

**Army Public School Hisar**  
**Holidays Homework**  
**Class – IX**

**English**

1. Revise the syllabus covered so far.
2. Read books online and write a review of the book that you liked the most.
3. Read 5 poems from '**Beehive**'. Find the poetic devices and make a PPT on them. Write the summary also.
4. Read 2 chapters of both the books and write 20 difficult words from each chapter with their antonyms and synonyms.
5. Writing --- Practise Formal Letter and Story Writing.
6. Write an article on the assigned topic in about 150-200 words.

Roll no. 1-10 – Child Labor

Roll no. 11–20 – Importance of Education

Roll no. 21 – 30 – India – a Haven for Tourists

Roll no- 31-40 – Impact of Social Media on Young Minds

Roll no. 41-50 – Importance of Time Management

**Hindi**

1. करवाया गया सम्पूर्ण पाठ्यक्रम याद करो ।
2. रैदास के पद कंठस्थ करो ।
3. संत-संप्रदाय के कवियों की चित्र सहित सूची तैयार करो तथा उनकी भाषा व मुख्य रचनाओं के बारे में लिखो ।
4. कोरोना से बचने के सुझाव देते हुए जनता के नाम एक संदेश लिखो ।
5. पर्यावरण-संरक्षण व जल-संरक्षण हेतु चित्र सहित नारे लिखकर पी.पी.टी. या एनिमेशन के साथ वीडियो तैयार करो ।
6. अपनी मनपसन्द कोई एक पुस्तक पढ़कर समीक्षा लिखो ।
7. विद्यालय पत्रिका के लिए कोई दो स्वरचित लेख लिखो ।

## Math

REVISE CHAPTER 1 AND CHAPTER 2 FROM NCERT TEXTBOOK OF MATHEMATICS. DO THE GIVEN ASSIGNMENTS OF CHAPTER 1 AND 2 IN A SEPRATE NOTEBOOK.

HELPFUL LINKS ARE PROVIDED BELOW TO COMPLETE THE ASSIGNMENTS

<https://www.youtube.com/watch?v=pirZ9EEkm8M>

<https://www.youtube.com/watch?v=Dd4SmjyFJVQ>

1. What type of decimal expansion a rational and irrational number have? Explain with examples.
2. Give an example of each, of two irrational numbers whose.
  - (a) Difference is a rational number.
  - (b) Difference is an irrational number.
  - (c) Sum is a rational number.
  - (d) Sum is an irrational number.
  - (e) Product is a rational number.
  - (f) Product is an irrational number.
  - (g) Quotient is a rational number.
  - (h) Quotient is an irrational number.
3. Find two rational numbers lying between  $\sqrt{3}$  and  $\sqrt{5}$ .
4. Insert 3 irrational numbers between  $\frac{-3}{7}$  and  $\frac{2}{7}$ .
5. Express each of the following decimals in the form  $\frac{p}{q}$ .
  - (a)  $0.\overline{235}$ .
  - (b)  $4.\overline{32}$ .
  - (c)  $0.\overline{23} + 0.\overline{41}$
6. Simplify:  $\frac{16 \times 2^{n+1} - 4 \times 2^n}{16 \times 2^{n+1} - 2 \times 2^{n+2}}$
7. Simplify:  $\frac{\sqrt{32} + \sqrt{48}}{\sqrt{8} + \sqrt{12}}$

8. Simplify:  $(4\sqrt{2} - \sqrt{3}) \times (2\sqrt{3} - 3\sqrt{2})$
9. If  $x, y, z$  are positive real numbers show that  $\sqrt{x^{-1}y} \times \sqrt{y^{-1}z} \times \sqrt{z^{-1}x} = 1$
10. Find the value of  $x$  and  $y$ , if  $5^{x-3} \cdot 3^{y-1} = 225$
11. Find the value of  $(256)^{0.16} \times (256)^{0.09}$
12. Find the value of  $x$  if  $\left(\frac{3}{4}\right)^6 \times \left(\frac{16}{9}\right)^5 = \left(\frac{4}{3}\right)^{x+2}$ .
13. Prove that:  $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$
14. If  $x = 3 + \sqrt{8}$ , find the value of  $x^2 + \frac{1}{x^2}$
15. Find the value of  $\sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1}}$  it being given that  $\sqrt{2} = 1.4142$
16. If  $x = \frac{\sqrt{3}+1}{2}$ , find the value of  $4x^3 + 2x^2 - 8x + 7$ .
17. Simplify:  $\sqrt{5 + 2\sqrt{6}}$
18. If  $x = 3 + 2\sqrt{2}$ , find the value of  $\sqrt{x} - \frac{1}{\sqrt{x}}$ .
19. Determine rational number 'a' and 'b' if  $\frac{3+2\sqrt{2}}{3-2\sqrt{2}} = a + b\sqrt{2}$ .
20. Determine rational number 'p' and 'q' if  $\frac{2-3\sqrt{5}}{6-3\sqrt{5}} = p + q\sqrt{5}$ .

### ANSWERS

- |                          |   |                        |                    |
|--------------------------|---|------------------------|--------------------|
| Q.5(a) $\frac{233}{990}$ | Q.5(b) $\frac{389}{90}$                   | Q.5(c) $\frac{64}{99}$ | Q.6. $\frac{7}{6}$ |
| Q.7. 2                   | Q.8. $-30 + 11\sqrt{6}$                   |                        |                    |
| Q.10. $x = 5, y = 3$     | Q.11. 4                                   | Q.12. $x = 2$          |                    |
| Q.14. 34                 | Q.15. 0.4142                              |                        |                    |
| Q.16. 10                 | Q.17. $\sqrt{2} + \sqrt{3}$               | Q.18. 2                | Q.19               |
| $a = 17, b = 12$         | Q.20. $p = \frac{11}{3}, q = \frac{4}{3}$ |                        |                    |

## **Science**

1. Revise the following chapters: i. Matter around us ii. Fundamental unit of life
2. Do the blue print and exercise questions of the chapter 1 and 5 in notebook.
3. Make a model depicting the three states of matter.
4. Make a chart with labeled diagrams of animal cell and plant cell.
5. Solve the following worksheets in your science notebook:

### **WORKSHEET 1**

#### **Chapter 1 (Matter in Our Surroundings)**

1. Matter is made up of small .
2. is the change of gaseous state directly to solid state without going through liquid state.
3. Evaporation causes .
4. Which factors determine the state of a substance?
5. Define latent heat of vaporization and latent heat of fusion.
6. If the melting point of an object A is high then what state you expect it to be at room temperature?
7. What is the effect of sprinkling of water on the roof or open ground on a hot sunny day?
8. Differentiate between physical and chemical change?
9. What happen when we apply pressure to the particles of matter?
10. How does the change in temperature and humidity affect the rate of evaporation?

### **WORKSHEET 2**

#### **Chapter 5 (Fundamental unit of life)**

1. Write the main function of each of the following.  
  
(a) Plasma membrane (b) cell wall (c) Ribosome  
(d) Lysosome (e) Nucleolus (f) Endoplasmic reticulum

2. Draw a plant cell and label the parts that –
  - (a) Synthesize food
  - (b) Produce energy
  - (c) Store house of organic substances like protein, organic acids
  - (d) Packages material coming from endoplasmic reticulum
  - (e) Determine function and development of the cell.
3. What is nucleoid? How it is different from the nucleus of an eukaryotic cell?
4. Differentiate between diffusion and osmosis.
5. If you are provided with some vegetables to cook, we generally add salt to the Vegetables during cooking process. After adding salt, vegetables releases water. What mechanism is responsible for this?
6. Differentiate between plant cell and animal cell.
7. What are genes? Where are they located?
8. What is the similarity between mitochondria and plastids?
9. What is the role of SER in liver cells of vertebrates?
10. 'A cell is the basic structural and functional unit of life.' Comment on it.

## **Social Science**

- **\_Make a project on causes, after affect and its management of any disaster**
- **Learn chapters covered in the class.**

## **Art & Craft**

### **Activities**

1. Still life
2. Flowers study
3. Cartoon art
4. Composition
5. Poster on mothers day
- 6 poster on prevention of covid
- 7 Folk art

If you don't have drawing book you can make it on your drawing file . Book page pdf will sent in class group.

## IT

1. Do watch and understand the videos using the following links about AI basics.
  - a. <https://www.youtube.com/watch?v=32wZnn7ISk8>
  - b. <https://www.youtube.com/watch?v=bEsmAaXtbQg>
  - c. <https://www.youtube.com/watch?v=b2Ay3G2WFwg>
2. Also play the games based on AI domains and try to understand that how AI is working
  - a. <https://www.inklewriter.com/>
  - b. <https://experiments.withgoogle.com/semantis>
  - c. <https://quickdraw.withgoogle.com/>