

English Holiday Homework

Class 9

1. Word Cloud

Objectives: Vocabulary enrichment is the most essential part of language learning which helps us in giving creativity to our expressions.

- To develop active and passive vocabulary.
- To make learners understand the meaning of words.
- To enable learners to use words in different contexts.
- To enable children to articulate individual responses effectively.
- To help them to organize and structure their thoughts in writing/speech.

About: Make a word cloud taking the image of any one protagonist/or an important object of the chapters from the Literature Book. Add new words and meanings in the image. A reference image has been given below.

Instructions: Use any coloured A4-sized sheet to do this activity.



2. Comic Strip (SDG)

Objectives: To enhance language skills, including reading comprehension, critical analysis, oral expression, and writing skills.

About: Comic Strip Story

Task:

- Create a 4-6 panel comic strip on any of these:
 - “A Superhero Saving the Planet”
 - “The Journey of a Plastic Bottle”
 - “How a School Became Eco-Friendly”

- Include dialogues and narration in English.

Instructions: Use 2-3 coloured A4-sized sheets to do this activity. You can also make a flip page for the comic strip. Be creative!

3. Digital Newspaper

Objectives: To enhance LSRW skills, cultural and historical relevance of a place, and knowledge about a new place.

About: Choose any one topic for the Digital Newspaper

- "Healthy Words, Healthy Minds"
- "The Wellness Wordsmith"
- "Speak Well, Live Well"
- "Language & Lifestyle"

➤ Read an existing leading newspaper, locate the concept of headlines and the structure of articles.

➤ After taking an idea, select a theme of your choice.

➤ You may choose the layout of the newspaper to create. You may select sections like

Word of the Week (Health Edition), Grammar Corner: Talk About Health, Health-Themed Reading Passage

➤ The newspaper must not be more than five-six pages.

ग्रीष्मकालीन गृहकार्य

त्रिपुरा राज्य से संबंधित निम्नलिखित जानकारी एकत्रित करके सचित्र पोर्टफोलियो फाइल में संलग्न करें

विषय-वस्तु :

भौगोलिक स्थिति (geographical condition)

भाषा और साहित्य (कवि और लेखक की जानकारी)

वेश-भूषा

संस्कृति

उद्योग

इतिहास

समालोचना (विद्यार्थी के विचार त्रिपुरा राज्य पर)

निर्देश-: सभी कार्य सुंदर लिखावट और विषयानुकूल होना चाहिए ।

कक्षा -9

संस्कृत ग्रीष्मकालीन गृहावकाश

- संधि पर आधारित किसी भी प्रकार की 1 क्रीडा का निर्माण करें ।
- अपनी दिनचर्या संस्कृत में 15 वाक्य लिखें।
- किसी भी विषय पर 4 चित्रवर्णन करें ।
- इकारान्त कवि मति उकारान्त साधु गुरु शब्दरूप लिखें याद करें ।

MATHEMATICS HOLIDAY HOMEWORK

CLASS 9 (2025 – 2026)

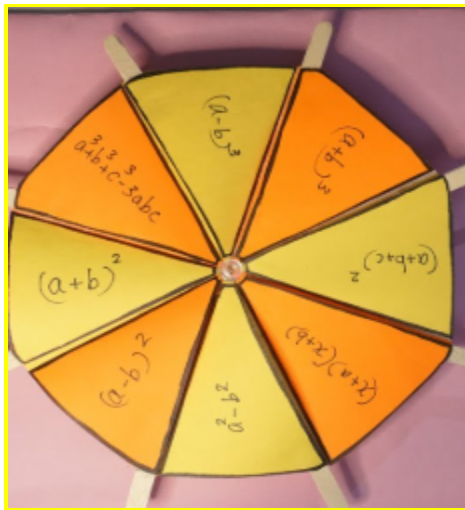
1. MAKE THE MIND MAPPING OF THE CHAPTERS

- i) Number system
- ii) Polynomials

2. ACTIVITY -SQUARE ROOT SPIRAL - The square root spiral, also known as the Spiral of Theodorus, is a geometric construction that spirals out from a central point by adding right triangles with hypotenuses of consecutive square root values ($\sqrt{2}$, $\sqrt{3}$, $\sqrt{4}$, etc.). While it's a mathematical construction, some argue it can be seen in certain natural patterns, particularly those involving growth or branching structures. On A4 sheet draw square root spiral with art integration. An example is shown below.



3. Make foldables of the algebraic identities from chapter Polynomials.



WORKSHEET (TO BE DONE IN REGISTER)

Ch1- Number System and Ch -2 Polynomials

1. If $x + y = 12$ and $xy = 32$, Find the value of $x^2 + y^2$.
 2. If $3x + 2y = 12$ and $xy = 6$, find the value of $9x^2 + 4y^2$.
 3. Write the following cubes in the expanded form:
 - (i) $(3a + 4b)^3$
 - (ii) $(5p - 3q)^3$
 4. If $x^2 + 1/x^2 = 27$, find the values of each of the following:
 - (i) $x + \frac{1}{x}$
 - (ii) $x - \frac{1}{x}$
 5. If $x - \frac{1}{x} = 4$, then evaluate $x^2 + 1/x^2$
 6. If $a + b + c = 15$ and $a^2 + b^2 + c^2 = 83$, find the value of $a^3 + b^3 + c^3 - 3abc$.
 7. Factorize:
 - (i) $6ab - b^2 + 12ac - 2bc$
 - (ii) $9(2a - b)^2 - 4(2a - b) - 13$
 8. If $x^3 + ax^2 - bx + 10$ is divisible by $x^2 - 3x + 2$, find the values of a and b .
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9. Using factor theorem, factorize each of the following polynomials:
 - (i) $x^3 - 6x^2 + 3x + 10$
 - (ii) $2y^3 - 5y^2 - 19y + 42$
 10. Which one is not a polynomial
 - (a) $4x^2 + 2x - 1$
 - (b) $y + \frac{3}{y}$
 - (c) $x^3 - 1$
 - (d) $y^2 + 5y + 1$
 11. Find the number of zeros of $x^2 + 4x + 2$.
 12. Find the value of k , if $(x - 1)$ is a factor of $4x^3 + 3x^2 - 4x + k$.
 13. Every whole number is a natural number write true or false.
 14. If $x = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ and $y = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$, find the value of $x^2 + y^2 + xy$.
 15. If $x = \frac{2 - \sqrt{5}}{2 + \sqrt{5}}$ and $y = \frac{2 + \sqrt{5}}{2 - \sqrt{5}}$, find the value of $x^2 - y^2$.

16. Determine rational numbers p and q if

$$\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = p - 7\sqrt{5}q.$$

17. Simplify: $\frac{6}{2\sqrt{3}-\sqrt{6}} + \frac{\sqrt{6}}{\sqrt{3}+\sqrt{2}} - \frac{4\sqrt{3}}{\sqrt{6}-\sqrt{2}}.$

19. Show that: $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$

20. If: $x = \frac{\sqrt{p+q} + \sqrt{p-q}}{\sqrt{p+q} - \sqrt{p-q}},$ then find the value of $qx^2 - 2px + q.$

21. Show that: $\frac{x^{-1}+y^{-1}}{x^{-1}} + \frac{x^{-1}-y^{-1}}{x^{-1}} = \frac{x^2+y^2}{xy}$

22. If $2^a = 3^b = 6^c$ then show that $c = \frac{ab}{a+b}.$

23. If $x = 2$ and $x = 0$ are zeroes of the polynomial $2x^3 - 5x^2 + px + b,$ then find the value of p and b.

24. Simplify and factorise $(a+b+c)^2 - (a-b-c)^2 + 4b^2 - 4c^2.$

25. If $a+b+c=6$ and $ab+bc+ca=11,$ find the value of $a^3+b^3+c^3-3abc.$

26. The polynomial bx^3+3x^2-3 and $2x^3-5x+b$ when divided by $x-4$ leave the Remainders R1 and R2 respectively. Find the value of b if $2R1 - R2 = 0.$

27. If $f(x) = x^4 - 4x^3 + 3x^2 - 2x + 1,$ then find whether $f(0) \times f(-1) = f(2).$

28. Prove that: $(x+y)^3 + (y+z)^3 + (z+x)^3 - 3(x+y)(y+z)(z+x).$

29. Verify if $\frac{1}{2}$ and $-\frac{3}{2}$ are zeroes of the polynomial $8x^3 - 4x^2 - 18x + 9.$ If yes, then factorise the polynomial.

30. Using long division method, show that the polynomial $p(x) = x^3 + 1$ is divisible by $q(x) = x + 1.$ Verify your result using factor theorem.

SCIENCE

Physics

- 1) Collect the data of two Athletes and plot the velocity - Time graph on same A-4 size sheet with different colors. Write what the slope of the graph indicates.
 - 2) Solve the worksheet in Portfolio
- *Do all the above work (1,2,) on A4 size sheets and file them in your portfolio.
- 3) Revise ch -7 for Periodics

CHEMISTRY

1. Write a note on Plasma and Bose- Einstein condensate.
2. Write the applications of evaporation from daily life.
3. Draw a chart for inter-conversion of states of matter.

BE THE BUDDING SCIENTISTS!

Design your own experiment and feel like a scientist.

Instructions: - Choose any topic from Chemistry and design an experiment using simple things around you to explain any law, principle or phenomena around us.

Prepare a working model/an activity/ chart related to it.

Write the activity in your file, under the section: Activity name, Principle, Procedure, Observations, Safety measures and Inference.

Support your activity with diagrams and pictures. Submit the work in Class notebook in the project section.

BIOLOGY

1. Make a 'Science toon' depicting the function of any one cell organelle.
2. Using art integration, compare the three types of permanent plant tissue.
[use thread, sand, beads, paper bits]
3. Phrase 10 MCQ questions from the chapter – The fundamental unit of life.

SOCIAL SCIENCE


Prepare a **Project Report** on **Disaster Management** based on following **Topics** :

- ❖ Introduction to disasters
- ❖ Disaster Management
- ❖ Natural Disasters (Heat Waves, Cold Waves, Landslides, Earthquakes, Volcanic Eruptions, Floods, Tsunami, Tropical Cyclones and Droughts)
- ❖ Man-made Disasters (Nuclear Disaster, Chemical/Industrial disasters, Fire disasters, Deforestation, Road accidents and Terrorist attacks)
- ❖ Disaster Management Cycle
- ❖ Mitigation Strategies
- ❖ Conclusion

IMPORTANT POINTS TO BE KEPT IN MIND WHILE PREPARING THE PROJECT REPORT

- The report should be hand-written only.
- Should be done in Scrap File.
- Content should be valid and related to the topics.
- Furnish your project report with maps and photographs.
- Report should not be less than 10-12 pages.

ART- INTEGRATED LEARNING

-  On an A4 size sheet, **prepare a sketch** based on human beings, birds, animals and vegetation **OR** House-hold Objects (not more than four items)

NOTE: The Sketch has to be stapled or pasted inside the scrap file.

Holiday Homework

Class 9

IT

Summer Break:

1) Using word processing software prepare Menu card for any restaurant/ Tourism Brochure.

2) Prepare Grocery Bill of your house using Spreadsheet Software OR Design Photo Collage of your Childhood Memories by using any IT tool.

3) Prepare any digital product / Real life product using organic material and share with your family friends. Receive feedback and share your experience through any digital tool/video etc

4) Do practice of Typing daily Using any Typing Tutor .

5) Prepare one Presentation/ Document mentioning Usage of various ICT Devices / AI based Healthcare Diagnosis Devices in Medical Field(Minimum 5 Devices)

MARKETING AND SALES

HOLIDAY HOMEWORK

CLASS – IX

PROJECT WORK

Students shall prepare a file having a collection of different-Companies with their products. They should further classify the products and identify the marketing Concept/Philosophy used by the company to be in the market.

OR

Make a file incorporating a list of different goods used in your home/ schools/ parents office and classify them on the basis of tangible/ intangible, durable/non-durable, direct/ indirect competition, levels of channels used. Justify your choice.