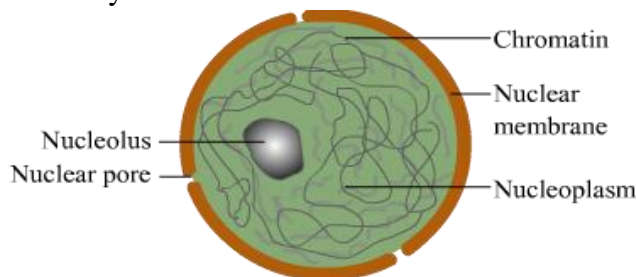


## HOLIDAY HOMEWORK

CLASS IX (2023-2024)

### SCIENCE-BIOLOGY

1. Where are proteins synthesized inside the cell?
2. What is endocytosis?
3. In what two ways osmosis is different from diffusion.
4. What is the advantage of having deeply folded inner membrane in mitochondria?
5. State one feature that is similar and one feature that is dissimilar with respect to mitochondria and plastids.
6. In brief state what happens when :
  - i) The plasma membrane of a cell breaks down.
  - ii) A Red Blood Cell is kept in concentrated saline solution.
  - iii) Golgi apparatus is removed from the cell.
7. Write the full form of DNA and ATP.
8. Why do the animal cells not have cell wall?
9. What is cell division? Give the types of cell division.
10. Look at the diagram carefully



**Structure of a Nucleus**

- a. Which part of the above diagram can carry the 'hereditary material'?
- b. Who discovered the nucleus for the first time?
- c. Why is it called the 'control centre' of the cell?

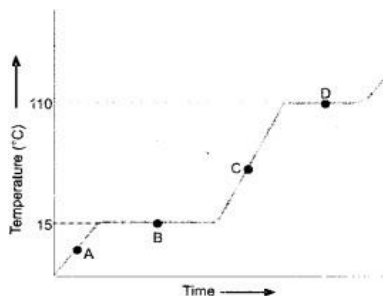
### PHYSICS

- Q1. Draw a displacement- time graph for a body moving with uniform velocity?
- Q2. Identify the kind of motion in the following cases:
  - (a) An electron orbiting around nucleus
  - (b) A curve with constant speed turning around a curve
- Q3. A bus travels a distance 120km with a speed of 40km/hr and returns with a speed of 30km/h. Calculate the average speed for the entire journey.
- Q4. A train starting from rest attains a velocity of 72km/hr in 5 minutes, assuming the acceleration is uniform, find
  - (a) The acceleration
  - (b) The distance travelled by the train for attaining this velocity.
- Q5. Velocity time graph for the motion of an object in a straight path is a straight line parallel to the time axis.

- (a) Identify the nature of motion of the body. (b) Find the acceleration of the body.  
(c) Draw the shape of distance-time graph for this type of motion.
- Q6. (a) Write any four examples of uniform circular motion.  
(b) How can we describe the position of the object.
- Q7. A circular track has a circumference of 3140 m with AB as one of its diameter. A scooterist moves from A to B along the circular path with a uniform speed of 10m/s. Find  
(a) distance covered by the scooterist  
(b) displacement of the scooterist  
(c) time taken by the scooterist in reaching from A to B
- Q8. Define uniform and non uniform motion. Write 2 examples of each.
- Q9. Is it possible that the train in which you are sitting appears to move while it is at rest.
- Q10. Make a project file on Natural Resources ( Project should include types of resources , different natural resources in detail, pictures , measures to save natural resources)

## CHEMISTRY

- Q1. The rate of evaporation of a liquid increases on heating. Explain.
- Q2. With the help of a labelled diagram, describe in brief an activity to show sublimation of ammonium chloride?
- Q3. Compare in tabular form the properties of solids, liquids and gases with respect to (i) Shape (ii) Volume (iii) Compressibility (iv) Diffusion (v) Fluidity or rigidity
- Q4. Why evaporation is called surface phenomenon?
- Q5. Name the SI unit of measuring temperature.
- Q6. Describe an activity to show that rate of evaporation increases with surface area.
- Q7. State two differences between evaporation and boiling.
- Q8. Give reasons:-  
(a) Why do we feel comfortable under a fan when we are perspiring?  
(b) Why do wet clothes dry quickly in the sun than in the shade?
- Q9. Explain interconversion of three states of matter with the help of flow chart. Name the process of each conversion?
- Q10. The given graph shows the heating curve for a pure substance. The temperature rises with time as the substance is heated :



- 1.What is the physical state of the substance at the points A, B, C and D ?
- 2.What is the melting point of the substance ?
- 3.What is its boiling point ?
- 4.What happens to the temperature while the substance is changing state ?
- 5.The substance is not water. How can you judge from the graph ?

## SOCIAL SCIENCE

### **A.Design detailed project report on topic “Natural vegetation and wildlife”**

\*Project report should include following key points:

- Importance of forest and wildlife
- Categories natural vegetation of the world
- Take any 2 sort of vegetation (India or world),collect pictures and detailed figure of the same.
- Share of total forest area of the total area of the world
- Share of total forest area of the total area of India
- Collect the pictures of endangered and extinct species of India
- Give some steps to preserve and keep from harm the natural vegetation and wildlife
- List major wildlife sanctuary in India (any 10)

### **A.Outline a map list of following:- (project file)**

- Indian states and capital
- Tropic of cancer, Standard Meridian (location and labelling)
- Neighbouring countries
- Mountain ranges: The Karakoram range, The Zaskar, The Shiwalik,The Satpura, The Western and eastern Ghats
- Mountain peaks- K2, kanchan junga,Anai Mudi
- Plateau:- Deccan Plateau, Malwa Plateau, Chotta Nagpur Plateau
- Coastal Plains: Konkan, Malabar, Coromandal,
- Outline political map of France and locate:-(project file)**
- Bordeaux , Nantes , Paris , Marseille

\*Art-integration is a cross-curricular pedagogical approach that utilizes various aspects and forms of art and culture as the basis for learning of concepts across subjects. As a part of the thrust on experiential learning, art-integrated education will be embedded in classroom transactions not only for creating joyful classrooms, but also for imbibing the Indian ethos through integration of Indian art and culture in the teaching and learning process at every level. This art-integrated approach will strengthen the linkages between education and culture.”Under this project \*Ek Bharat Shrestha Bharat\* Programme of Government of India has paired State/UT, for Rajasthan is Nagaland. Groups have been already allotted to the students. Do a comparative study and adorn your file with beautiful hand made or print outs and research over the given topic.

## ENGLISH

Students will prepare Portfolio of English.

1. Biography of Vikram Seth
2. Critical Analysis of Poem, 'No men are foreigners'. (With poets biography)
3. Pen Picture of anyone Sergei/ Olga/Lushkoff.

Students will solve the given activities in their worksheets

1. Factual and Discursive Passages 1 to 5 (Pg.no 5 to 14)
2. Descriptive Paragraph – Worksheets no. 12 and 13. (Pg.no- 27 and 28)
3. Diary Entry- Worksheet no 13 (pg.no 28)
4. Story Writing – Worksheet no 15 and 16 (pg.no 31 and 32)
5. Modals Worksheet no. 21 (pg.no 41 and 42)
6. Subject Verb Concord- Worksheet no. 22 (pg.no 43 and 44)

## HINDI

प्राकृतिक आपदाओं का संक्षिप्त परिचय देते हुए। अतिवृष्टि (बाढ़) और अनावृष्टि (सूखा) का कारण स्पष्ट करते हुए इनसे आम जन-जीवन पर पड़ने वाले प्रभाव को चित्रों सहित परियोजना कार्य के रूप में फ़ाइल में करें।

## SANSKRIT

1. आधुनिक संस्कृत साहित्य के कवि का परिचय (उनकी फोटो लगाकर) लिखें।
2. स्वप्न का परिचय संस्कृत में लिखें। (अपनी फोटो भी लगाएं)
3. संधि का चार्ट बनाएं।

## FRENCH

### File work

1. Make a pictorial flowchart of activities related to topic “Mes Loisirs” on A4 size sheet
2. Write « une recette de plat indien »
3. Write about Rajasthan and Nagaland including location, famous cities, famous monuments, food etc in short in French and also paste pictures.

### Copy work

1. Do Q1 of page 58 of Together with French in grammar copy

## INFORMATION TECHNOLOGY

-Take pictures of various computing/electronic devices (like joystick, VR Wearable, touch screen kiosks, etc), that you see while visiting a shopping mall, a gaming zone, VR theme park, restaurants, libraries, museums, etc.

Make a presentation on the above mentioned “SMART DEVICES”.

-Include the pictures that you click and write some description of each device. Submit the hardcopy.

## MATHEMATICS

### A) LAB MANUAL

Activity No-1- To construct a square root spiral, that depicts the square roots of natural numbers ( $\sqrt{1}$ ,  $\sqrt{2}$ ,  $\sqrt{3}$ ,  $\sqrt{4}$ .....)

Activity No-2- To draw a geometrical representation of linear equation in two variables.

Activity No-6- To obtain the square root of any given positive real number through an activity, involving paper folding and geometrical construction.

Activity No-19- To represent graphically the relationship b/w total number of students in a class and number of boys and girls and to find out from the graph the number of girls in the class, when total number of boys is given.

### B) WORKSHEET QUESTIONS (Do in your mathematics notebook)

- 1) The decimal expansion of the number  $\sqrt{2}$ .
- 2) Express  $0.47777777\ldots$  in the form  $p/q$ , where  $q$  is non zero .
- 3) Locate  $\sqrt{5}$  on the number line.
- 4) Solve  $1/\sqrt{9}-\sqrt{8}$
- 5) Classify the following as linear ,quadratic and cubic polynomial  
a)  $x^2 + x$    b)  $x-x^3$    c)  $r^2$
- 6) Find the value of the polynomial  $5x-4x^2 +3$  at  $x=-1$ ,  $x=0$ .
- 7) Determine  $x+1$  is a factor of polynomial  $x^3 +x^2 +x+1$ .
- 8) The cost of notebook is twice the cost of a pen .write the linear equation in two variables to represent this statement.
- 9) Find the reflection of the point  $(4,-4)$  in the x-axis.
- 10) In which quadrant do the following lie?  
 $(-1, 3), (-5, -5), (2, 7), (6, -7)$