D.B.N. VIDYA MANDIR

MUBARAK MANDI, JAMMU

CLASS – X

HOLIDAYS

ENGAGEMENT

Principal's Message

(Summer Vacation 2025-26)

Dear Students,

Summer is here—a season of warmth, joy, and a well-earned break. As you step into these relaxing weeks, I encourage you to make the most of this precious time.

Vacations are not just for rest, but also for reflection and renewal. While the holiday homework is thoughtfully designed to keep your minds engaged, it is equally important to nurture your creativity, curiosity, and well-being. Learn something new, read a good book, spend time with your family, and don't forget to play and laugh wholeheartedly.

To our youngest learners—use this time to explore through play, colour your world, and listen to stories that feed your imagination.

To our senior students—balance relaxation with reflection. Use this time to revisit goals, sharpen your skills, and return with greater focus and energy.

Remember, learning never stops—it simply takes different forms. Stay active, stay safe, and take care of your health. Let's return after the break, refreshed and ready to grow even more—together.

Wishing you and your families a happy, healthy, and fulfilling summer break.

Warm regards,

Priya Singh

Principal

DBN Vidya Mandir, Mubarak Mandi

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Dear Students,

"Learn everything you can, anytime you can, from anyone you can; there always will come a time when you will be grateful you did."

Sarah Caldwell

Vacation is the time that we all eagerly wait for. We all make plans to enjoy, relax and empower ourselves during these days. This summer vacation the Holidays Homework has been designed with the motto.

"Have Fun as you Learn"

TO DOs

- **Prepare a Schedule and follow it during holidays. It will help you become a good time manager.**
- **Give time to pursue your hobby as we all need 'Me Time'.**
- **Limit the use of gadgets and use the time saved in reading Newspaper/ Books.**
- **Give prime importance to your Health. Eat lots of fruits and vegetables.**
- **Don't forget to exercise and practice yoga to improve your stamina.**
- **Pledge to "Eat Right (Less Sugar, Loss Oil, Less Salt and Less Outside Food)**
- **Put in efforts to improve your vocabulary. Add one word per day to your vocabulary.**

ENGLISH

INVEST IN YOURSELF! FOCUS ON INTRINSIC MOTIVATION…… The summer assignment in English will help you to enhance your educational quotient! Do away with monotony and explore your English Literature books as they hold the mirror up to different aspects of life and people.

CHOOSE **ONLY TWO** TOPICS FROM THE FOLLOWING LIST:

1. Journaling encourages us to be observers of the world, to be reflective of our experiences, and of course, to become expressive writers. Use two pages of your notebook and create a Personal Vision Board of words, quotes, and a collage of images and write ups of the person that you WANT to become.
2. Use 2 pages to present an analysis of Robert Frost OR Walt Whiteman OR Carl Sandburg as a famous American poet. Find some of the famous poems/ lines written by this poet on poemhunter.com. Add details about the poet's life.
3. Read an article on Glimpses of India: First Flight. Based on this choose any ONE of the following tasks: Choose a destination in India which is popular for its things to do/ places to see/ food trail/ places or persons of interest. Add relevant pictures and information. Give your reason for wanting to visit. Link an eco – friendly attitude with exploration and enjoyment.
4. Use 2 pages of your notebook and prepare a Book Review on: Diary of a Young Girl by Anne Frank. Include the following in your Book Review:
   - Theme/ analysis
   - Important features of the characters
   - Relevant and interesting incidents: How you were impressed by the book.

Important Note: The homework must be original and the proper references should be made in accordance with the task.

SOCIAL SCIENCE (SST)

Submission Deadline: First day after summer vacation. All assignments should be neat, well-labelled, and submitted in a folder.

Subject: History – Nationalism in India (Part 1)

● Activity 1: Project Work (Art-Integrated)
Title: "**National Movement and Art"**
Task:
- Create a timeline poster of key events (1915–1930) like:
   - Arrival of Mahatma Gandhi (1915)

- Non-Cooperation Movement (1920)
- Civil Disobedience Movement (1930)
- Include pictures, slogans, stamps, or drawings inspired by that time.
- Highlight contributions from different Indian states (art-integrated).

Art Integration: Include traditional art from different states (e.g., Warli, Madhubani, Kalamkari) as borders or decoration.
Video Reference:
https://youtube.com/shorts/nCXyXiC5f84?feature=shared
https://youtu.be/nwcVZrvSF7M?feature=shared

Subject: Geography – Agriculture (Part 2)

● Activity 2: Research Project
Title: **"Types of Farming in India"**
Task:

- Prepare a chart or short report (3–4 pages) on:
  - Types of farming (subsistence, commercial, plantation)
  - Major crops and their states (rice, wheat, sugarcane, tea, cotton)
  - Challenges faced by Indian farmers
  - Include pictures and maps.

Art Integration: Draw or paint a farm landscape showing traditional Indian farming.
Video Reference:
https://youtu.be/ILWgQcwecMA?feature=shared

Subject: Civics – Federalism (Part 3)

● Activity 3: Group/Individual Project

Title: **"India: A Federal Country"**
Task:
- Create a flipbook or presentation showing:
  - Features of federalism
  - Division of powers (Union, State, Concurrent lists)
  - Case study: Success of federalism in India (e.g., linguistic states)
  - Add real-life examples or newspaper clippings of federal cooperation or conflicts.

Art Integration: Use symbols like the Indian map, Ashoka Chakra, state emblems.
Video Reference:
https://youtube.com/shorts/yDMB4P5GKbk?feature=shared

SCIENCE

Physics

Short Answer Questions

1. State the two laws of reflection.
2. Define the principal focus of a concave mirror.
3. Differentiate between real and virtual images (any two differences).
4. What is the refractive index of a medium?
5. Why does a pencil appear bent when dipped in water?

Numerical Problems

1. An object is placed 20 cm in front of a concave mirror of focal length 10 cm. Find the position and nature of the image formed. *(Use the mirror formula: 1/f = 1/v + 1/u)*
2. The refractive index of water is 1.33. What is the speed of light in water if the speed of light in vacuum is 3×10^8 m/s?
3. A concave mirror has a focal length of 20 cm. An object is placed 60 cm in front of the mirror. Find the image position, nature, and magnification.
4. An object 2 cm high is placed 30 cm in front of a concave mirror of focal length 15 cm. Find the position, nature, and height of the image.
5. An object is placed at a distance of 15 cm from a convex mirror of focal length 10 cm. Find the position and nature of the image formed.
6. A dentist uses a concave mirror of focal length 5 cm. At what distance should he place his face to see an enlarged erect image?
7. A convex lens has a focal length of 20 cm. An object is placed 30 cm from the lens. Calculate the image distance and nature of image.
8. A 5 cm tall object is placed 25 cm from a convex lens of focal length 10 cm. Find the position, nature, and size of the image.
9. An object is placed 10 cm from a concave lens of focal length 15 cm. Find the image distance and nature of the image.
10. An object 2.5 cm high is placed 15 cm from a convex lens of focal length 10 cm. Find the image height.
11. An object is placed 12 cm from a concave mirror of focal length 15 cm. Describe the nature and position of the image. Will the image be magnified or diminished?
12. A real image is formed 24 cm in front of a concave mirror when the object is placed 60 cm from the mirror. Find the focal length of the mirror.
13. A concave lens produces an image 10 cm from the lens when an object is placed 15 cm in front of it. Find the focal length of the lens.
14. A convex mirror forms an image at 10 cm behind the mirror of an object placed 30 cm in front of it. Calculate its focal length.

Diagram-Based Questions

1. Draw ray diagrams for the following cases using a concave mirror:
   a) Object beyond C
   b) Object at F
   c) Object between P and F
2. Draw a ray diagram to show the refraction of light through a rectangular glass slab.

Project work

- To prepare an electromagnet.

Chemistry

Balance the following equations:

1. ___ Fe + ___ H_2O → ___ Fe_3O_4 + ___ H_2
2. ___ Na + ___ H_2O → ___ $NaOH$ + ___ H_2
3. ___ $Ca(OH)_2$ + ___ HCl → ___ $CaCl_2$ + ___ H_2O
4. ___ Al + ___ O_2 → ___ Al_2O_3
5. ___ $KClO_3$ → ___ KCl + ___ O_2
6. ___ $Pb(NO_3)_2$ → ___ PbO + ___ NO_2 + ___ O_2
7. ___ NH_3 + ___ O_2 → ___ NO + ___ H_2O
8. ___ C_2H_6 + ___ O_2 → ___ CO_2 + ___ H_2O
9. ___ Al + ___ HCl → ___ $AlCl_3$ + ___ H_2
10. $Fe + CuSO_4$ → _____
11. $Na_2CO_3 + HCl$ → _____
12. $BaCl_2 + H_2SO_4$ → _____
13. $CaCO_3$ → _____
14. $H_2SO_4 + Zn$ → _____

Short Answer Questions

1. What is a chemical equation? What are the steps to balance it?
2. Define the following with one example each: a) Combination reaction b) Decomposition reaction c) Displacement reaction d) Redox reaction
3. Why should chemical equations be balanced?
4. Give two examples of each: a) Endothermic reactions b) Exothermic reactions

Reaction Identification

Identify the type of chemical reaction (Combination, Decomposition, Displacement, Double Displacement, Redox):

1. $CaCO_3 \rightarrow CaO + CO_2$
2. $Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$
3. $NaOH + HCl \rightarrow NaCl + H_2O$
4. $2H_2 + O_2 \rightarrow 2H_2O$
5. $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$

Conceptual Questions

1. Explain the difference between oxidation and reduction with examples.
2. Why is respiration considered an exothermic reaction? Write the equation.
3. What is rancidity? How can it be prevented?
4. How does a chemical reaction differ from a physical change? Give one example of each.
5. Write one example of a reaction which is both an oxidation and a reduction (redox).

Project work

Make a list that contains:

- Five elements in the free state
- Five elements in the combined state

BIOLOGY

Chapter: Life Processes

Instructions:

- The class is divided into three groups based on roll numbers.
- Each group is assigned a specific type of holiday homework.
- Submission is due immediately after the vacation.
- Students must also learn all the work done in class during the break.

Group 1 – Roll Numbers 1 to 10
Type: Subject-based Homework

Task:

- Write detailed notes on the following topics:
  a. Nutrition in Plants and Animals
  b. Human Digestive System
  c. Photosynthesis (include diagrams)

Use well-labelled diagrams and proper headings.

Group 2 – Roll Numbers 11 to 20
Type: Activity-based Homework

Task:

- Perform and record any 2 simple biology activities, such as:
  a. To show chlorophyll is essential for photosynthesis
  b. To show carbon dioxide is released during respiration
  Include:
  - Aim
  - Materials Required
  - Procedure
  - Observations

- Conclusion

Group 3 – Roll Numbers 21 onwards
Type: Project-based Homework

Task:

- Prepare a project on "Human Respiratory and Circulatory Systems"
  Include:
  a. Functions of major organs
  b. Labeled diagrams (hand-drawn or printed)
  c. Importance in life processes
  d. Optional: Create a working or static model

Submission Date:
First day after vacation

Note: Late submissions will not be accepted. Ensure neatness, creativity, and originality in your work.

YouTube Model & Concept References:
For Group 1:

1. Life Processes - Nutrition in Plants and Animals (Aman Dhattarwal):
   https://www.youtube.com/watch?v=U1ZuCWLxFqg
2. Photosynthesis Explained with Diagram (LearnoHub):
   https://www.youtube.com/watch?v=7sN5dXZ9daM

For Group 2:

3. Photosynthesis Experiment - Chlorophyll Importance:
   https://www.youtube.com/watch?v=R_MFwV7XdPI

4. Respiration Experiment - CO_2 Release:
   https://www.youtube.com/watch?v=Jg0mL_N5fpA

For Group 3:

5. Human Respiratory System Model (Working):
   https://www.youtube.com/watch?v=E8lBMH0Tu2
6. Circulatory System Model with Explanation:
   https://www.youtube.com/watch?v=rbtsbUC6Fg8

MATHEMATICS

Solve all questions:

1. Define a rational number.
2. Write the HCF of 18 and 48 using prime factorization.
3. If two positive integers a and b are such that a=24, b=36, find LCM (a, b).
4. Find the LCM and HCF of 12 and 30 and verify that LCM × HCF = product of the two numbers.
5. The product of two numbers is 1300 and their HCF is 13. Find their LCM.
6. Find the least number which is exactly divisible by 12, 15, and 20.
7. Two positive numbers are such that their HCF is 16 and their product is 3072. Find their LCM.
8. Define a polynomial.
9. What is the degree of the polynomial $3xx^4 - 5xx^2 + 7$?
10. Factorize: $xx^2 - 16$
11. Define a quadratic equation.
12. What is the standard form of a quadratic equation?
13. Find the discriminant of the equation $xx^2 - 5xx + 6 = 0$
14. If one root of $xx^2 + kxkx + 6 = 0$ is 2, find the value of k.
15. Solve the quadratic equation $xx^2 - 3xx - 10 = 0$ by factorisation.
16. For what value of k will the equation $kxkx^2 - 4xx + 1 = 0$ have equal roots?
17. Find the nature of the equation $3xx^2 + 5xx + 2 = 0$.
18. Solve x(x-4) = 21.
19. The product of two consecutive positive integers is 56. Form a quadratic equation and solve it.
20. A train travels 360 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 48 minutes less. Find the speed of the train.
21. The sum of the ages of a father and his son is 40 years. Ten years ago, the product of their ages was 75. Find their present ages.
22. The area of a rectangular plot is 528 m². The length is one more than twice the breadth. Find the length and breadth.
23. A two-digit number is such that the product of the digits is 24. When 36 is added to the number, the digits interchange their places. Find the number.
24. Find the value (s) of k for which the quadratic equation $xx^2 + (kk - 2)xx + kk = 0$ has real roots.
25. Solve the quadratic equation $2xx^2 + \sqrt{2}x - 1 = 0$ using the quadratic formula.
26. A motorboat, whose speed is 18 km/h in still water, takes 1 hour more to go 24 km upstream than to return downstream. Find the speed of the stream.
27. The sum of the squares of two consecutive odd numbers is 394. Find the numbers.
28. A rectangular garden has an area of 500. If the length is 4 m more than the width, find the dimensions of the garden.
29. The sum of ages of a mother and her daughter is 50 years. Five years ago, the N product of their ages was 300. Find their present age.
30. It rain covers a certain distance in one hour. If it had run 10 km/h faster, it would have taken six minutes less. Find the distance.

Project work:

- Write all trigonometric identities
- Write all formula of surface area and volume of cube, cuboid, cone, cylinder
- Write all formula of area related to Circles

Do this project on chart.

UDRU

- موسم سرما کی تعطیلات کا کام

جماعت : دسویں

1.مضون نو یسی - مندرجہ ذیل ہیں کسی ایک مضمون پر تقریباً 300 الفاظ کا مضمون لکھے

1- مو بائل فون کے فائدے اور نقصان
2-وقت کی پابندی
3-علم کے فائدے
2- اپنے والدین کو تعطیلات کے دوران گزارے گئے دنوں کے بارے میں خط لکھیں
3-اپنے دوست کو امتحان میں کامیابی پر مبارکبادی کا خط -
4.کتاب کے کسی ایک سبق کا خالصہ اپنے لفظوں میں لکھیے -
1-سیر چوتھے درویش کی
2-اور مزاج دار بہو لٹ گئی -

5- پرجیکٹ ورک - اُردو کی کتاب میں شامل کس ایک غزل کا انتخاب کر کے شاعر کی حالات زندگی اور اشعاروں کی تشریح کریں -

हिन्दी

1) सम्पूर्ण कक्षाकार्य की पूर्णवृत्ति करें।
2) सम्पूर्ण साहित्यिक प्रश्नोत्तर याद कर एक नई कार्य पुस्तिका में लिखें।
3) परियोजना कार्य:

- अनुक्रमांक 1 से 10

आपके विचार से किताबी ज्ञान महत्वपूर्ण है या जीवन में अनुभव अपने घर के बड़े लोगों से बातचीत करके इस विषय पर अपने विचार लिखिए।

- अनुक्रमांक 11 से 20

वर्षा ऋतु का प्राकृतिक चित्र बनाएं, ऋतु के प्रकार लिखें तथा पर्वत पर पावस के सौन्दर्य का वर्णन कीजिए।

- अनुक्रमांक 21 से 30

पाठ्यपुस्तक में लिखित कविता 'कैकेयी का अनुताप' को संवाद रूप में चित्रित कीजिए।


HAPPY
Holidays