

HOLIDAYS ... FUN TIME ...

Summer holidays are around the corner. Despite the hot sun, we can still have a lot of fun, so vacation is here for a sweet treat. To enhance the child's creativity and innovation for the progressive learning, we have designed a few engaging activities and holiday homework. Kindly encourage your ward to do the following activities to enhance their skills and make learning a joyful experience.

Morning Blessings- Parents can help children to inculcate good habits by doing, Surya Namaskar and encouraging them to greet all elders in the morning.

Being responsible- Spend a week with your elders. Observe their routine. Listen to their childhood memories, incidents from the past and watch their old family albums. This will strengthen the bond between you and your elders. Don't forget to capture them in the form of short videos.

Engage in Hobbies – Explore Interests, Spend time on activities you enjoy, such as sports, music or art.

Adopt a Tree - Encourage your child to adopt a tree in the park around you and make sure that you take care of it daily by watering it. Also, click a picture with it and share it with your class teacher.

Stay Active: Engage in regular exercise, whether through sports, walking, cycling, or home workouts.

Outdoor Activities: Spend time outdoors, enjoying nature through hiking, swimming, or camping.

Helping Others: Do a good deed at least once a week, fostering a sense of community.

Travel and Explore: Visit local museums, parks, or historical sites.

Trips: Plan trips, whether it's a family vacation or day trips to nearby attractions.

Stay Safe: Follow health guidelines, stay hydrated.

Parents can help their ward to memorize their home address and contact numbers

IMPORTANT: Please feel free to contact the class teacher regarding any query.



RUKMANI BIRLA MODERN HIGH SCHOOL Session 2025-26

SUMMER ASSIGNMENT CLASS IX

Subject	Assignment				
English	Choose one inspiring personality f	from a list of global achievers. Read their biography			
	and create a project file that highlights their journey, challenges, achievements, and the life lessons they offer. Step-by-Step Guide Step 1: Select an Inspiring Personality Choose from the list or add your own:				
				Nelson Mandela	Arunima Sinha
				Deepa Malik	Michael Jordan
	J.K. Rowling	Henry Ford			
	Walt Disney	Ratan Tata			
	← Tip: Choose someone whose story resonates with you personally.				
	Step 2: Research and Collect Key Information				
	Use reliable sources (books, documentaries, biographies, trusted websites) to gather:				
	➤ Early life and background				
	Major challenges or failures				
	Turning points				
	Key achievements				
	Awards or recognitions				
	Quotes or messages				
	Life lessons				
	Step 3: Write the Story in a Structured Format				
	Organize the story like this:				
	Introduction – Who they are and why they're inspiring				
	Struggles/Challenges – What hardships they faced				
	Journey to Success – How they overcame obstacles				
	Achievements – What they accomplished				
	Message/Lesson – What we can learn from their life				
	Step 4: Plan the Project				
	Organize your notes:				
	Title Page(Project Title, your name, Class, date)				
	 Introduction(What your topic is about and why you chose it) 				
	Main Content(Early Life, Major Challenges, Turning Point, Achievements, Quotes				
	by/about them, Life Lessons, Why they inspire you?)				
	• Conclusion				
	Bibliography				
	Prepare on A4 sheets, within 8-10 p	pages, using visuals to enhance its appeal.			

Quote Overlay: Example "I learned that courage was not the absence of fear, but the triumph over it." Photos of the personality/Illustrations for key moments (e.g., climbing Everest for Arunima Sinha) Quotes with background images Step 5: Practice and Present Prepare your narration. Focus on: Clear speech, Good posture and eye contact, Passion for the story you're sharing Suggested Reading: "What better way to spend your summer than getting inspired by real-life heroes? must-read biographics that will boost your reading skills while opening your mind to incredible journeys!" O I came Upon A Light House: A Short Memoir of Life with Ratan Tata The Story of Michelle Obama Science Multiple Choice Questions: 1. A vehicle travels half the distance with speed v and the remaining distance with speed 2v. Its average speed diring the complete journey is (Mains 2011) a) 4v/3 b) 3v/4 c)v/3 d) 2v/3 2. A particle covers half of its total distance with speed v ₁ and the rest half distance with speed v ₂ . Its average speed diring the complete journey is (Mains 2011) a) (v ₁ +v ₂)/2 b) v ₁ v ₂ /(v ₁ +v ₂) c) 2v ₁ v ₂ /(v ₁ +v ₂) d) v ₁ v ₂ 3. A car runs at a constant speed on a circular track of radius 100m, taking 62.8s for every circular loop. The average velocity and average speed for each circular loop respectively is: (NEFT 2006) a) (0, b) 10m/s, 0 c) 0, 10 m/s d) 10m/s, 10 m/s 4. A car moves a distance of 200m. It covers the first half of the distance at speed 40km/h and the second half of distance at speed v. The average speed of the bus is (AIPMT 2011) a) 9 km/h b) 60 km/h c) 50 km/h d) 48 km/h 5. A bus travelling the first one-third distance at a speed of 10 km/h, the next one-third at 20 km/h and at last one-third at 60 km/h. The average speed of the bus is (AIPMT 2011) a) 9 km/h 7. A particle moves in a straight line with a constant acceleration. It changes its velocity from 10 ms-1 to 20 ms-1 while passing through a distance 135 m in t second. The value of 1 is:(AIPMT 2008) a) 10 m b) 19/3						
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9. CO ₂ can be easily inquified and even solidified because						
		9. CO ₂ can be easily inquiried and even sofidified because				

- (a) It has weak forces of attraction (b) It has comparatively more force of attraction than other gases (c) It has more intermolecular space (d) It is present in atmosphere. 10. Which of the following has highest kinetic energy?
 - (a) Particles of ice at 0 °C
 - (b) Particles of water at 0 °C
 - c) Particles of water at 100 °C
 - (d) Particles of steam at 100 °C
- 11. The colour of vapours formed on sublimation of iodine solid is
 - (a) Purple (violet)(b) Colourless(c) Yellow(d) Orange
- 12. Kinetic energy of molecules is directly proportional to
 - (a) Temperature (b) Pressure (c) Both (a) and (b) (d) Atmospheric pressure
- 13. Which of the following phenomena would increase on rising temperature?
 - (a) Diffusion, evaporation, compression of gases
 - (b) Evaporation, compression of gases, solubility
 - (c) Evaporation, diffusion, expansion of gases
 - (d) Evaporation, solubility, diffusion, compression of gases
- 14. Seema visited a Natural Gas Compressing Unit and found that the gas can be liquefied under specific conditions of temperature and pressure. While sharing her experience with friends she got confused. Help her to identify the correct set of conditions
 - (a) Low temperature, low pressure
 - (b) High temperature, low pressure
 - (c) Low temperature, high pressure
 - (d) High temperature, high pressure
- 15. On converting 25°C, 38°C and 66°C to kelvin scale, the correct sequence of temperature will be
 - (a) 298 K, 311 K and 339 K
 - (b) 298 K, 300 K and 338 K
 - (c) 273 K, 278 K and 543 K
 - (d) 298 K, 310 K and 338 K
- 16. Which of the following is not endothermic process?
 - (a) Fusion (b) Vapourisation (c) Temperature (d) Insoluble heavy impurities
- 17. The genetic material in prokaryotic cells is located in (HOTS)
- (a) Nucleus (b) Mitochondria (c) Cytoplasm (d) Endoplasmic reticulum
- 18. Ribosomes of the cytoplasm, chloroplast and mitochondrion are respectively. (HOTS)
 - (a) 80S, 80S and 70S (b) 80S, 70S and 70S (c) 70S in all (d) 80S in all
- 19. A cell organelle X is divided by binary fission and other cell organelle Y that help in the protein synthesis. Identify X and Y respectively:(**HOTS**)
 - (a) E. R and Ribosome
- (b) Ribosome and E.R.
- (c) E.R and mitochondria
- (d) Mitochondria and ribosome
- 20. Which of the following pairs of organelles does not contain DNA? (NEET 2019)

- (a) Chloroplast and vacuoles
- (b) Lysosomes and vacuoles
- (c) Nuclear envelope and mitochondria
- (d) Mitochondria and lysosomes
- 21. Select the odd one out. (NCERT Exemplar)
- (a) The movement of water across a semi permeable membrane is affected by the amount of substances dissolved in it.
 - (b) Membranes are made of organic molecules like proteins and lipids
 - (c) Molecules soluble in organic solvents can easily pass through the membrane.
 - (d) Plasma membranes contain chitin sugar in plants
- 22. Which is the smallest living cell with cell walls?
 - (a) Viroids
- (b) Bacteria
- (c) Algae
- (d) Mycoplasma
- 23. Match the column I with column II

ColumnI

Column II

- a. Mitochondria
- (i) Synthesis of protein
- b. Lysosomes
- (ii) Trap waste and excretory products
- c. Vacuoles
- (iii) Power house of cell
- d. Ribosomes
- (iv) Digesting biomolecules

Choose the right match from option given below:

- (a) a (iii), b (iv), c (ii), d (i)
- (b) a (iv), b (ii), c (i), d (ii)
- (c) a-(iii), b-ii), c-(iv), d-(i)
- (d) a-(i), b-(ii), c-(iv), d-(iii)
- 24. Which of the following features is common to prokaryotes and many eukaryotes? (NCERT Exemplar)
- (a) Chromosomes present
- (b) Cell wall present
- (c) Nuclear membrane present
- (d) Sub cellular organelles present

Assertion - Reasoning based questions.

These consist of 2 statements- Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- A. Both A and R are true, and R is the correct explanation of A.
- B. Both A and R are true, but R is not the correct explanation of A.
- C. A is true, but R is false.
- D. A is false, but R is true.
- 25. **Assertion**: Small amount of alcohol on our palm causes cooling.

Reason: Alcohol is a volatile liquid.

26. **Assertion**: LPG cylinders contain liquified butane.

Reason: Butane is stored at low pressure in LPG cylinder.

27. Assertion : An object may acquire acceleration even if it is moving at a constant speed.

Reason: With change in the direction of motion, an object can acquire acceleration.

28. Assertion : Displacement of an object may be zero even if the distance covered by it is not zero.

Reason: Displacement is the shortest distance between the initial and final position.

29. Assertion : The endoplasmic reticulum which lacks ribosomes is called smooth endoplasmic reticulum

Reason: SER is mainly involved in protein synthesis.

30. Assertion : Mitochondria and chloroplasts are semiautonomous organelles.

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

Mathematics

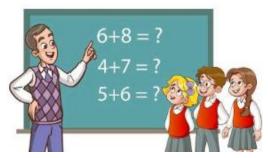
Prepare a model on any one of the following topics:

Pythagoras Theorem, Trigonometry, Algebra, Congruency of Triangles, Optical Illusion, Tessellation, Probability, Fractals, Combination of Solid Figures, Spirograph, Sierpinski Triangle, Radial symmetry, Working Models on Different Types of Angles, Mathematical Garden, Playing with Numbers, Linear Graphs, etc.

Do the following case study questions in Math Assignment register:

- Q1. Mr. Kumar, a Mathematics teacher explained some key points of unit 1 of class IX to his students. Some are given here.
- There are infinite rational numbers between any two rational numbers.

 Rationalisation of a denominator means to change the irrational denominator to rational form.
 - A number is irrational if its decimal form is non-terminating non-recurring.



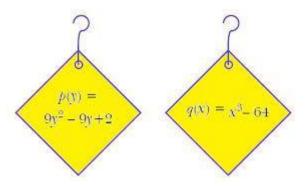
On the basis of these key points, answer the following questions

- (a) What is the reciprocal of $2 + \sqrt{3}$?
- (b) Find a rational number between $\sqrt{2}$ and $\sqrt{3}$.
- (c) Simplify $(\sqrt{3} \sqrt{7})^3$.
- (d) Express $\frac{4}{7}$ in decimal form and state the kind of decimal expansion.
- Q2. In January 2021, the vaccination drive for COVID -19 started in 7 states of a country. More than 60% of the people were vaccinated in 4 states out of 7 states, In one of the state vaccination drive has not been started due to flood although vaccine dose was supplied to that state in advance. In February 2021, 4 more states were included in this drive and 2 states have got remarkable response from the people and more than 80% of the population got vaccinated there.

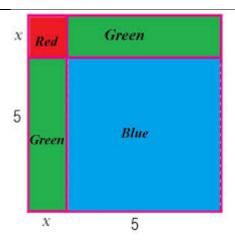


Using this information answer the following questions:

- (a) In January 2021, more than 60% of people were vaccinated in 4 states out of 7 states. Find the decimal representation of $\frac{4}{7}$
- (b) In 2 states out of 11 states, more than 80% of people participated in vaccination drive in two months. Find the decimal form of $\frac{2}{11}$
- (c) The fraction for state where vaccination not started in January 2021 is $\frac{1}{7}$ and its decimal form is $0.\overline{142857}$. Find the decimal form of $\frac{6}{7}$.
- Q3. A school organised a mathematics exhibition in the school permises. Children of all classes made various models and games to depict the use of mathematics in daily life. To make the decoration more attractive, they made hangings related to mathematics one of the students made two hangings with polynomials written on them.
 - (a) Find the factors of polynomial q(x).



- (b) Find the factors of polynomial p(y)
- (c) Find the value of value of p(-2).
- (d) Find the zeroes of the polynomial $x^2 81$.
- Q4. Mahesh formed a square using four pieces of origami, as shown in the figure.



Based on above information answer the following questions.

- (i) (a) Write the trinomial which describes the area of the given square.
- (b) If area of the square is given by the polynomial $x^2 10x + 25$; then what will be the side of the square?
- (ii) (a) If $p(y) = y^2 2y + 1$, then find the value of p(y) + p(-y).
- (b) What is the degree of the trinomial $x^3 + 2x^2 + 3x + 4$?

Social Science

Disaster Management

The Maha Kumbh Mela 2025 in Prayagraj (Allahabad), Uttar Pradesh, was one of the largest religious gatherings in the world, attracting millions of pilgrims. Effective disaster management is crucial to ensure safety and respond to natural or man-made disasters.

Key Aspects of Disaster Management for Maha Kumbh 2025

1. Risk Assessment & Preparedness

Crowd Management:

Weather & Natural Disasters:

Fire Safety:

2. Medical & Health Emergency Management

Mobile Hospitals & First Aid Booths:

Disease Control:

Mental Health Support:

3. Security & Law Enforcement

Anti-Terror Measures:

Traffic & Transportation Management:

4. Communication & Early Warning Systems

Public Address Systems:

Mobile Alerts & Apps:

Helpline Numbers:

5. Coordination Among Agencies

NDRF & SDRF Deployment:

Inter-Agency Drills:

NGO & Volunteer Involvement:

Challenges & Mitigation Strategies

Challenge	Mitigation Strategy	
Overcrowding & Stampedes	AI-based crowd analytics, staggered entry	
Heatwaves & Dehydration	Free water stalls, shaded rest areas	
Disease Outbreaks	Sanitization, vaccination drives	
Terror Threats	Enhanced CCTV, undercover security	
Transportation Gridlocks	Dedicated lanes, traffic police deployment	

Conclusion

Note: Students to prepare disaster Management Plan on above mentioned guidelines on any one of the mentioned upcoming event

1. Jagannath Rath Yatra 2025 (Puri, Odisha)

When: July 7, 2024 & June 26, 2025 Expected Crowd: 1+ million per day

Key Risks: Chariot accidents, stampedes, heatstroke

2. Pushkar Camel Fair (Rajasthan, October-November 2025)

When: 30th October-5thNovember 2025

Expected Crowd: 500,000+

Key Risks: Animal-related injuries, dehydration, fires 3. Ganga Sagar Mela 2025 (West Bengal, January 2025)

When: January 14-15, 2025 **Expected Crowd:** 5+ million

Key Risks: Drowning, cold waves, stampedes

4. Urs Ajmer Sharif (Rajasthan, 2025)
When: June 2024 & May 2025
Expected Crowd: 5+ million

Key Risks: Heatwaves, stampedes, terror threats

Instructions:

- ✓ Make a handwritten project on A4 size sheets (8-12 pages)
- Charts / Infographics (e.g., SDGs, Jaipur's pollution data)
- ✔ Photos / Collage (Sustainable landmarks: Jal Mahal, Solar Panels in Jaipur)

Sanskrit

• असम चाय पत्ती उत्पादन के बागानों के लिए जाना जाता है। चाय बनाने के दौरान काम आने वाली सामग्री के संस्कृत रूप लिखकर अपनी लिखित चाय तैयार कीजिए।

	• राजस्थान 'मरुभूमि' के नाम से प्रसिद्ध है। मरुभूमि से संबंधित चित्रों को एकत्रित कर, A4 साइज		
	शीट पर चिपकाते हुए पांच वाक्य संस्कृत भाषा में लिखें।		
Hindi	• आप अपने विद्यालय की ओर से 40 छात्रों के साथ काजीरंगा अभयारण्य में भ्रमण करना चाहते		
	अतः काजीरंगा अभयारण्य के व्यवस्थापक को इसकी अनुमति हेतु पत्र लिखिए। पत्र द्वारा वहां		
	आने जाने का समय एवं अन्य नियमों की जानकारी भी लीजिए। (Roll No.1-20)		
	• आपने अपनी कक्षा के छात्रों के साथ जब काजीरंगा अभयारण्य में भ्रमण किया तब वहां के प्रबंधन		
	ने आपकी बहुत सहायता की, अतः प्रबंधन समूह को धन्यवाद देते हुए ईमेल लिखिए।(Roll no. 21-40)		
French	Write an article in french on the traditional methods(any 4-5) of water conservation in Assam and Rajasthan.		
Artificial	(for eg. Bamboo irrigation, johads, stepwalls etc)		
Intelligence	Project: "Create Video Using AI" Product Idea: "CrunchBite – Smart Protein Chips" (Eatable) Concept: A		
g			
	futuristic, healthy snack made with AI Optimized nutrition.		
	40-Second Video Script:		
	Scene 1 (0-5 sec):		
	• Visual: Close-up of crunchy chips falling in slow motion.		
	• Text/Voiceover: "Meet CrunchBite – the snack that thinks!"		
	Scene 2 (5-15 sec): Vigual: Al robot scanning ingradients - A ching glowing with "protein boost" affect		
	 Visual: AI robot scanning ingredients → chips glowing with "protein boost" effect. Voiceover: "Powered by AI to pack max protein, zero guilt!" 		
	Scene 3 (15-25 sec):		
	• Visual: Teens gaming/studying while eating. Text pops: "Gamer Fuel. Study Buddy."		
	Scene 4 (25-35 sec):		
	Visual: Flavor variants.		
	• Voiceover: "Choose your variant"		
	Scene 5 (35-40 sec):		
	 Visual: Pack flying into viewer's hand. Tagline: "CrunchBite – Eat Smart!" AI Tools to Create These Videos for Free: 		
	1. Video Generation: Pika Labs (AI video clips) / Runway		
	ML (Green screen effects).		
	2. Voiceover: ElevenLabs (Free tier for AI voices).		
	3. Editing: Shotcut (Open-source video editor).		
1	4. Graphics: Canva AI (Text-to-image for product mockups).		
	Students can choose any other free available AI tool for the same.		

