DAV PUBLIC SCHOOL MATHURAPUR
Summer Vacation Holiday Homework
SESSION - 2025-26
Class - IX

SUBJECT	HOME WORK
ENGLISH	MAKING PROJECT • Draw the branches of all TENSES including all 5 types of structures of each with examples on beautiful chart papers for wall decoration of your classroom. • Prepare a wall painting describing parts of speech, kinds, its definition and examples in detail. • Draw a visual and verbal TLM of anyone of the chapter from your literature book. (Note – topic should not be matched to another student) ASSIGNMENT • Do all practice set (Tense) of attached pdf or jpg in a separate file. • Update your English Notebook with summary and exercises. • Read out and understand the chapter & Topic in Advance. A. The adventures of Toto (Moments) B. Ishwaran the storyteller (Moments) C. The little girl (Beehive) D. A truly beautiful mind (Beehive) PDF of more more objective question will be sent in to group.
HINDI	(1) कृषि, कृषक पशु संरक्षण पर दो मित्रों के बीच 100 शब्दो में संवाद लिख । (2) हमारे समाज में मनुष्यों के बीच परस्पर व्याप्त भेदभाव के कारण देश और समाज को क्या हानी हो रही है, एवं उसे मिटाने के लिए आप क्या सुझाव दे सकते है 120 शब्दों में लिख । (3) समास: समास के भेद लिखे एवं द्वंद समास के तीनो भेदों के बारे मे सम्पूर्ण जानकारी दे। (4) दो बैलों की कथा कहानी का कोई अन्य शिर्षक लिखे । (5) उपसर्ग एवं प्रत्यय से प्रत्येक उपसर्ग एवं प्रत्येक प्रत्यय पर 5-5 शब्द बनाएं ।
MATHS	Project work: Write about any one mathematician their contribution in the field of mathematics in chart paper that should be colourful . Assignment : Solve the following questions .1. Define a rational number. 2. Is $\sqrt{2}$ a rational or irrational number? 3. Is 0 a rational number? 4. Write a rational number between 1 and 2. 5. Express 0.666... in the form p/q. 6. What is the decimal expansion of 1/3? 7. Write two irrational numbers. 8. Is $\sqrt{25}$ rational or irrational? 9. Find the square root of 81.

10. Convert 2.75 into a rational number.

11. Express 0.66666.......in the form p/q.

12. Find a rational and an irrational number between 2 and 3.

13. Classify the following as rational or irrational: $\sqrt{2}$, 4.5, 3.14159, $\sqrt{9}$

14. Represent $\sqrt{5}$ on a number line.

15. What is the value of $(\sqrt{3})^2$?

16. Write the decimal expansion of 7/8. Is it terminating or non-terminating?

17. Are all terminating decimals rational? Justify your answer.

18. Is π a rational number? Why or why not?

19. Write 3 irrational numbers between 1 and 2.

20. Rationalize the denominator: $(1/\sqrt{2})$

21. Rationalize the denominator of $(3 / (\sqrt{5} - \sqrt{2}))$

22. Simplify: $\sqrt{50} + \sqrt{8}$

23. If $a = 2 + \sqrt{3}$, find the value of a^2.

24. Show that $(\sqrt{2} + \sqrt{3})^2$ is an irrational number.

25. Find two numbers whose product is rational but both are irrational.

26. Write three rational numbers between 4/5 and 5/6.

27. Expand and simplify: $(\sqrt{3} + 1)^2$

28. Write the product of $(\sqrt{5} + 2)(\sqrt{5} - 2)$

29. If $x = \sqrt{2}$ and $y = \sqrt{3}$, find $x^2 + y^2$.

30. Represent $\sqrt{10}$ on the number line geometrically.

31. Prove that $\sqrt{2}$ is irrational.

32. Prove that $3 + 2\sqrt{5}$ is irrational.

33. Find the decimal expansion of 5/6 and comment on its nature.

34. Show that $(a + \sqrt{b})(a - \sqrt{b}) = a^2 - b$.

35. Find 3 rational numbers and 3 irrational numbers between 0 and 1.

36. If $x = 2 + \sqrt{3}$ and $y = 2 - \sqrt{3}$, find $x^2 + y^2$.

37. Express (1/3.125) as a rational number.

38. Simplify: $(1/\sqrt{5}) + (1/\sqrt{20})$

39. Find the value of $(2 + \sqrt{3})^2 - (2 - \sqrt{3})^2$

40. Show that the sum of a rational and an irrational number is irrational.

41. $\sqrt{9}$ is irrational. (True/False with reason)

42. Every real number is a rational number. (True/False with reason)

43. The product of two irrational numbers is always irrational. (True/False with reason)

44. Every rational number is a real number. (True/False with reason)

45. All recurring decimals are rational numbers. (True/False with reason)

46. $\sqrt{2} + \sqrt{3}$ is a rational number. (True/False with reason)

47. π is a terminating decimal. (True/False with reason)

48. 1.101001000100001... is irrational. (True/False with reason)

	49. Every integer is a rational number. (True/False with reason)
	50. $\sqrt{2} / \sqrt{8}$ is rational. (True/False with reason.)
PHYSICS	1. Define uniform and non-uniform motion, give examples of each.
	2. a.Differentiate between distance and displacement
	b.Differentiate between speed and velocity.
	3. Define uniform and non- uniform acceleration. Give examples of each.
	4 A car moving with a speed of 20 m/s applies brakes and comes to rest in 10. seconds. (a) What is the initial and final velocity of the car? (b) Calculate the acceleration of the car. (c) What type of acceleration is this?
	5 A ball is thrown vertically upward and it comes back to the thrower's hand after some time.
	a) What is the acceleration of the ball at the highest point?
	(b) Is the motion of the ball uniform or non-uniform?
	(c) Explain the concept of retardation in this scenario.
	6. Two cars A and B are moving on a straight road. Car A is moving with a constant speed of 60 km/h, while car B starts from rest and accelerates uniformly at 2 m/s².
	(a) Which car will cover more distance in 10 seconds?
	(b) What type of motion does each car exhibit?
	(c) Plot a rough sketch of distance-time graph for both cars.
	7. A motorcyclist drives from place A to B with a uniform speed of 30km/hr and return from place B to A with a uniform speed of 20km/hr. Find his average speed and average velocity of whole journey.
	8. A body moves in a circular path of radius R. What will be the distance and displacement after half a revolution?
	9 A body moves 10 km East, then 20 km North, and then 10 km towards East, find:-
	(a) Total distance?
	(b) Resultant displacement?
	10. A ball hits a wall with a velocity of 6.0 m/s and rebounds at 4.4 m/s in 0.040 s. Find its acceleration.
CHEMISTRY	1. Define and give examples of:
	- Diffusion
	- Brownian motion
	2. Explain observations of diffusion using potassium permanganate and bromine.
	3.Give examples of solid diffusing in another solid and explain its slow rate.
	4.Identify which state of matter diffuses fastest and justify.
	5.State two properties each of solid, liquid, and gas.
	6.Explain:
	Why gases have no fixed shape or volume ?
	How solids, liquids, and gases differ in shape and volume ?
	7.Arrange water, sugar, and oxygen based on increasing particle attraction.
	8.Justify why:
	Water is a liquid at room temperature
	Iron almirah is a solid
	9.Discuss what diffusion tells us about particles and give examples of diffusion in liquids.
	10.Explain:

	- Why honey is more viscous than water - Uses of air in inflating tires and steel in railway lines - Why diffusion is faster in gases than in liquids

BIOLOGY	Assignment - 1. complete the notebook.
	                2. Solve all the In-text questions
	                3. Read chapter - tissue in advance.
	                4. Try to answer these chapter based questions.
	1 . What is division of labour ? Explain it in context of multicellular organisms.
	2.why is plasma membrane called selectively permeable?
	3. What happens to an animal cell when it is placed in a very dilute external medium ? why?
	4. What would happen if plasma membrane ruptures?
	5. Why is endocytosis found in animals only?
	6. How are chromatin ,chromatid and chromosome are related to each other?
	7. What will happen in a cell if its nucleus is removed ?Give reason in support of your answer.
	8. Where do liquid and protein constituting the plasma membrane get synthesized?
	9. Write five difference between plant cell and animal cell.
	10. What does the term plasmolysed mean when used to describe a cell?
	Project - prepare a scrapbook on cell organelles and write five features about it.

HISTORY & CIVICS	(Project) **Prepare a project on a chart paper over map of India and highlight the key features like major rivers, mountain ranges, and plateaus. (Assignment):- **Prepare 10 Objective Question with Answer from Chapter 1 each (Hist. Civics. Geo. Eco).
SANSKRIT	Assignment Work :- स्वरसन्धि एवं व्यंजनसंधि के नियम तथा उदाहरण लिखकर अभ्यास करें । Project Work :- 'पाथेयम्' इति विषये भित्तिचित्रं निर्माणं कृत्वा पञ्च दश वाक्यानि लिखत।
AI-417	1. Prepare complete notes of chapter communication skills. 2. Make a chart paper on the topic "communication barriers in our daily life".