FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade- IX **Module- 1**

SUBJECT-ENGLISH

BOOK - BEEHIVE

CHAPTER NO - 01

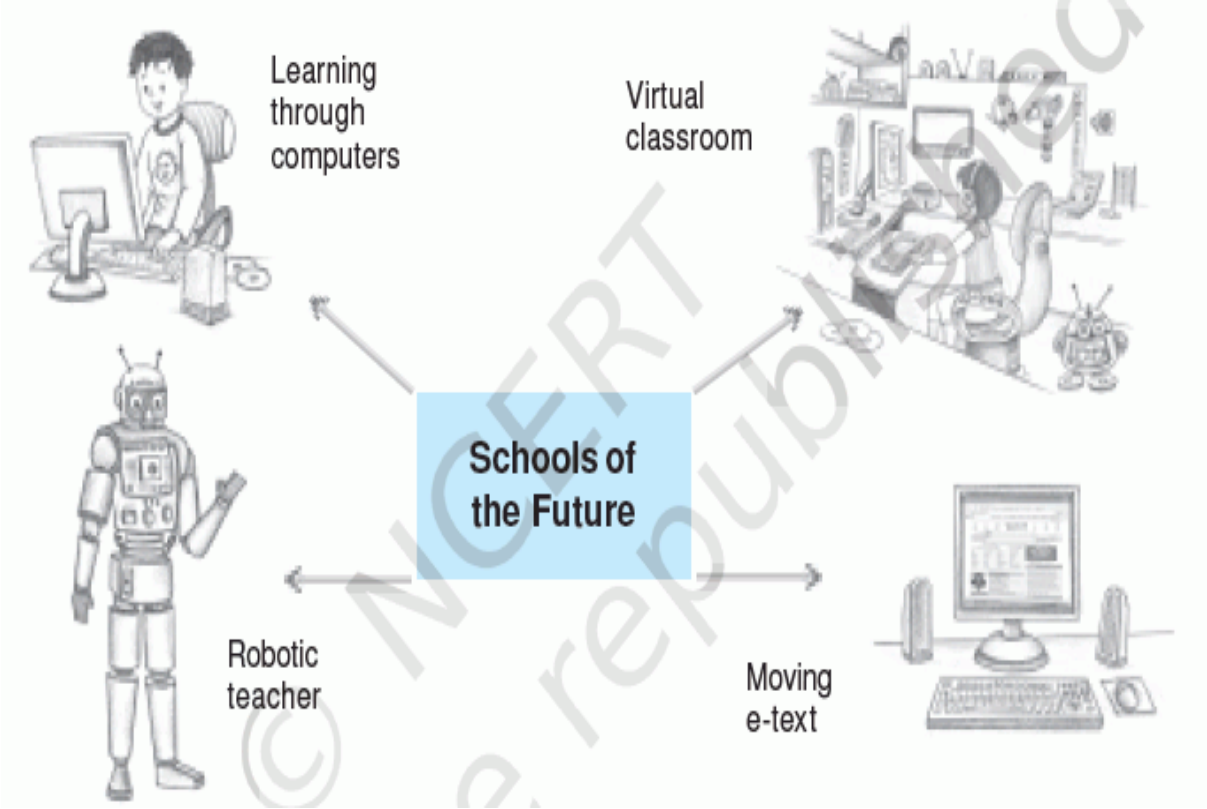
CHAPTER NAME- THE FUN THEY HAD

NOTE:- Any query related to link and content, text us on the given e-mail-

fpsprincipal2020@gmail.com

Link- https://www.youtube.com/watch?v=iAdOPMtWGSA&feature=youtu.be

SKETCH PROFILE OF THE CHAPTER



About the Author- Isaac Asimov

Isaac Asimov – A Short Biography

Scholar Isaac Asimov was one of the 20th century's most prolific writers, writing in many genres. He was known for sci-fi works like Foundation and me, Robot.

Born on January 2, 1920, in Petrovichi, Russia, Isaac Asimov immigrated with his family to the United States and became a biochemistry professor while pursuing writing.

He published his first novel, Pebble in the Sky, in 1950. An immensely prolific author

who penned nearly 500 books, he published influential sci-fi works like I, Robot and the Foundation trilogy, as well as books in a variety of other genres. Asimov died in New York City on April 6, 1992. The Fun They Had is one of the most popular fictional works written by him.

Introduction :

This is a very light story. It is set in the future. It will make all of you love school. This story is regarding school life and how those children who do not got to school, miss school. The setting of the story is in the future when perhaps, there will be no school, no books. Now how those students will miss going to school and will feel that their ancestors that is the present generation- you all, had fun going to school, meeting and helping each other. In the end we come to know that this is an imagination of a young girl named Margie who comes to know that their ancestors used to go to school, all the children used to study together. She feels that they all had a lot of fun when they went to school. So, when we read the story we feel that school life is very good, and we are fortunate that we have real schools where we go, meet friends and get a chance to study together.

Summary :

The story opens with Margie writing in her diary about an old book that Tommy had found. Margie was reminded of her grandfather who had once talked about his grandfather who went to an actual school where the students were taught by human teachers.

However, Margie and Tommy lived in the future world, in the year 2157 where education was completely computerized. They did not go to schools. Instead, they had a special study room where a computer taught them. The computer teacher was programmed and adjusted according to the needs of

each child. Now and then the computer teacher developed faults which were fixed by a County Inspector. Both Tommy and Margie wondered at the book

found by Tommy in his attic. They wondered at it as they read books on the screen of their computer teacher. Margie felt that the computer teacher was boring; she disliked the mechanical teaching and learning. She also wondered how much fun it would be studying in a school. Studying in a fun way, with other children and that too from a human teacher.

Value Points :

1. Margie and Tommy are students of future schools.
2. Tommy finds an old book about school in the attic. They turn yellow, crinkly pages of the book and are surprised to see still words in the book.
3. They thought the old book to be wastage of resources, as it was to be thrown after one use. But tele-books last longer and contain many books together.

4. Margie hated school as her teacher gave her test and she performed badly.
5. She hated the slot for putting homework and test papers.
6. Margie's mother called County Inspector who came with all his equipment and repaired it in an hour.
7. Margie wasn't happy as she thought he would take the teacher for a few days.
8. County Inspector told her mother that Margie's bad performance in Geography was due to the faulty setting of her teacher.
9. Tommy explained that centuries ago the schools were not like theirs. They had a man as a teacher who taught students different subjects, asked questions and gave homework also.
10. Margie couldn't believe the man to be smart enough to have knowledge about different subjects.
11. Tommy told her that the school was in a special building and students would go there and children of same age group studied the same things.
12. But Margie's mother had told her that every child has to be taught according to his needs.
13. Now Margie was interested in reading more about the old funny schools.
14. Tommy and Margie attended school at a fixed time.
15. Margie thought about the old schools where kids had a lot of fun studying together and playing.
16. The computer screen of her 'teacher' was flashing new chapter in arithmetic on the addition of proper fractions. But Margie was lost in the thoughts of old school.

Important Characters :

Margie Jones: Margie Jones is an eleven-year-old girl living in 2157. She is homeschooled by a mechanical teacher. She has a friend named Tommy. Margie has a diary in which she writes about finding a 'real book'. The event

had a strong impact on her. From her conversation with Tommy about the book and school in the past, Margie comes across as naive, having little knowledge about the way school was in the past.

Tommy: Tommy is Margie's friend, who is older than her, being thirteen years old. He comes across smarter than the little girl because he has seen more tele-books and he has more knowledge about how the school was "centuries ago".

Answer these Questions :

1. What kind of teachers did Margie and Tommy have?

2. Why did Margie's mother send for the County Inspector?

3. What did The County Inspector he do?

4. Why was Margie doing badly in geography? What did the County Inspector Do to help her?

5. What had once happened to Tommy's teacher?

6.Did Margie have regular days and hours for school? If so, why?

7. How does Tommy describe the old kind of school?

8. How does he describe the old kind of teachers?

9. What are the main features of the mechanical teachers and the schoolrooms that Margie and Tommy have in the story?

10. Why did Margie hate school? Why did she think the old kind of school must have been fun?

Extract based questions :

1."They turned the pages, which were yellow and crinkly, and it was awfully funny to read words that stood still instead of moving the way they were supposed to — on a screen, you know. And then when they turned back to the page before, it had the same words on it that it had had when they read it the first time."

Questions:

1.Who are 'they' referred' to here as?

2.Why were they surprised?

3.What kind of books they were studying in their schools?

4.What kind of pages the book had?

2.“The Inspector had smiled after he was finished and patted Margie’s head. He said to her mother, “It’s not the little girl’s fault, Mrs Jones. I think the geography sector was geared a little too quick. Those things happen sometimes. I’ve slowed it up to an average ten-year level. Actually, the overall pattern of her progress is quite satisfactory.” And he patted Margie’s head again.”

Questions:
1.Why was Margie disappointed?
2.What did the country inspector do?
3.Find a word from the passage, which is synonym of ‘mistake’.

3.:**Margie did so with a sigh. She was thinking about the old schools they had when her grandfather’s grandfather was a little boy. All the kids from the whole neighborhood came, laughing and shouting in the schoolyard, sitting together in the schoolroom, going home together at the end of the day.”**
Questions:
1.What did Margie do with a sigh?
2.What kind of school did grandfather’s grandfather attend?
3.Give the name of the chapter from where this extract has been taken.

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FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade- IX **Module- 1st**

Subject : Information Technology(402)

Topic: Communication

Link- https://www.extramarks.com

http://www.firayalalpublicschool.edu.in/about/homework.php

Please find herewith the web links of the chapters along with the written assignment we wish you to cover up by the end of this break. The entire assignment will form a part of your subject enrichment assessment and needs to be done in home-work copy. This assignment will be a part of subject enrichment. In case of any clarification please feel free to get in touch with your subject teachers, once the school reopens or else mail it to principal@firayalalpublicschool.com

TUTORIALS:

Introduction to Communication:

Communication is one the most fundamental needs of human beings. Communication means exchange of ideas, thoughts, opinions, information, message, feelings, emotions etc.

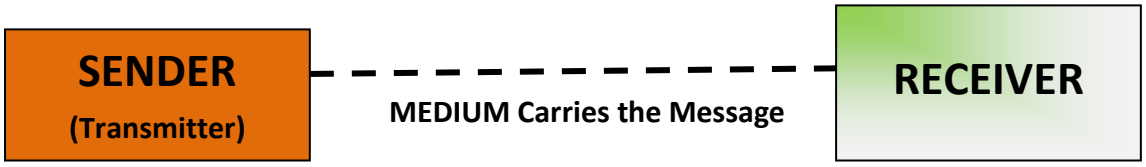
According to **Ordway Tead, "Communication is a composite of**

a) Information given and received
b) Learning experience in which certain attitudes, knowledge and skills change.
c) Listening effort by all involved.
d) Sensitive interaction of points of view leading to a higher level of shared understanding and common intention"

Communication is the conveying of messages by exchanging thoughts or information via speech, visual, signals, writing or behaviour.

Communication requires a sender, a message and a recipient although the receiver may not be present or answer the sender's intent to communicate at the time of communication. There are three basic elements of communications system.

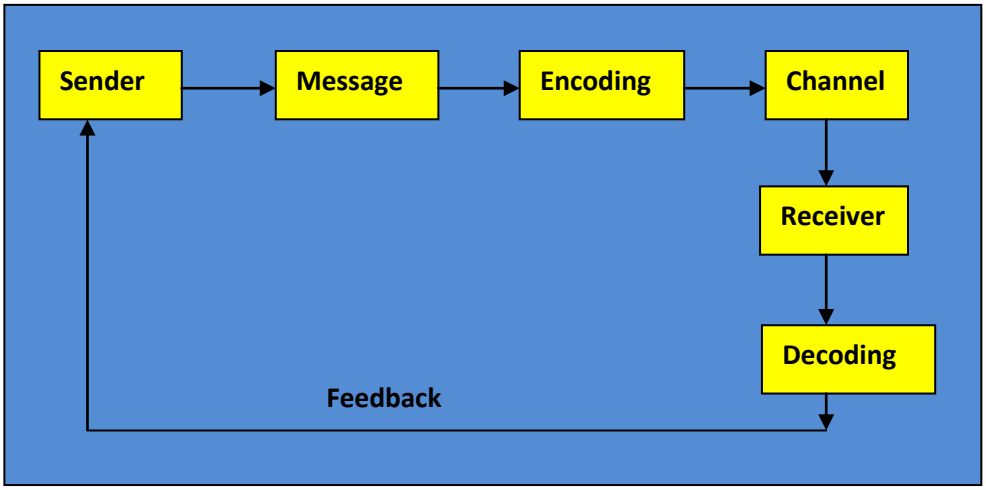
Sender also called as source or transmitter is the one, which creates the message to be transmitted.
Medium which carries the message
Receiver also called as sink is the one which receives the message.



ELEMENTS OF COMMUNICATION CYCLE

Communication is a process of exchanging verbal and non verbal message. It is a continuous process. Thus communication is a two ways process and is incomplete without a feedback from the recipient to the sender on how the message understood by him. The various elements of communication cycle are as follows:

1. Sender
2. Ideas
3. Encoding
4. Communication channel
5. Receiver
6. Decoding
7. Feedback



IMPORTANCE OF COMMUNICATION:

The importance of communication in an organization is as follows:

1) Co-ordination
2) Effective leadership
3) Fluent working
4) Team Building
5) Decision making
6) Increases cooperation
7) Boosts Morale
8) Innovation

LEARNING OUTCOME

After studying this topic, students will be able to:

- What is communication
- Benefits of communication
- Needs of communication
- Basic elements of communication

ASSIGNMENT:

1) What is communication?
2) What is verbal and non verbal communication?
3) What are the importance of communication?
4) Why communication is important for us? Explain

FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade- IX **Module-1/3**

SUBJECT- MATHEMATICS

CHAPTER NAME- NUMBER SYSTEMS

TOPIC: - RATIONAL NUMBERS

LINK- https://www.extramarks.com
http://ncert.nic.in/ebooks.html
https://www.youtube.com/watch?v=XaGI65W09HM&t=5s

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TUTORIALS:-

- **INTRODUCTION:**
  we are familiar with the number systems such as:
  N= set of natural numbers= {1,2,3,4,5,6,7,8,9……}
  W= Set of whole numbers={0,1,2,3,4,5,6,7……}
  I or Z= Set of integers={….,-3,-2,-1,0,1,2,3,……..}

- **RATIONAL NUMBERS**
  A number that is in the form of $\frac{p}{q}$, where p and q are integers and $q \neq 0$ are known as rational numbers.
  Example: $\frac{1}{2}, \frac{3}{5}, -\frac{5}{8}, 3, -8\ etc.$

- **PROPERTIES OF RATIONAL NUMBERS:**
  a) Every rational number is either a terminating decimal or a repeating decimal.
  Example:
  $\frac{2}{5} = 0.4 \quad (terminating)$
  $\frac{6}{7} = 0.857142857142 \ldots. = 0.\overline{857142} \quad (repeating)$
  b) For any three rational numbers p, q and r, the following order properties holds:
  -
  -
  -
  -

- **TO FIND RATIONAL NUMBERS BETWEEN ANY TWO RATIONAL NUMBERS:**

Example: $Find\ five\ rational\ numbers\ between \frac{2}{3}\ and \frac{3}{5}$.

Solution: $let\ a = \frac{2}{3}\ and\ b = \frac{3}{5}$

Lcm of 3 and 5 = 15

We can write,

$$\frac{2}{3} = \frac{2\times5}{3\times5} = \frac{10}{15} \quad and\ \frac{3}{5} = \frac{3\times3}{5\times3} = \frac{9}{15}$$

$$\Rightarrow \frac{10}{15} = \frac{10\times6}{15\times6} = \frac{60}{90}\ and\ \frac{9}{15} = \frac{9\times6}{15\times6} = \frac{54}{90}$$

$So, five\ rational\ numbers\ between\ \frac{2}{3} and \frac{3}{5}\ are\ \frac{55}{90}, \frac{56}{90}, \frac{57}{90}, \frac{58}{90}\ and \frac{59}{90}$.

- **REPRESENTATION OF RATIONAL NUMBERS IN $\frac{p}{q}$ form(SIMPLEST FORM):**

Example: Express 0.999…. as a fraction in simplest form.

Solution: $let\ x = 0.999$ .... …… (1)

Then, multiplying both side of (1) by 10, we have sum

$10x = 9.9999$ ... . …… (2)

On subtracting equation (1) from (2), we have

$10x - x = 9.999$ ... . -0.999 ....

$\Rightarrow 9x = 9$

$\Rightarrow x = 1$

$\Rightarrow Hence, 0.9999$ ... . . $= 1$

Example: Express $0.2\overline{45}\ as\ a\ fraction\ in\ simplest\ form.$

Solution: $let\ x = 0.2\overline{45}$ ... ... (1)

Then $x = 0.2454545$ ... ... …….(2).

Multiplying both side of eq (2) by 10, we have

$\Rightarrow 10x = 2.4545$ ... ... ……..(3)

Again, multiplying both side of eq (3) by 100, we have

$\Rightarrow 1000x = 245.4545$ ....… ……..(4)

On subtracting (3) from (4), we have

$\Rightarrow 1000x - 10x = 245.4545$ ... . . $- 2.4545$ ... ..

$\Rightarrow 990x = 243$

$\Rightarrow x = \frac{243}{990} = \frac{27}{110}$

$\Rightarrow Hence, 0.2\overline{45} = \frac{27}{110}$

➢ IRRATIONAL NUMBERS

Any number that cannot be expressed in the form of $\frac{P}{Q}$, where p and q are integers and q≠0, is an irrational number.

Examples: √2, 1.010024563…, e, π etc…

In other words, A number which can neither be expressed as a terminating decimal nor as a repeating decimal, is called an irrational number.

➢ PROPERTIES OF IRRATIONAL NUMBERS

a) Sum of two irrationals need not be an irrational.

Example: $(2+\sqrt{3})\ and\ (4-\sqrt{3})\ is\ irrational$

But, $(2+\sqrt{3})+(4-\sqrt{3})=6, which\ is\ rational.$

b) Difference of two irrationals need not be an irrational

Example**:** $(5+\sqrt{3})\ and\ (3+\sqrt{3})\ are\ irrationals$

But, $(5+\sqrt{3})-(3+\sqrt{3})=2, which\ is\ rational$

c) Product of two irrationals need not be an irrational

Example: √2 is irrational

But, $\sqrt{2}\times\sqrt{2}=2, which\ is\ rational$

d) Quotient of two irrational need not be an irrational

Example: √2 is irrational

But, $\frac{\sqrt{2}}{\sqrt{2}}=1, which\ is\ rational.$

e) Sum of a rational and an irrational is irrational.

Example: 2 is rational and $\sqrt{3}\ is\ irrational$

But, 2+$\sqrt{3}\ is\ irrational$

f) Difference of a rational and an irrational is irrational.

Example: 2 is rational and $\sqrt{3}\ is\ irrational$

But, 2−$\sqrt{3}\ is\ irrational$

g) Product of a rational and an irrational is irrational.

Example: 2 is rational and $\sqrt{3}\ is\ irrational$

But, 2× $\sqrt{3}\ is\ irrational$

h) Quotient of a rational and an irrational is irrational.

Example: 2 is rational and $\sqrt{3}\ is\ irrational$

But, $\frac{2}{\sqrt{3}}\ is\ irrational$

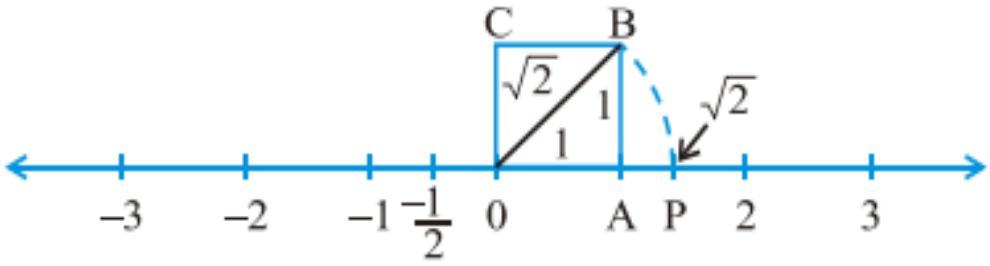
➢ REPRESENTATION OF AN IRRATIONAL NUMBER ON REAL NUMBER LINE:

Example: Represent √2 on the real number line.

Solution: Here, √2 is an irrational number. To represent it on real number line we will follow the following steps:

1) Draw a horizontal line X'OX as x-axis and let o be the origin.
2) Take OA=1 unit. Draw AB ⊥ OA such that AB= 1 unit.

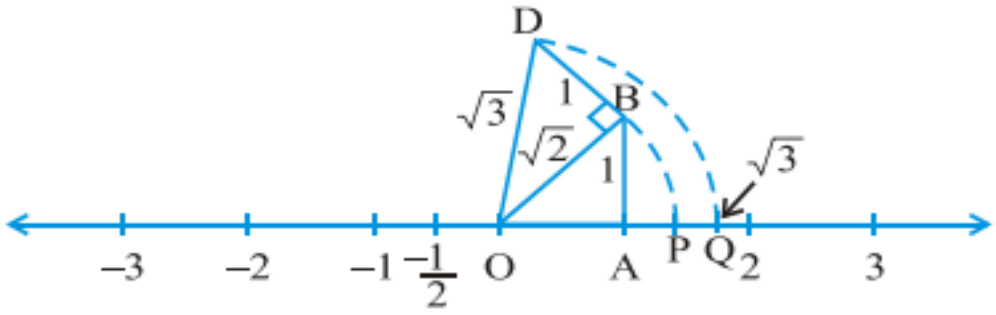
3) Join OB. Now, OB= $\sqrt{OA^2 + OB^2} = \sqrt{1^2 + 1^2} = \sqrt{2}\ units.$
4) With O as Centre and OB as radius draw an arc meeting OX at P.
   Hence point P represent the number $\sqrt{2}$.



Example: locate $\sqrt{3}$ *on real number line*.

Solution: Here, $\sqrt{3}$ *is an* irrational numbers. To represent it on real number line: we will follow the following steps

1) Draw a horizontal line X'OX as x-axis and let o be the origin.
2) Take OA=1 unit. Draw AB ⊥ OA such that AB= 1 unit.
3) Join OB. Now, OB= $\sqrt{OA^2 + OB^2} = \sqrt{1^2 + 1^2} = \sqrt{2}\ units.$
4) With O as Centre and OB as radius draw an arc meeting OX at P.
5) Thus, the point P represent $\sqrt{2}$ *on the real line*.
6) Draw BD⊥OB such that OB =1 unit.
7) Join OD , BD= $\sqrt{OB^2 + BD^2} = \sqrt{2^2 + 1^2} = \sqrt{3}\ units$
8) With O as Centre and OD as radius draw an arc meeting OX at Q.
   Hence point Q represent the number $\sqrt{3}$.



HOME ASSIGNMENT

1) Find four rational number between $\frac{1}{5}$ *and* $\frac{2}{3}$
2) Find six rational numbers between $\frac{2}{5}$ *and* $\frac{3}{7}$
3) Insert ten rational numbers between 3.5 and 3.7

4) Represent the following rational numbers on real number line:
   a) $\frac{2}{5}$ $b)\frac{3}{7}$ $c)-\frac{5}{8}$

5) Express the following as fraction in simplest form (in p/q form).
   a) 0.333 ... ...
   b) 0.3232 ....
   c) 0.17777…….
   d) .01636363……
   e) 0.544444….
   f) 3.141414……

6) Represent $\sqrt{2} on\ real\ number\ line$.

7) Express $3\frac{1}{8}$ in the form of decimal.

8) Represent $\sqrt{5}\ on\ real\ number\ line$.

9) Represent $\sqrt{6}\ and\ \sqrt{7}\ on\ same\ real\ number\ line$.

10) State whether the following statements are true or false. Give reasons for your answers:
   a) Every natural number is a whole number.
   b) Every integer is a whole number
   c) Every rational number is a whole number

LEARNING OUTCOME: -

After studying this topic, students will be able to:

- Define rational number and irrational example.
- Define the properties of rational and irrational numbers
- Find the various rational numbers between any two rational numbers.
- Represent the rational number in standard form
- Represent any irrational number on real number line
- Use the properties of rational number and irrational number to solve various problems.

FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade- IX **Module**

SUBJECT- Biology

CHAPTER NAME- The Fundamental Unit Of Life

TOPIC: Cell Stucture

Link-

https://youtu.be/iBMXTe-Cyy4

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TUTORIALS:- A cell is the structural and functional unit of life . It is the smallest unit of life capable of all the living functions .

Robert Hook discovered the cell in 1665 in simple microscope.
Virchow, in 1855, proposed the idea that all cells arise from pre-existing cells.
The ultrastructure of a cell seen under an electrone microscope. Cell is formed of 3 parts.
1 Plasma membrane 2 Cytoplasm 3 Nucleus .
Each cell is bounded by a thin,elastic,living membrane called the plasma membrane. Plasma membrane is made up of 2 layers of lipids and in between the 2 layers of lipids protein molecules are present.
It is a selective permeable membrane which allows the flow of some substances into the cell and out of the cell.
Functions of P.M :
It provides shape, protection, regulates entry and exit.
In animal cells, it helps in adhesion,recognition and in the formation of vesicles.
CELL WALL:
Plant cells have a protective wall outside the plasma mem., called the cell wall. It is nonliving, thick and rigid envelop made up of cellulose.
Function :
It provides shape, protects the plasma mem.
It helps in the transport.
CTOPLASM:
Cytoplasm surrounds the nucleus. It is made up of proteins, nucleic acid, carbohydrates,lipids,and inorganic compounds. All the organells are found inside the cytoplasm. Each organell is membrane bound.

NUCLEUS:

The nucleus is a dense, spherical or oval organelle, occupies a central position. The nucleus is surrounded by a double membrane, which separates it from the surrounding cytoplasm.

Function: It is the storehouse of genes, helps in heredity,metabolic activities.It helps in cell division.

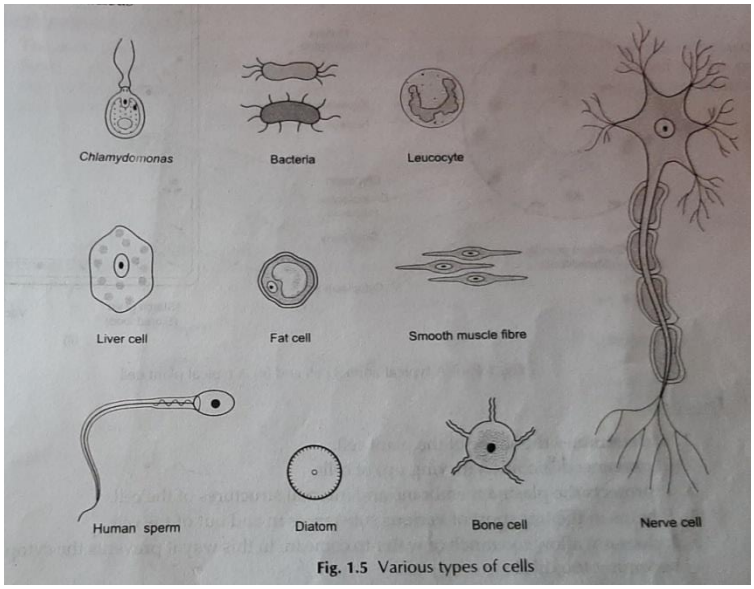

Fig. 1.5 Various types of cells

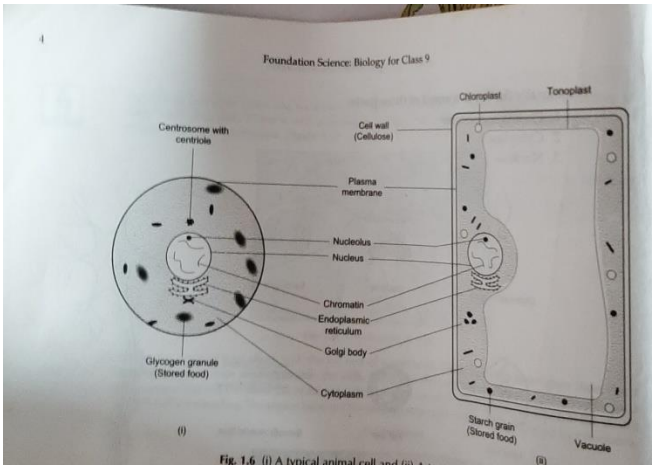

Fig. 1.6 (i) A typical animal cell and (ii)

Questions :

1. Why cell is known as structural and functional unit of life?
2. Why plasma membrane is known as selective permeable membrane ?
3. Who proposed cell theory ?
4. Why does the plant cell remain more rigid than the animal cell ?
5. What would happen if the plasma membrane gets ruptured ?

LEARNING OUTCOME:-

After studying this topic, students will be able to:

- Get the first basic concept of plant cell and an animal cell.
- Get to know the difference between plant cell and animal cell.
- Get to know the different shape and structure of diff. cells.

FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade- IX **Module-1/1**

SUBJECT-CHEMISTRY

CHAPTER NAME- MATTER IN OUR SURROUNDINGS

TOPIC: MATTER-STATE OF MATTER, CHARACTERISTICS OF ITS PARTICLES AND CHANGE IN STATE OF MATTER

Link-https://www.extramarks.com/ncert-solutions/cbse-class-9/science-matter-in-our-surroundings

http://ncert.nic.in/ncerts/l/iesc101.pdf

https://www.youtube.com/watch?v=SZANmZxsYaU

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TUTORIALS

Matter

Matter is anything that has mass and occupies space.

- Everything that we can touch, see, hear, taste, and also smell is matter.
- It is made up of really tiny particles which cannot be seen through the eye.

1. Particles of matter have spaces between them

- This characteristic is one of the concepts behind the solubility of a substance in other substances. For example, on dissolving sugar in water, there is no rise in water level because the particles of sugar get into the inter particle spaces between the water particles.

2. Particles of matter are continuously moving

- Particles of the matter show continuous random movements due to the kinetic energy they possess.
- A rise in temperature increases the kinetic energy of the particles, making them move more vigorously.

3. Particles of matter attract each other

In every substance, there is an inter particle force of attraction acting between the particles. To break a substance we need to overcome this force. The strength of the force differs from one substance to another.

Diffusion

When the particles of matter intermix on their own with each other, the phenomenon is called diffusion**.** For example, spreading of ink in water.

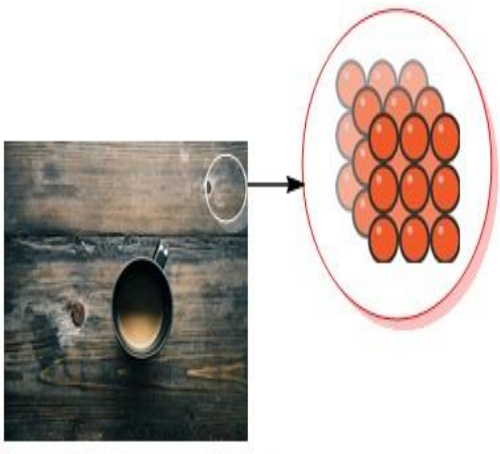
- During diffusion, the particles are occupying the inter particle spaces.
- The rate of diffusion increases with increase in the temperature, due to increase in kinetic energy of the particles.

States of Matter

- Matter can be classified as solid, liquid and gas on the basis of inter particle forces and the arrangement of particles.
- These three forms of matter are inter convertible by increasing or decreasing pressure and temperature. For example, ice can be converted from solid to a liquid by increasing the temperature.

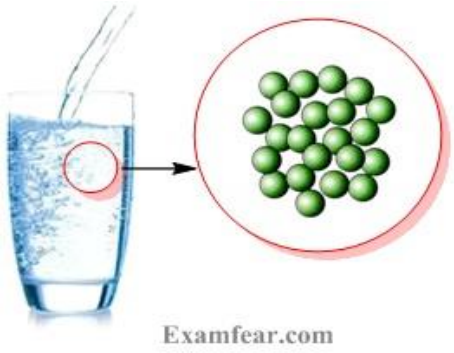
1.Solid state

- They have definite shape due to strong Intermolecular forces of attraction.
- They have distinct boundaries.
- They have a fixed volume.
- They cannot flow.
- They have negligible compressibility due to negligible distance between the neighboring molecules.
- They possess a tendency to uphold their shape when exposed to external force.
- They are rigid.



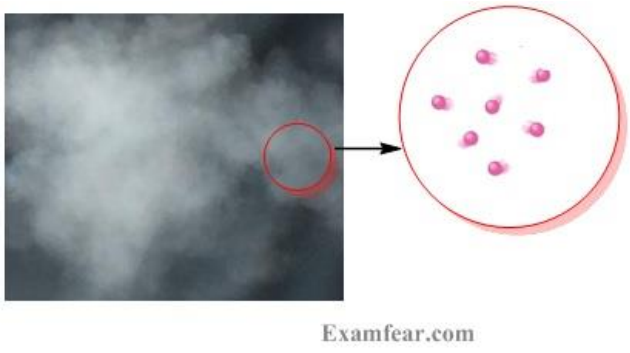
2.Liquid state

- A liquid has no definite shape and takes up the shape of the container in which it is kept.
- A liquid has a definite volume due to weaker intermolecular force of attraction than solids.
- They can flow from a higher lever to a lower level.
- A liquid is compressible due to larger distance between the neighbouring molecules than solid but lesser than gas.
- They have lower density.
- A liquid can diffuse into another liquid due to fact that molecules move faster in a liquid but is slower as compared to gases



Gaseous state

- They do not have definite shape and take up the shape of the container.
- They do not possess definite volume due to weakest intermolecular forces.
- They are not rigid.
- They are easily compressible due to excess space between the particles of gas which compresses on applying pressure.
- They can easily undergo diffusion due to the fact that molecules in a gas moves at a very fast rate due to which speed of diffusion is very large.
- They can flow in all possible directions.



Can Matter Change Its State?

1.Effect of change of temperature on state of matter

On increasing temperature, the kinetic energy of the particles of the matter increases and they begin to vibrate with a higher energy. Therefore, the inter particle force of attraction between the particles reduces and particles get detached from their position and begin to move freely.

- As a result, the state of matter begins to change.
- Solids undergo a phase change to form liquids.
- Similarly, liquids also undergo a phase change to form gases.

Melting point

The melting point of a solid is defined as the temperature at which solid melts to become liquid at the atmospheric pressure.

- At melting point, these two phases, i.e., solid and liquid are in equilibrium, i.e., at this point both solid state and liquid state exist simultaneously.

Boiling point

The temperature at which a liquid starts boiling at the atmospheric pressure is known as its boiling point.

Latent heat of fusion

It is the amount of heat energy that is required to change 1 kg of a solid into liquid at atmospheric pressure at its melting point.

Latent heat of vaporisation

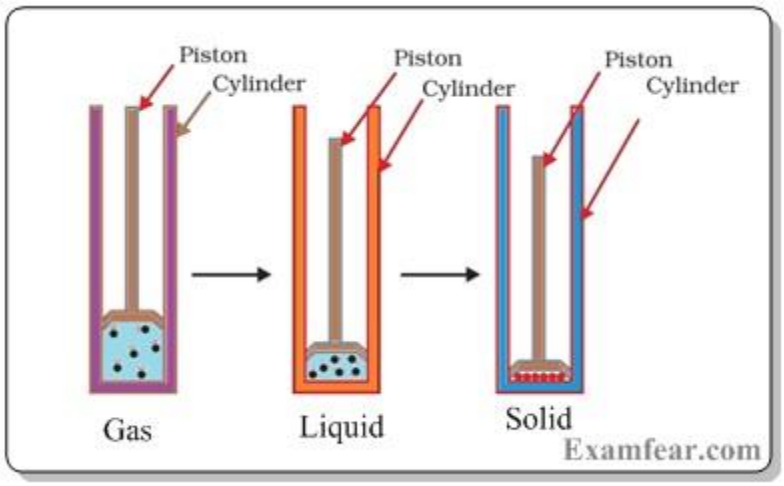
It is the amount of heat energy that is required to change 1 kg of a liquid into gas at atmospheric pressure at its boiling point.

Sublimation

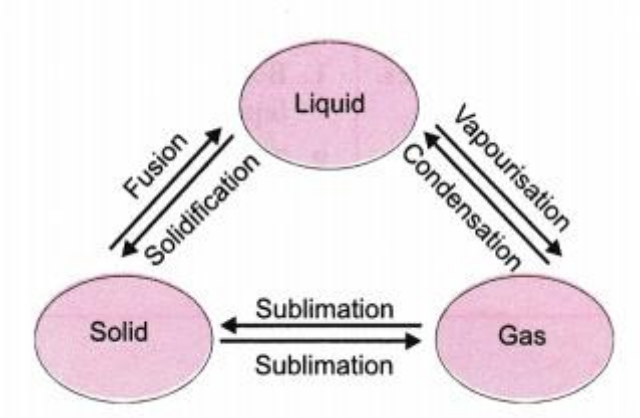
The transition of a substance directly from its solid phase to gaseous phase without changing into the liquid phase (or vice versa) is called **sublimation.**

2.Effect of change of pressure on state of matter

On applying pressure and reducing temperature we can liquefy gases.



INTERCONVERSION OF THREE STATES OF MATTER



Evaporation

The phenomenon by which molecules in liquid state undergo a spontaneous transition to the gaseous phase at any temperature below its boiling point is called evaporation.

- For example, the gradual drying of damp clothes is caused by the evaporation of water to water vapour.

1.Factors affecting evaporation

- **Temperature:** The rate of evaporation increases with an increase in temperature.
- **Surface area:** The rate of evaporation increases with an increase in surface area.
- **Humidity:** The rate of evaporation decreases with an increase in humidity.
- **Wind speed:** The rate of evaporation increases with an increase in wind speed.

2.Cooling due to evaporation

During evaporation, the particles of a liquid absorb energy from the surroundings to overcome the interparticle forces of attraction and undergo the phase change. The absorption

of heat from the surrounding makes the surrounding cool.
For example, sweating cools down our body.

QUESTIONS:-  Let's think and Answer

1. Why do gas exert more pressure on the walls of the container than the solids?
2. Why do solids have a regular geometrical shape?
3. Define – Latent heat of vaporisation and latent heat of fusion
4. Why steam at 100˚C is better for heating purposes than water at 100˚C?
5. Differentiate between boiling and evaporation.
6. Why do doctors advice to put stripes of wet cloth on the forehead of a person having high fever?
7. Explain inter conversion of three states of matter with the help of flow chart. Name the process of each inter conversion.
8. Explain giving examples the various factors that affect the rate of evaporation.
9. Differentiate between three states of matter on the basis of –rigidity, compressibility, arrangement of particles, density.
10. Liquids generally have lower density as compared to solids. But ice floats on water. Why?

LEARNING OUTCOME:-

After studying this topic, students will be able to:

- Describe matter and its states.
- Develop critical thinking regarding interconversion of matter into one another.
- Understand some common phenomena and chemistry involved in them such as in evaporation.
- Define some important terms like Latent heat of fusion and vaporization,sublimation , diffusion etc.

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FIRAYALAL PUBLIC SCHOOL, RANCHI

Module – 1/4

Grade- IX

Subject - Physics

Chapter no./name -8. Motion Module-

Link-https://www.extramarks.vom

https://ncert.nic.in

https://www.khanacademy.org/

Please find herewith the web links of the chapters along with the written assignment we wish you to cover up by the end of this break. The entire assignment will form a part of your subject enrichment assessment and needs to be done in home-work copy. This assignment will be a part of subject enrichment. In case of any clarification please feel free to get in touch with your subject teachers, once the school reopens or else mail it to principal@firayalalpublicschool.com

TUTORIALS:

Introduction

- Inthephysicalworld,oneofthe most commonphenomena ismotion.ThebranchofPhysics, which deals with the behavior of moving objects, is known asmechanics.
- Mechanics is further divided into two sections namely Kinematics andDynamics.
- Kinematics deals with the study of motion without taking into account the cause ofmotion.
- Dynamics is concerned with the cause of motion, namely force.

Motion and Rest

- An object is said to be in motion if it changes its position with respect to its surroundings in a giventime.
- Anobjectissaidtobeatrestifitdoesnotchangeitspositionwithrespecttoitssurroundings.

- A frame of reference is another object or scene with respect to which we compare anobject's position.

Figure 1 Figure 2

Look at the figures. In figure1, the car is to the right of the tree. In figure 2, after 2 seconds, the car is to the left of the tree. As the tree does not move, the car must have moved from one place to another. Therefore, here the tree is considered as the frame ofreference.

Types of Motion

There are three types of motion:

- Translatorymotion
- Rotatorymotion
- Vibratorymotion

Translatory Motion

- In translatory motion the particle moves from one point in space to another. This motionmay be along a straight line or along a curvedpath.
- Motion along a straight line is called rectilinearmotion.
- Motion along a curved path is called curvilinearmotion.
- Example: A car moving on a straightroad

Rectilinear Motion

Example: A car negotiating a curve

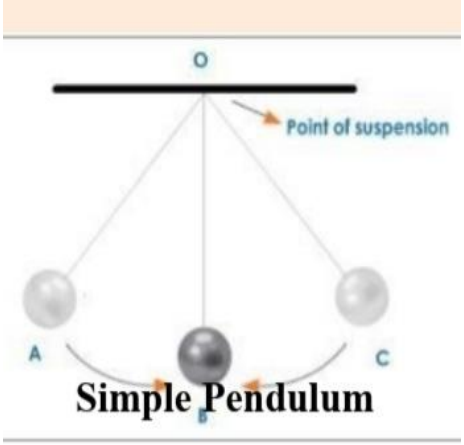
Curvilinear Motion

Rotatory Motion

In rotatory motion, the particles of the body describe concentric circles about the axis of motion.

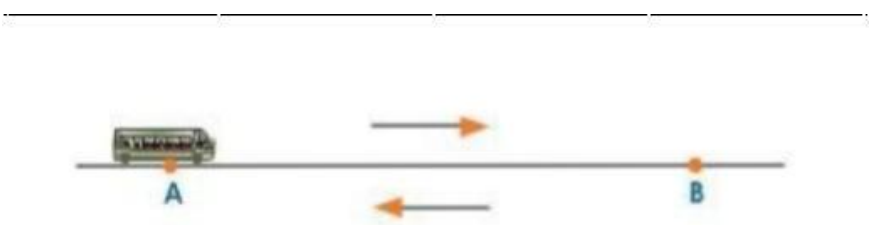
Vibratory Motion

In vibratory motion the particles move to and fro about a fixed point.



Distance and Displacement

The distance between terminus A and terminus B is 150 km. A bus travels from terminus A to terminus B. The distance covered by the bus is 150 km. The bus travelling on the same route returns from terminus B to the terminus A. Thus the total distance covered by the bus during the trip from A to B and then from B to A is 150 km + 150 km = 300 km.



A Bus Moving from A to B and Again from B to A

- Thedistancecoveredbyamovingobject istheactuallengthofthepathfollowedbytheobject.
- Distance is a scalar quantity. SI unit of distance ismeter.
- The position of the bus changed when it moved from the terminus A to terminus B. There is a displacement of 150 km from A to B. The displacement by the return trip is also 150km.
- Displacement is the shortest distance covered by a moving object from the point of reference (initial position of the body), in a specifieddirection.
- Note:
- But the displacement when the bus movesfrom A B and thenfromB A is zero. SI unit of displacement ismeter.
- Displacement is a vector, i.e., the displacement is given by a number with proper units and direction.

HOME ASSIGNMENT

1. Give an example of a body which may appear to be moving for one person and stationary for other.

2.Are rest and motion absolute or relative terms?

3. Suppose a ball is thrown vertically upwards from a position P above the ground it rises to the highest point Q and returns to the same point P. What is the net displacement and distance travelled by the ball?

4.What is essential to describe the position of an object?

5.What is the simplest type of motion? Give example.

6.If the displacement of a body is zero is it necessary that the distance covered by it is also zero?

7. Can the displacement be greater than the distance travelled by an object?

8. Distinguish between distance and displacement.

Learning outcomes: -

- Students will understand the proper meaning of motion.
- A clear understanding of motion and its various types.
- practical applications of motion day to day life.
- will understand the interrelationship of distance & displacement.
- To get better understanding of physical quantity .

FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade- IX **Module-1/1**

SUBJECT- Sst (Geography)

CHAPTER NAME- India-size and location

TOPIC: location ,size and neighbouring countries of India

Link- https://www.extramarks.com

https://ncert.nic.in/ebooks.html

https://youtu.be/VuDbizd_W6k

https://youtu.be/kO7KpL5lFoQ

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TUTORIALS:-

India is one of the ancient civilizations in the world. It has moved forward displaying remarkable progress in the field of agriculture, industry, technology and overall economic development . India has also contributed significantly to the making of world history.

LOCATION

India is lying entirely in Northern hemisphere. The land extends between the latitude 8°4' N and 37°6' N and longitudes 68°7' E and 97°25' E. The Tropic of Cancer(23°30'N) divides India into almost two parts.

SIZE

India's total area accounts for about 2.4% of the total geographical area of the world. Thus, it is the seventh largest country in the world by its size.

- India has a large boundary of about 15,200 km.
- the total length of coastline of the mainland is 7516.6 km including Andaman and Nicobar and Lakshadweep.
- India is bounded by mountains in the northwest, north and north east.South of about 22° north latitude, it begins to taper and extend towards the Indian Ocean dividing into two seas, the Arabian Sea on the west and Bay of Bengal on its East.
- From Gujarat to Arunachal Pradesh there is a time lag of 2 hours. Hence,time along Standard Meridian of India(82°30' E) passing through Mirzapur in Uttar Pradesh is taken as the standard time for India.

INDIA AND THE WORLD

The Indian landmass has a Central location between the East and West Asia. India is a southward extension of Asian continent. The trans Indian ocean routes connect the countries of Europe in the west and the countries of East Asia. No other country has a long coastline on Indian ocean as India has. India's contact with the world has continued through the ages.The spices,Muslin and other merchandise were taken from India to different countries. On the other hand the influence of Greek sculpture and the architectural style of domes and minerets from West Asia can be seen in different parts of India.

INDIA'S NEIGHBOURS

India has 28 states and 9 union territories. India shares its land boundaries with:

- Pakistan and Afghanistan in the Northwest
- China , Nepal and Bhutan in the north
- Myanmar and Bangladesh in the East
- The southern neighbours across the sea consists of two island countries Sri Lanka and Maldives.

India had strong geographical and historical links with its neighbour.

Let's examine: answer the following questions:-

1) What is the longitude and latitude of India?
2) What is the standard Meridian of India? Why was it taken?
3) Name the group of islands lying in the Arabian Sea .
4) Which are the water bodies that separate Sri Lanka from India?
5) Write a brief note about India and its neighbours.
6) Which is the largest state (area-wise) of India ?
7) Name the Indian state which are situated on the Western coast of India.
8) In which year did the Indira Point get submerged under the sea water?
9) name the state that share border with Myanmar.
10) how does India occupy an important strategic position in South Asia

LEARNING OUTCOME-

1. Students will understand exact location of India. Its latitudinal and longitudinal extent.
2. Students will understand how India established relation with the world.
3. Students will get to know about India and its neighbour.

FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade- 9 **Module- 1/1**

Link- https://play.google.com/store/apps/details?id=com.Extramarks.Smartstudy

http://ncert.nic.in/textbook/textbook.htm?ihks1=0-17

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TUTORIALS:

हिंदी -क्षितिज भाग 1

पाठ 1 दो बैलों की कथा

लेखक परिचय – प्रेमचंद

प्रेमचंद का जन्म सन 1880 में बनारस के लमही गांव मैं हुआ था उनका मूल नाम धनपत राय था। प्रेमचंद का बचपन अभाव में बीता था और शिक्षा बीए तक ही हो पाई । उन्होंने शिक्षा विभाग में नौकरी की किंतु असहयोग आंदोलन के कारण उन्हें त्यागपत्र दे देना पड़ा और तब वे लेखन कार्य के प्रति पूरी तरह समर्पित हो गए। सन 1936 में इस महान कथाकार का देहांत हो गया ।

प्रेमचंद की कहानियां मानसरोवर के 8 भागों में संकलित हैं । सेवासदन, प्रेमाश्रम, रंगभूमि, कायाकल्प, निर्मला, गबन, कर्मभूमि, गोदान उनके प्रमुख उपन्यास हैं। उन्होंने हंस, जागरण, माधुरी आदि पत्रिकाओं का संपादन भी किया। कथा साहित्य के अतिरिक्त प्रेमचंद निबंध एवं अन्य प्रकार का गद्य लेखन भी प्रचुर मात्रा में किया।

प्रेमचंद साहित्य को सामाजिक परिवर्तन का सशक्त माध्यम मानते थे। उन्होंने जिस गांव और शहर के परिवेश को देखा और जिया उनकी अभिव्यक्ति उनके कथा साहित्य में मिलती है। किसानों और मजदूरों की दयनीय स्थिति, दलितों का शोषण, समाज में स्त्री की दुर्दशा और स्वाधीनता आंदोलन आदि उनकी रचनाओं के मूल विषय हैं। प्रेमचंद के कथा साहित्य का संसार बहुत व्यापक है। उसमें मनुष्य ही नहीं पशु पक्षियों को भी अद्भुत आत्मीयता मिली है। बड़ी से बड़ी बात को सरल भाषा में सीधे और संक्षेप में कहना प्रेमचंद के लेखन की प्रमुख विशेषता है उनकी भाषा सरल सजीव एवं मुहावरे दार है तथा उन्होंने लोक प्रचलित शब्दों का प्रयोग कुशलता पूर्वक किया है ।

प्रस्तुत लेखक परिचय के आधार पर निम्नलिखित प्रश्नों के उत्तर दें:-

प्रश्न 1 प्रेमचंद का मूल नाम क्या था ?

प्रश्न 2 प्रेमचंद का जन्म कब और कहां हुआ था?

प्रश्न 3 प्रेमचंद का जीवन किस प्रकार बीत रहा था?

प्रश्न 4 प्रेमचंद के लेखन की क्या विशेषताएं हैं?

प्रश्न 5 प्रेमचंद के साहित्य का विषय क्या है?

शिक्षण का उद्देश्य

- विद्यार्थियों को प्रेमचंद के विषय में जिज्ञासा उत्पन्न करना
- प्रेमचंद के साहित्य के विषय में जानकारी देना
- हिंदी भाषा पर पकड़ को सुदृढ़ करना
- प्रश्नोत्तर की कला सीखना ।