



# NEW ERA PUBLIC SCHOOL, PATNA

(Affiliated to CBSE, Delhi, Upto 10+2 Level)

## Summer Vacation Homework (2024-25)

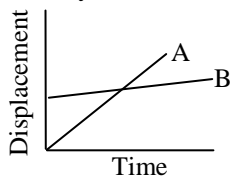
### CLASS - IX

Subject	HOMEWORKS
English	<ul style="list-style-type: none"><li>➤ Reading – Do assignment 1,2,3 from Practice Book.</li><li>➤ Writing – i) Recently you visited Agra and saw many tourist attractions, The Taj Mahal, A Wonderful piece of architecture. Write a Paragraph describing your visit in 100 – 120 words. ii) Write a description of your favorite character (Sports, Bollywood or any) in 100-120 words.</li><li>➤ Literature – Write the character sketch of Ustad Bismiclah Khan.</li></ul>
Social Science	<ul style="list-style-type: none"><li>➤ Make Diagram of Map of India using Pencil, Sketches &amp; Card Board. (Project)</li><li>➤ Write a story about your village &amp; connect it with the story of village of Palampur.</li><li>➤ Prepare list of Democratic &amp; Non Democratic Country.</li></ul>
Hindi	<ul style="list-style-type: none"><li>➤ एवरेस्ट : मेरी शिखर यात्रा : परियोजना पत्र पर विभिन्न शिखरों को दर्शाते हुए उसके बारे में तीन (प्रत्येक के ) वाक्य लिखें।</li><li>➤ गिल्लू शीर्षक पाठ के आधार पर छोटे प्राणियों के प्रति प्रेम दर्शाते हुए एक चित्र चार्ट पेपर पर प्रस्तुत करें।</li><li>➤ आपके घर में. किसी अतिथि का आना होता है, तो उनका आवा भगत कैसे करते हैं?</li><li>➤ अपने किसी यात्रा का वर्णन करें।</li></ul>
Maths	<ul style="list-style-type: none"><li>➤ Make a square root spiral from activity in NCERT in a stick file. (Project Work)</li><li>➤ Complete fair copy of Ch-1 and Ch-3 from M.L Agarwal book including case based question.</li></ul>
AI	<ul style="list-style-type: none"><li>➤ Complete the Work of Unit -2 &amp; 3 (Part-B), in School Fair Copy.</li></ul>

## Std-9 Physics

### A. Very Short Answer Type Questions

- Q.1 Can the speed of a body moving with a constant velocity change ?
- Q.2 Can the velocity of a body moving with a uniform speed change ?
- Q.3 Can average velocity of a moving body be zero?
- Q.4 Can average speed of a moving body be zero?
- Q.5 Time-displacement graph is a straight line parallel to the time axis. What is its velocity and the acceleration ?
- Q.6 What is the acceleration of a body moving with constant velocity ?
- Q.7 A stone is thrown upwards, reaches a height  $h$  and comes back. What are the distance moved and displacement ?
- Q.8 A particle moves along the circumference of a circle in half cycle. Calculate the distance travelled and displacement.
- Q.9 Define uniform circular motion.
- Q.10 What is the relation between linear velocity and angular velocity ?
- Q.11 Does uniform circular motion has accelerated motion or no acceleration at all ?
- Q.12 What is the direction of angular velocity ?
- Q.13 In uniform circular motion, does the angular velocity remain constant or if changes with time.
- Q.14 A car starts moving with 20 m/s and its velocity becomes 80 m/s after 6 sec. Calculate its acceleration.
- Q.15 A body is thrown vertically up with a velocity 98 m/s. How much high it will rise ? ( $g = 9.8 \text{ m/s}^2$ ).
- Q.16 A body falls from a height of 500 m. In how much time, will it strike the ground ?
- Q.17 Time-displacement graphs of two bodies A and B are shown in the Figure. Which one has larger velocity ?

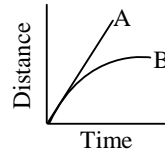


- Q.18 The velocity of a body is 72 km/hr. Calculate its value in m/s.

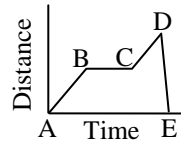
### B. Short Answer Type Questions

- Q.19 Define state of motion.
- Q.20 Differentiate between the following :
- (i) speed and velocity,
  - (ii) distance and displacement

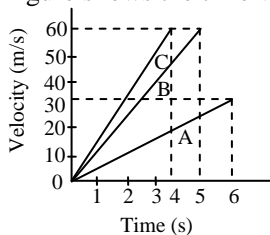
- Q.21** Displacement of a body can be zero even when the distance travelled is not zero. Explain.
- Q.22** What do you mean by negative and positive acceleration ? Explain.
- Q.23** A train is moving with a constant speed of 40 km/hr. Draw time-speed graph. From this, draw time-distance graph upto 5 hours from the start.
- Q.24** Draw the graph for uniform motion.  
 (i) Displacement - Time  
 (ii) Velocity - Time
- Q.25** In the given figure A and B represent uniform motion or accelerated motion.



- Q.26** In the given Figure. What type of motion are represented by the parts AB, BC, CD and DE.



- Q.27** For a moving body distance travelled is directly proportional to the time. What do you conclude about its speed ?
- Q.28** Figure shows the time velocity graphs for three bodies A, B and C.



- (i) Which body has minimum acceleration ?  
 (ii) Which body has maximum acceleration ?
- Q.29** A body starting with initial velocity  $u$  moves with a constant acceleration  $a$ . Find the expression for distance travelled in  $n$ th seconds.
- Q.30** A body starting from rest moves with a constant acceleration. It moves a distance  $s_1$  in first 5 seconds and a distance  $s_2$  in next 5 seconds. Prove that  $\Delta s_2 = 3s_1$ .



# NEW ERA PUBLIC SCHOOL, PATNA

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## Holiday Homework

MATTER IN OUR SURROUNDING

Grade - IX

### EXERCISE- 1

#### A. Very Short Answer Type Questions

- Q.1** Name the three states of water.
- Q.2** Which state of matter has neither definite shape nor volume?
- Q.3** Name the physical state of matter  
(A) Which can be easily compressed?  
(B) Which is most rigid  
(C) Which can flow but cannot fill the vessel completely?
- Q.4** Name two substance which can sublime?
- Q.5** Convert the following temperature to Celsius scale:  
(1) 323 K                      (2) 600 K
- Q.6** Two liquids A and B have boiling points 350 k and 375 k respectively. Which of the two has greater intermolecular forces of attraction.
- Q.7** Name the process for the following changes:  
(1) Liquid  $\longrightarrow$  Solid  
(2) Solid  $\longrightarrow$  Gas  
(3) Gas  $\longrightarrow$  Liquid
- Q.8** Which will have more density : ice or steam?
- Q.9** In which physical state water exists at  
(1) 100°C                      (2) 0°C
- Q.10** Will increase of surface area increase or decrease rate of evaporation?
- Q.11** What is the general name of fluid forms of matter?
- Q.12** Give two reasons for saying that wood is a solid.

**Q.13** Which diffuses faster : a liquid or a gas?

**Q.14** If the fish is being fried in a neighboring home, we can smell it sitting in our own home. Name the process which brings this smell to us

**Q.15** The boiling point of water is 100°C. Express this in SI units (Kelvin scale).

**Q.16** The kelvin temperature is 270 K. What is the corresponding Celsius scale temperature?

**Q.17** What is the common name of solid carbon dioxide?

**Q.18** What is the chemical name of dry ice?

#### B. Short Answer Type Questions

(About 30–40 words)

**Q.19** How does perspiration or sweating help keep our body cool on a hot day?

**Q.20** If the back of your hand is moistened with alcohol, you will find that it rapidly becomes dry. Why is it that while it is drying, your hand feels cool?

**Q.21** How does the water kept in an earthen pot (matka) become cold during summer?

**Q.22** What type of clothes should we wear in summer? Why?

**Q.23** What do you understand by the term 'latent heat'? What are the two types of latent heat?

**Q.24** What is meant by saying that the latent heat of vaporisation of water is  $22.5 \times 10^5$  J/kg?

- Q.25** Define 'melting point' of a substance? What is the melting point of ice?
- Q.26** Define 'boiling point' of a substance? What is the boiling point of water?
- Q.27** What is sublimation? Name two substances which undergo sublimation
- Q.28** Compare the three states of matter in terms of

- (1) Compressibility  
(2) Density  
(4) Energy of molecules.

- Q.29** How do solids, liquids and gases differ in shape and volume?

## EXERCISE- 2

### A. Long Answer Type Questions

(More than 60–70 words)

- Q.1** Explain the following :
- (1) Gases exert pressure  
(2) Evaporation causes cooling  
(3) Solids can be converted to liquids  
(4) Gases diffuse rapidly
- Q.2** When a crystal of potassium permanganate is placed in a beaker, its purple colour spreads throughout of water. What does this observation tell us about the nature of potassium permanganate and water?
- Q.3** When a gas jar containing air is inverted over a gas jar containing bromine vapour, the red brown bromine vapour diffuse into air. Explain how bromine vapour diffuse into air.
- Q.4** When sugar is dissolved in water, there is no increase in the volume. Which characteristic of matter is illustrated by this observation?
- Q.5** A piece of chalk can be broken into small particles by hammering but a piece of iron cannot be broken into small particles by hammering. Which characteristic of the particles of matter is illustrated by these observations?
- Q.6** Why does a gas fill a vessel completely?
- Q.7** Why do gases have neither a fixed shape nor a fixed volume?

### B. Fill in the Blanks

- Q.8** Solid, liquid and gas are called the three.....of matter.
- Q.9** The smell of perfume gradually spreads across a room due to.....
- Q.10** Liquid and.....states are known as fluid states.
- Q.11** The temperature 273°C on kelvin scale is equal to.....
- Q.12** The boiling point of water on kelvin scale is.....
- Q.13** The amount of heat required to convert 1 kg of solid into liquid at its melting point is called.....
- Q.14** Liquid water at 100°C has.....energy than steam at 100°C.
- Q.15** The temperature at which a liquid changes into gas/vapour is called.....
- Q.16** Change of state direct from solid to gas without changing in liquid state is called.....
- Q.17** Intermolecular space in solids is.....than that in liquids.
- Q.18** Boiling point of water is .....K and melting point of ice is.....K.
- Q.19** Change of liquid state to solid state is called.....

**Std--9**  
**BIOLOGY**

1. Do you agree that “A cell is a building unit of an organism”. If yes, explain why?
2. Why are lysosomes known as ‘suicide-bags’ of a cell?
3. Why is endocytosis found in animals only?
4. Name any cell organelle which is non membranous.
5. We eat food composed of all the nutrients like carbohydrates, proteins, fats, vitamins, minerals and water. After digestion, these are absorbed in the form of glucose, amino acids, fatty acids, glycerol etc.
6. What mechanisms are involved in absorption of digested food and water?
7. If you are provided with some vegetables to cook. You generally add salt into the vegetables during cooking process. After adding salt, vegetables release water. What mechanism is responsible for this?
8. If cells of onion peel and RBC are separately kept in hypotonic solution, what among the following will take place? Explain the reason for your answer.
  - (a) Both the cells will swell.
  - (b) RBC will burst easily while cells of onion peel will resist the bursting to some extent.
  - (c) a and b both are correct.
  - (d) RBC and onion peel cells will behave similarly.

9. Match the following A and B

<b>(A)</b>	<b>(B)</b>
(a) Smooth endoplasmic reticulum	(i) <i>Amoeba</i>
(b) Lysosome	(ii) Nucleus
(c) Nucleoid	(iii) Bacteria
(d) Food vacuoles	(iv) Detoxification
(e) Chromatin material and nucleolus	(v) Suicidal bag

10. Write the name of different plant parts in which chromoplast, chloroplast and leucoplast are present.
11. Name the organelles which show the analogy written as under
  - a) Transporting channels of the cell——
  - b) Power house of the cell——
  - c) Packaging and dispatching unit of the cell——
  - d) Digestive bag of the cell——
  - e) Storage sacs of the cell——
  - f) Kitchen of the cell——
  - g) Control room of the cell——
12. How is a bacterial cell different from an onion peel cell?
13. How do substances like carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O) move in and out of the cell?
14. How does amoeba obtain its food?
15. Name the two organelles in a plant cell that contain their own genetic material and ribosomes.
16. Why are lysosomes also known as “scavengers of the cells”?
17. Which cell organelle controls most of the activities of the cell?

18. Which kind of plastid is more common in
- roots of the plant
  - leaves of the plant
  - flowers and fruits
19. Why do plant cells possess large sized vacuole?
20. How are chromatin, chromatid and chromosomes related to each other?
21. What are the consequences of the following conditions?
- A cell containing higher water concentration than the surrounding medium
  - A cell having low water concentration than the surrounding medium.
  - A cell having equal water concentration to its surrounding medium.
22. Explain structure of the cell.
23. Why Plasma membrane is known as selectively permeable membrane.
24. Define osmosis
25. Explain Plasmolysis.

**Project : - (any two)**

- Structure and Function of plasma membrane
- Differences between prokaryotic cell and Eukaryotic cell.
- Structure and function of chloroplast and mitochondria
- Structure and function of Nucleus

Write any two of these project in your in a plastic stick file.

**Prepare a poster presentation or 3D model on any one.**

Plant cell / animal cell / plasma membrane / chloroplast and mitochondria.

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## **HOLIDAY HOME-WORK NOTICE** **SESSION - (2024-25)**

1. Do all the homework in Homework copy.
2. Write in cursive handwriting only.
3. Holiday Homework contains 5 Marks for each subject.
4. Summer Vacation will be between  
20/05/2024(Monday) to 17/06/2024(Monday). School  
will re-open on 18/06/2024(Tuesday).
5. You can also get Holiday Homework from School  
App. and Website:- [www.newerapublicschool.org](http://www.newerapublicschool.org)

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MAY YOU CLIMB FROM PEAK TO PEAK