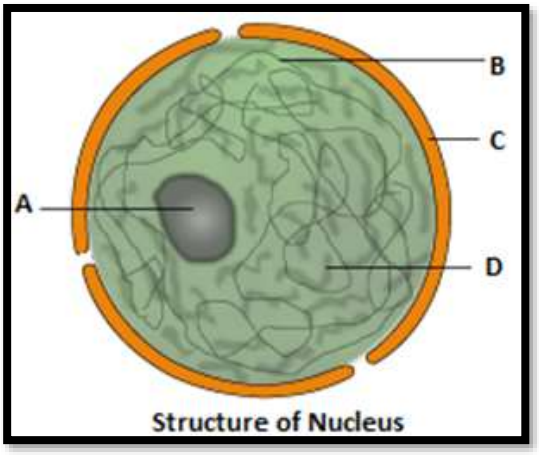
(a) So that the pickle may get extra flavour.

(b) So that the cut vegetables may absorb the vitamin d as a nutrient from the sun rays.

(c) So that the vegetables may lose all the water by diffusion and evaporation and become dry.

(d) So that the salt may get evenly and properly absorbed by the vegetables.

7. The nucleus controls all the activities of the cell and acts as a site of DNA material and protein synthesis. It is composed of some components which all together give the nucleus its functionality. Here is shown a figure of nucleus with some of its components labeled as A, B, C and D. can you name these components correctly?



(a) A – Nucleons; B – Chromatin; C – Nuclear membrane; D – Nucleoplasm

(b) A – Nucleus; B – Chromatin; C – Nuclear membrane; D – Nucleoplasm

(c) A – Nucleolus; B – Chromatin; C – Nuclear membrane; D – Nucleoplasm

(d) A – Nucleolus; B – Chromatin; C – Nuclear membrane; D – Nuclear wall

8. The process of plasmolysis in plant cell is defined as:

(a) Breakdown of plasma membrane in hypotonic solution.

(b) Shrinkage of protoplasm in hypertonic medium.

(c) Shrinkage of Nucleoplasm.

(d) Shrinkage of Nucleus

SUBJECTIVE QUESTIONS

1. Why does the skin of your finger shrink when you wash clothes for a longtime?
2. What happens to an animal cell when it is placed in very dilute external medium? Why?
3. List the features of Fluid Mosaic model of plasma membrane.
4. List three points of differences between mitosis and meiosis.
5. Explain structure and function of the following organelles:-
    a. ER
    b. Mitochondria
    c. Chloroplast
6. List two functions of vacuole.

SKILL BASED ACTIVITY

Make a model of the allotted topic using sustainable material.

Topic	Roll No.
1. Fluid Mosaic model of plasma membrane	**1 to 8**
2. A plant cell	**9 to 16**
3. An animal cell	**17 to 24**
4. Any organelle	**25 to 32**
5. A prokaryotic cell	**33 to 40**

People • Planet • History

SOCIAL SCIENCE

Project Work Guidelines: **Disasters and Disaster Management**

Topics Covered:

• Earthquakes

• Landslides

• Avalanches

• Glacial Lake Outburst Floods (GLOF)

• Dust Storms

• Floods and Climate-related Disasters

• Disaster Preparedness and Management

Objective of the Project

The project aims to help students:

- ✓ Understand different natural disasters and their causes.
- ✓ Study the impact of disasters on people, environment, and economy.
- ✓ Learn disaster preparedness, mitigation, and safety measures.
- ✓ Develop research, presentation, and analytical skills.

Project Instructions

1. Project Format

   • Use A4 size ruled/plain sheets or a project file.

   • Can be handwritten or typed.

   • Maintain neatness and proper margins.

   • Use headings, subheadings, maps, diagrams, and pictures.

   • Total length: 10–15 pages (excluding cover page and bibliography).

2. Topics to be included

   • Earthquakes and Disaster Preparedness

   • Landslides in Himalayan Regions

   • Floods in India and Their Management

   • Avalanches in Mountain Areas

   • Glacial Lake Outburst Floods (GLOF)

   • Dust Storms and Climate Change

   • Disaster Management During Extreme Weather Events

• Community Preparedness for Natural Disasters

• Case Study of a Major Disaster in India

3. Structure of the Project

• Cover Page

Include:

❖ Title of the project
❖ Student's name
❖ Class & Section
❖ Roll Number
❖ Subject
❖ School name
❖ Session

• Certificate
• A simple certificate signed by student and teacher.
• Acknowledgement
• Index
• List all topics with page numbers.

4. Main Content

A: Introduction

• Meaning of disaster

• Types of disasters

B: Causes and Effects

Explain:

• Causes of the disasters
• Areas affected
• Environmental, social, and economic impacts

C: Case Study (Any one disaster)

Choose one real-life example from India or the world.

Include:

• Date and location
• What happened
• Damage caused
• Government and community response

D: Disaster Management

Explain:

a) Preparedness

• Safety drills

- Emergency kits
- Awareness programs

b) Mitigation

- Afforestation
- Better construction methods
- Early warning systems

c) Response and Recovery

- Rescue operations
- Relief camps
- Rehabilitation

E. Conclusion

Write:

- What you learned
- Importance of disaster preparedness
- How students can help during emergencies

F. Mandatory Activities

- Students must include at least:
- 2 labelled diagrams/maps
- 3 relevant pictures/newspaper cuttings
- 1 safety poster or slogan
- 1 table/chart showing disaster impacts
- Emergency contact list for your locality

G. Viva Voce Preparation

- Students should be able to answer:
- What is disaster management?
- Why are earthquakes common in some regions?
- What precautions should be taken during floods/earthquakes?
- How does climate change increase disasters?

H. Submission Details

- Submission Date: _____
- Submit in a labelled project file..

I. Helpful Tips

- Use simple and clear language.
- Avoid copying directly from the internet
- Use coloured headings and proper labelling.
- Cite all sources in the bibliography.

Teacher's Note

Students are encouraged to relate the topic with real-life events and focus on practical safety measures and awareness.

Code • Tech • Innovation

COMPUTER

"Tech Detectives" Holiday Mission – Class 9

Your mission this break: **Become a Tech Detective!**

Case File for Roll No 1-20: How is Artificial Intelligence quietly changing our lives? (school, health, or games).

Case File for Roll No 21-40: The hidden dangers of being online (cyberbullying, data leaks, or screen addiction.)

Investigate your case using 2–3 reliable sources (websites, news, or CBSE-linked material).

And prepare a "Detective Report" (150–200 words) that explains:

What the issue is. Its real-life impact on students. Write at least 2 smart steps to stay safe or use tech wisely. Add one "real-life clue" (a news headline or experience) and show how AI or cyber-awareness can help solve it.

Submit in a school IT notebook & title your research as "Tech Detective Logbook"

Use your own words and stay curious!

Please click following link to access books and curriculum of IT - 402:

Google drive for Class 9 books

Creativity • Skills • Life

HOME SCIENCE

Complete practical no. 1 to 5 in your practical file as directed in the class

PAINTING

LIPAN ART ON CARDBOARD

Materials Required:

- Thick Cardboard (Any Size)
- Fevicol
- Mould it / Clay / POP mixture
- Acrylic Colours
- Small Mirrors
- Paint Brushes
- Pencil & Eraser
- Scale
- Ear Bud / Dotting Tool
- Water Bowl
- Colour Palette

Introduction

Lipan Art is a traditional folk-art form from Gujarat. It is created using clay work, raised designs, mirrors, and decorative patterns. This activity helps students explore Indian traditional art with creativity and texture work.

Steps to Make Lipan Art

Step 1: Prepare the Base

Take a thick cardboard base. Cover it neatly with plain sheet or paint the background colour.

Let it dry completely.

Step 2: Draw the Design

Draw a simple design of your choice using pencil.

Suggested Themes:

- Mandala
- Peacock
- Camel
- Floral patterns
- Tree of life
- Traditional geometric patterns

Step 3: Prepare Clay Outline

Mix mould it/clay properly.

Roll thin clay strips using fingers.

Paste clay carefully on pencil outlines using Fevicol.

Step 4: Add Mirrors

Paste small mirrors between patterns.

Use different mirror shapes:

- Round
- Square
- Diamond

Step 5: Paint the Artwork

- Paint the entire design using acrylic colours.
- Suggested Colour Themes:
- White on brown background
- Multicolour traditional style
- Black and silver
- Earthy tones

Step 6: Dot Decoration

Use ear buds, pencil back, or brush handle for dot painting.

Add colourful dots around mirrors and borders.

SAMPLES