# SUMMER HOLIDAY HOMEWORK

2026

**Prepared By:**

Name: _____

Class: _____

Section: _____

**Submitted To:**

**V R SENIOR SECONDARY SCHOOL**

*Summer Vacation Assignment*

*Learn, Explore & Enjoy!*

**INSTRUCTIONS:**

- Complete all given homework neatly.
- Do your work in your own handwriting.
- Submit after summer vacation.

*Have a Happy & Productive Summer Vacation!*

## INSTRUCTIONS FOR THE PARENTS

Dear parents,

Warm greetings!

Holidays are time when you can connect with your child in many ways. Parents are the first and the most important teacher for a child. You can encourage your child to participate in many educational activities at home and promote his/her quests to learn while working together as it will not only help your child to build, learn and develop his/her skills but also strengthen your bond with him/her .

Homework has to be done under the parents' guidance. Make him/her read daily one or two pages from their books. Don't miss to take your child outdoors in the evening.

Fix up a timetable for your child to organize his/her daily routine like watching television, mobile surfing for information, playing with friends, studying, etc. Dictate them whatever they have read or written.

Make your child responsible by assigning some of the household responsibilities like watering plants, arranging the dining table, organize their room and fill the empty water bottles and put them in refrigerator.

Encourage your child to eat healthy food, avoid eating junk food, wear clean clothes, wash hands before and after every meal, trim their nails. Let them play and share their stories with their grandparents.

Above mentioned guidelines will help your child to become a smart and an active learner.

**INSTRUCTIONS FOR THE STUDENTS**

1. Get up early in the morning.
2. Wish your parents, grandparents and elders.
3. Pray to God daily.
4. Exercise everyday.
5. Brush your teeth twice a day in the morning and before bedtime.
6. Stay clean and healthy.
7. Do not play in the sunshine or at hot places.
8. Keep some water and food for birds.
9. Help the poor by giving them food, clothes or money.
10. Wash your hands with soap.
11. Do not waste water and electricity .
12. Do your vacation work by yourself.
13. Writing should be very neat and clean.
14. Try to do your written work regularly to enhance your writing skill.
15. Do one page of your English and Hindi writing books once a week.
16. Read your chapters loudly.

**NOTE- Homework should be done neatly on a separate notebook.**

## English

**1.Identify the Literary Devices which used in the lines.**

i. stood still to smile
ii. terribly transient feet.
iii. laboured ease of loss
iv. transient feet
v. its silence silences.

2.**Write the central themes discussed in the story "The Portrait of a Lady" by Khushwant Singh.**

**3.The Summer of the Beautiful White Horse by William Saroyan**

1. Why was the Garoghlanian tribe famous for honesty?
2. Why did Mourad steal the horse though the family was known for honesty?
3. How did Aram justify Mourad's act of stealing the horse?
4. What did John Byro say when he saw the boys with the horse? Why did he not accuse them?
5. How did the boys finally return the horse? What does this show about their character?

**4. The Portrait of a Lady**

1. Describe the physical appearance of the author's grandmother.
2. How did the grandmother's life change when they shifted to the city?
3. Why did the grandmother disapprove of the English school and music lessons?
4. What were the grandmother's happiest moments in the city?
5. How did the grandmother react to the author's going abroad? Describe her death.

4. Write a Short Note on Khushwant Singh

## Writing Section

**5. Notice Writing**

Q: You are Karan/ Kirti, Head of the Student Council, Modern School, Lucknow. Your school is hosting a
National Level Science Exhibition. Due to a sudden inspection by the CBSE, the dates and entry rules have been revised. Draft a notice in 50 words for the school notice board informing all students.

**6. Article Writing**

Q. Write an article in 150-200 words on "Artificial Intelligence: Boon or Bane for Students".

## Grammar

**7. Transform the Sentences as per given instructions**

1. Change from Simple to Complex: Being ill, he did not come.
2. Change from Affirmative to Negative: She is always on time.
3. Change from Exclamatory to Assertive: How beautiful the night is!
4. Change from Direct to Indirect: He said to me, "Where are you going?" →

**8. Identify the Clauses**

1. I know where he lives.
2. The house that stands on the hill is mine.
3. As he was late, he was punished.
4. She will come if you invite her.

9. **Rearrange the following to make meaningful sentences:**

1. never / honesty / out / goes / of / fashion
2. who / book / reads / this / will / it / understand
3. by / was / the / America / discovered / Columbus

## PHYSICS

1.Can the speed of an object be negative? Justify.
2.What is the shape of the displacement-time graph for uniform linear motion?
3.If a particle moves from point A to B and returns to A, what is its total displacement?
4.What is the acceleration of a projectile when it reaches its maximum height?
5.What is the value of the scalar product of two perpendicular vectors?
6.Derive the three equations of uniform acceleration using the calculus method.
7.Derive the expression for the distance traveled by a uniformly accelerating body in the nth second.
8.Draw and describe the kinematic features of the following graphs for a uniformly accelerating object.
9. State the Parallelogram Law of Vector Addition. Derive an expression for the magnitude and direction of the resultant vector.
10.What is dimensional analysis? Explain its three major applications with an example for each.
11.Define Significant Figures. State the primary rules used to count significant figures in a measured value.
12.In which of the following examples of motion, can the body be considered approximately a point object.
(a) A railway carriage moving without jerks between two stations.
(b) A monkey sitting on top of a man cycling smoothly on a circular track.
(c) A spinning cricket ball that turns sharply on hitting the ground.
(d) A tumbling beaker that has slipped off the edge of table.
13.A woman starts from her home at 9.00 am, walks with a speed of 5 km h-1 on a straight road up to her office 2.5 km away, stays at the office up to 5.00 pm, and returns home by an auto with a speed of 2.5 km h-1. Choose suitable scales and plot the x-t graph of her motion.
14.A drunkard walking in a narrow lane takes 5 steps forward and 3 steps backward, followed again by 5 steps forward and 3 steps backward, and so on. Each step is 1 m long and requires 1 s. Plot the x-t graph of his motion. Determine graphically and otherwisehow long the drunkard takes to fall in a pit 13 m away from the start.
15.A three-wheeler starts from rest, accelerates uniformly with 1 m s10 s, and then moves with uniform velocity. Plot the distance covered by the vehicle during the nth second (n = 1,2,3….) versus n. What do you expect this plot to be during accelerated motion: a straight line or a parabola?
16. A train moves with a speed of 30 km/h in the first 15 min, with another speed of 40km/h the next 15 min, and then with a speed of 60 km/h in the last 30 min. Calculate the average speed of the train for this journey.

17.The position of an object moving along x-axis is given by x = a+bt2 where a = 8.5m, b = 2.5 m/s2and t is measured in seconds. What is its velocity at t = 0s and t = 2s? What is the average velocity between t = 2s and t = 4s?

18.A balloon is ascending at the rate of 14 m/s at a height of 98m above the ground when the food packet is dropped from the balloon. After how much time and with that velocity does it reach the ground? Take g = 9.8 ms-2

19.A body travelling along a straight line traversed one-half of the total distance with velocity v0. The remaining part of the distance was covered with a velocity v1, for half the time and with velocity v2 for the other half of time. Find the mean velocity averaged over the whole time of motion.

20.If displacement of particle is given by x = t2 + 5t + 3. Find

(i) Velocity of the particle at t = 3s and

(ii) Average velocity of the particle between t = 1s to t = 3s.

## Chemistry

1. Calculate the molarity of 1 L of solution of ethanol in water in which the mole fraction of ethanol is 0.040.

2. A 6.9 M solution of KOH in water contains 20% by weight of KOH. Calculate the density of solution.

3. Write short note on the following:
   (i) Aufbau's Principle
   (ii) Photoelectric Effect

4. Write down the electronic configuration of Cu and Cr.

5. Identify and arrange the orbitals represented by the following in decreasing order of energy:
   (i) n = 4, l = 0
   (ii) n = 3, l = 1
   (iii) n = 3, l = 2
(iv) n = 3, l = 0

6. How can you show using Pauli's exclusion principle that p-subshell can have only 6 electrons?

7. Why is 12 g of carbon considered one mole whereas 16 g of oxygen is also one mole?

8. Prepare a chart showing the timeline of atomic theories.

9. If 10 volumes of dihydrogen gas reacts with five volumes of dioxygen gas, how many volumes of water vapour would be produced?

10. An element with mass number 81 contains 31.7% more neutrons as compared to protons. Assign the atomic symbol.

11. (a) How many subshells are associated with n = 4?
   (b) How many electrons will be present in the subshell having MS value of –1/2 for n = 4?

12. Calculate the wavelength, frequency and wavenumber of a light wave whose period is 2.0 × 10^-10 sec.

13. Using s, p, d, f notations, describe the orbital with the following quantum numbers:
   (i) n = 2, l = 1
   (ii) n = 4, l = 0
   (iii) n = 5, l = 3
(iv) n = 3, l = 2

14. The mass of an electron is 9.1 × 10^-31 kg. If its K.E. is 3.0 × 10^-25 J, calculate its wavelength.

15. A 100 watt bulb emits monochromatic light of wavelength 400 nm. Calculate the number of photons emitted per second by the bulb.

16. Why are orbitals preferred over orbits in modern atomic theory?

17. Make a Rutherford Atomic Model using thermocol, colored paper, clay etc.

18. Calculate de Broglie wavelength of electron moving with velocity 2 × 10^6 m/s.

19. Calculate the mole fraction of ethanol in a sample of spirit containing 92% ethanol by mass.

20. Model Making: Prepare a model of Rutherford's α-Ray Scattering experiment on thermocol using different colors.

# Mathematics

**Activity1:- Mathematical Poster Making**

Prepare a colorful poster on any one topic:-

Sets , Trigonometry , Coordinate Geometry, Statistics , Relations and Functions.

Include:- Definitions , Important formulas , Real Life Applications , Diagrams and Examples.

**Activity2:- MathsAround Your Home**

Find 10-15 objects from your Surroundings and identify their shapes.

Paste pictures or Draw sketches.

Example:-

| Objects | Mathematical Shapes |
|---|---|
| Clock | Circle |
| Dice | Cube |
| Water Bottle | Cylinder |

**Activity3:- Budget Planning Activity.**

Suppose your family plans a picnic with a budget of Rupees 5000.

Prepare:-

- Food Expense
- Transport
- Tickets
- Emergency savings

Represent the data using:- Pie Chart , Bar Graph , Percentage Calculations.

## Section-B (Applied Activities)

**Activity4:- Linear Graph Investigation.**

Take any two variables from real life.

Examples:- Mobile data usage vs. time , Temperature vs. electricity use , Distance vs. fuel consumption.

**Y= mx+c**

Write :- Nature of graph , Increase / Decreasing relation , Slope interpretation.

**Activity5:- Trigonometry In Real Life .**

Measure the height of :-

Tree , Building , Electric Pole using shadow method .

Use :- $\tan \alpha = \frac{Height}{Base}$

Include:- Diagram , Measurements , Calculations.

**Activity6:- Statistics Survey**

Conduct a survey among 20 persons (students) from your area on.

- Favorite Subject
- Daily Study Hours
- Favorite Sports

Represent the data using:- Frequency table , Histogram , Pie Chart
Find:- Mean , Median , Mode.

# INFORMATION PRACTICES

## Section A – Python Programming

**Activity 1: Write and Execute the Following Python Programs**

- Program to find whether a number is even or odd
- Program to calculate simple interest
- Program to find the largest among three numbers
- Program to print multiplication table of any number
- Program to calculate factorial of a number
- Program to check whether a year is leap year or not
- Program to calculate area of a circle
- Program to swap two numbers
- Program to print Fibonacci series
- Program to count vowels in a string

## Section B – Data Handling Using Pandas

**Activity 2: Answer the Following Questions**

i. What is Pandas?
ii. What is a Data Frame?
iii. Difference between Series and Data Frame
iv. Write steps to install Pandas
v. Explain any five functions of Pandas.

**Activity 3: Practical Work**

- Write Python programs to:
- Create a Series
- Create a Data Frame
- Display first five rows of data
- Add a new column in Data Frame
- Delete a row or column from Data Frame

## Section C – Database Concepts

**Activity 4: Write Short Notes on**

- Database
- DBMS
- Features of DBMS
- Advantages of Database
- SQL
- Primary Key
- Data Types in SQL

## Section D – SQL Queries

**Activity 5: Write SQL Commands for the Following**

- Create a table named STUDENT
- Insert records into the table
- Display all records
- Display records with marks greater than 80
- Update student marks
- Delete a record from the table

## Section E – Communication Technologies

**Activity 6: Answer the Following Questions**

What is the Internet?

Difference between Internet and Web

What is URL?

Explain HTTP and HTTPS

What is Cyber Crime?

What is Phishing?

Write safety measures for online security

## Section F – Project Work

**Activity 7: Prepare Any One Project**

- Choose any one topic:
- Artificial Intelligence
- Cyber Security
- Digital India
- Online Education System
- Social Media Impact

# Physical Education

1- Read the following chapters and prepare notes in your register:

Unit – 1 Changing Trends & Career in Physical Education

Unit – 2 Olympic Value Education.

Unit -3 Yoga