St Gregorios School

Class :VIII

Subject :English

Topic : Lesson 1- The Best Christmas Present in the World

Summary: The narrator of the story went to a junk shop and purchased a roll-top desk which was in bad condition. The narrator started its repairing on Christmas Eve and found a letter in its drawer. He read the letter. It was from Jim Macpherson to his wife Connie as written on top. After reading the letter he found that Jim Macpherson was the leader of the England Army and he described that England and Germany were engaged in a war but on the Christmas morning a wonderful thing happened, first Germans wished happy Christmas to English soldiers and the same response was given by English also. The leaders shared their ideas and feelings with each other and celebrated Christmas by eating ,laughing ,talking and drinking. After that they played football match in which Germans won. In the night both troops sang carols and had a peaceful Christmas.

The narrator decides to give this letter to Jim's wife back. He went to the address which was written on the letter envelope where he found that an accidental fire caught in the house and Jim's wife was in nursing home. He rushed to the nursing home where he found Jim's wife. As she was grown too old in the waiting of her husband she mistook the narrator by understanding him as Jim, her husband when the narrator met her. She calls his return 'the best Christmas present in the world.' She remembers the promise Jim had made years ago of returning back home on Christmas and rejoices thinking that finally Jim kept his promise and has come back to her. She then asks him to readout the letter to her in his own voice for she had been missing his voice.

Word meanings.

1. Clumsily - In an awkward and careless way
2. Shaky - Trembling
3. Curiosity - A strong desire to know or learn something.
4. Outstretch - Extend or stretch out.
5. Schnapps - A clear ,strong drink
6. Unwilling - not ready, eager or prepared to do something
7. Conservatory- A room with a glass roof and walls attached to a house at one side and used as a sun lounge.

Answer the following questions.

1. What did the author find in a junk shop?

   Ans. The author found an old roll –top desk in a junk shop in Bridport. It was made in early 19th century of oak wood.

2. What did he find in secret drawer? Who do you think had put it in there?

   Ans. In the secret drawer, the narrator found a small black tin box that contained a letter. On the box a note said that this letter was Jim's last letter, received on 25th Jan 1915. The envelope of the letter addresses Mrs. Macpherson as the receiver of the letter; therefore it must be Mr. Macpherson who kept the letter in the secret drawer.

3. Who had written the letter, to whom and when?

   Ans. Jim had written the letter to his wife, Connie, when he was away on the war front fighting the war against the Germans. The letter was written a day after Christmas i.e. on 26th December,1914. It reached Mrs Macpherson on 25th January, 1915.

4. Why was the letter written- what was the wonderful thing that had happened?

   Ans. Jim wrote this letter to his wife, Connie to describe certain unusual events that took place on the previous day. In the midst of the war, the British and the German soldiers had come together to celebrate Christmas.

   They celebrated the day as the best of friends would, sharing their food and drinks and cake. It was unbelievable for Jim and perhaps for others too to think of enemies setting aside their hatred for each other and making peace. Jim shared with Connie all possible details of the day, for he was too happy.

5. What jobs did Hans Wolf and Jim Macpherson have when they were not soldiers?

   Ans. Hans Wolf played the cello in an orchestra. He had come from Dusseldorf. Jim Macpherson on the other hand was a school teacher in Dorset.

6. Had Hans Wolf ever been to Dorset? Why did he say he knew it?

   Ans. Hans Wolf had never been to Dorset. Despite that he knew fairly well about the place. He had read a lot about Dorset and England in English books.

   He also spoke good English. Jim was surprised to know this.

7. Do you think Jim Macpherson came back from the war? How do you know this?

   Ans. Jim Macpherson did not came back from the war. Jim wrote the letter to Connie in the year 1914 and because he was a soldier / an officer, he must have been very young then. The story ends with old.

Mrs. Macpherson, aged hundred and one, still waiting for Jim's return. Clearly many decades have passed and contrary to his promise, Jim did not come back home. He was probably dead.

8. Why did the author go to Bridport?

Ans. The author went to Bridport to meet Connie and return her the letter. The tin box that contained the letter had Connie's message pasted upon it, "*To be buried with me when the time comes*".

The narrator couldn't restrain himself from taking the letter to its rightful owner.

9. How old was Mrs. Macpherson now? Where was she?

Ans. Old Mrs. Macpherson was now a hundred and one year old. She was admitted to Burlington House Nursing Home after her house had caught fire.

10. Who did Connie Macpherson think her visitor was?

Ans. The narrator on seeing Connie called out her name and handed over the tin box and the letter to her. On seeing the letter Connie began stroking the letter and thought the visitor to be her husband, who had finally returned from the war.

11. Which sentence in the text shows that the visitor did not try to hide his identity?

Ans. On meeting Connie, the visitor tried to explain to her how he had found the desk, the secret door and the letter, " I explained about the desk about how I had found it, but I don't think she was listening".

12. For how long do you think Connie had kept Jim's letter? Give reasons for your answer?

Ans. Connie must have kept her husband, Jim's letter for a very long time as she used to read it very often. Jim was a British officer fighting in the war against the Germans. The soldiers in armies are usually young men. This tells us that Connie must also have been a young lady when she received her husband's letter on 25th January,1915.

When we meet Mrs. Macpherson in the Burlington House Nursing Home, she is an old lady, aged hundred and one. The time lapse clearly indicates that Connie must have preserved Jim's letter for more than 70 years.

13. Why do you think the desk had been sold and when?

Ans. The narrator purchased the desk from a junk shop in perhaps the late 20th century. The desk was an old, early19th century desk made of oak and was supposed to be very expensive.

However, the current state of the desk was very bad, for it was recovered from Mrs. Macpherson's house after it caught fire. The remains of the household articles must have been sold after Mrs. Macpherson was taken to the nursing home.

14. Why do Jim and Hans think that games or sports are good way of resolving conflicts? Do you agree?

Ans. Jim and Hans thought that games or sports are good ways of resolving conflicts than going to war because war only leads to death and destruction. No matter which camp wins the war, loss of life is common to both the armies, families too long are ruined and children are orphaned and wives are widowed. I completely agree with this line of thought as no one dies during matches. Peace constructs the society whereas war destroys it.

15. Do you think the soldiers of the two armies are like each other or different from each other? Find evidence from the story to support your answer.

Ans. There is enough evidence in the story to prove that the soldiers are no different from each other. The soldiers from both the side love the idea of peace and harmony. They lose no time in coming together to celebrate Christmas with each other, forgetting that they are each other's enemies. They bring their drinks, sausages and cakes and unite in perfect brotherhood. Also, the soldiers in both the side becomes sad again when they were to again return to their trenches and continue with the war.

Jim Macpherson also regretted that he was not the first one to initiate the peace truce.

16. Mention the various ways in which the British and the German soldiers become friends and find things in common at Christmas?

Ans. When the German soldiers waved the white flag and called out 'Merry Christmas' from across the no man's land, the British soldiers with a similar spirit replied, 'same to you'. The soldiers on both sides gelled together over alcohol, sausages and cakes that they brought together to make merry on Christmas.

They also played football and other games and even after having returned to their trenches, continued singing Christmas carols following each other in perfect harmony.

17. What is Connie's Christmas present? Why is it "the best Christmas present in the world"?

Ans. The letter that Jim wrote to Connie informed her of her husband's happy state of mind, a rarity during the times of war. In the letter, Jim also promised Connie that he would be home before the next Christmas. Jim's letter carried with it a message of hope. Recovery of the letter despite the fact that her house has caught fire and mistakenly assuming the stranger,

who brought with him the letter to be her husband, “the best Christmas present” for Connie was the fulfillment of her hopes on a Christmas day, the return of the letter and her husband, Jim.

18. Do you think the title of this story is suitable for it? Can you think of any other title?

19. Make sentences.

    1. Clumsily
    2. Challenge
    3. Shaky
    4. Curiosity
    5. Resolve
    6. Probably

20. Give meanings.
    1. Unfold
    2. Orchestra
    3. Resolve
    4. Distant
    5. Terrible
    6. Recognition

Note: All the questions should be done in a copy in a neat handwriting.

CLASS 8

CHAPTER-17 STARS AND THE SOLAR SYSTEM

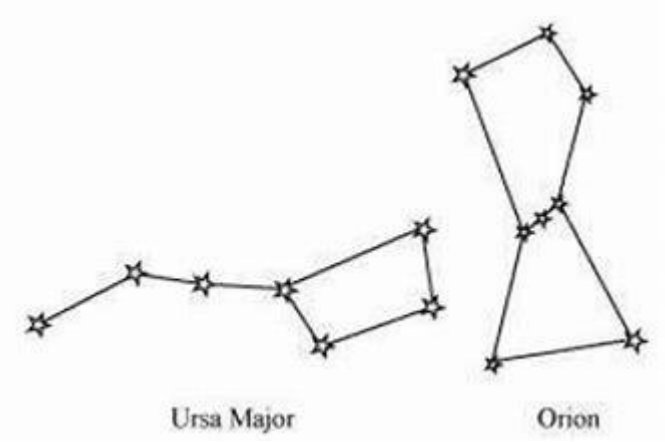
ANSWERS OF THE ASSIGNMENT 2 UPLOADED ON April 12

1. SIRIUS
2. CASSIOPEIA
3. (i) Planets revolve around the Sun in fixed paths called **orbits**
   (ii) The time taken by a planet to complete one revolution is called **its period of revolution.**
4. The period of revolution **increases** as the distance of the planet **increases** from the sun. Therefore, Planets nearer to the sun revolve faster as compared to the planets away from the sun.
5.

PLANETS	**STARS**
Planets are celestial bodies that do not emit their own heat or light.	Stars are celestial bodies that emit their own heat and light.
Planets do not twinkle.	Stars twinkle
The planets keep changing their positions with respect to the stars.	The stars do not change their position at all.

6. **Ursa Major is one** of the most famous constellations seen during summer time, in the early part of the night is Ursa Major.
   It is also known as the Big Dipper, the Great Bear or the Saptarshi.
   There are seven prominent stars in this constellation.
   It appears like a big ladle or a question mark. There are three stars in the handle of the ladle and four in its bowl.

7.



CONTINUATION…….

(Read, Learn and write down the notes in any available copy or sheet).

Main Objective: The summary is about Our Solar system, planets in our solar system. It also tells about other members of solar system such as Asteroids, Comets, Meteor, Meteorites, and Artificial Satellites.

The Solar System

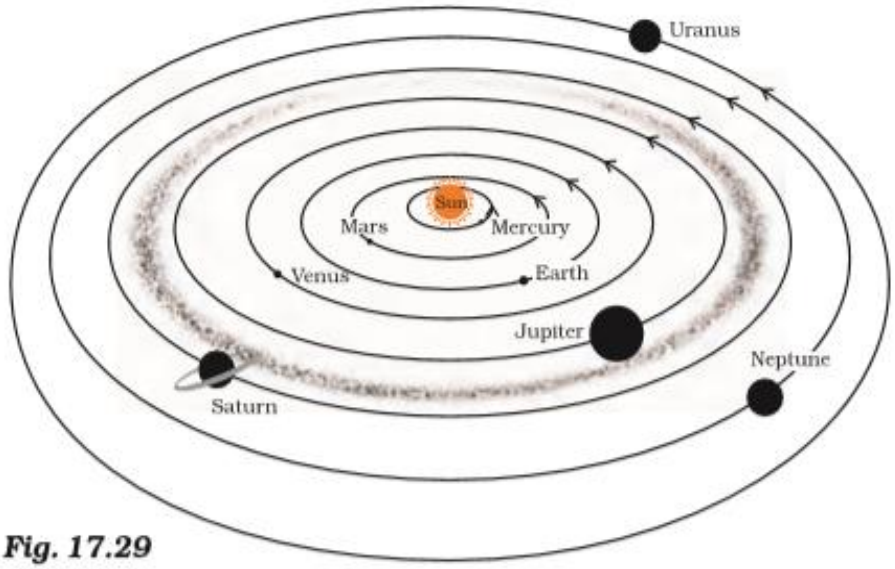


Fig. 17.29

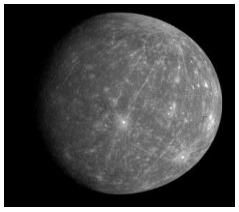
Planets

In our Solar System, the planets are divided into two groups:

Inner planets	Outer planets
Inner planets are closer to the Sun, smaller and rockier.	Outer planets are further away from the Sun, larger and are made up of gas.
They have few moons	They have lots of moon
They are Mercury, Venus, Earth and Mars.	They are Jupiter, Saturn, Uranus and Neptune.
They have no rings orbiting them.	They have no rings orbiting them.

INNER PLANETS

Mercury (Budh)



- Mercury is the nearest planet to the sun and also the smallest planet in our solar system.
- It is usually hidden due to the sun's glare but can be seen just before sunrise or after sunset, near the horizon.
- Mercury has no satellite of its own.

Venus (Shukra)

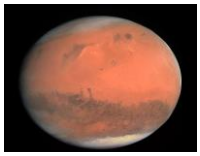
- Venus is the brightest planet in the night sky and the closest planet to earth.
- Although not a star, it is called as the morning star or evening star as it appears in the eastern sky before sunrise and in the western sky after sunset.
- Venus has no moon or satellite of its own.
- Venus rotates from east to west while the Earth rotates from west to east.
- If we observe Venus through a telescope, it shows phases just like moon.

PHASES OF VENUS

The Earth (Prithvi)

- The Earth is the only planet in the solar system on which life is known to exist.
- Some special environmental conditions are responsible for the existence and continuation of life on the Earth. These include:
  (i) the right distance from the Sun, so that it has the right temperature range
  (ii) the presence of water and suitable atmosphere
  (iii) a blanket of ozone.
- The earth appears bluish green from outer space as light from the landmass and water bodies gets reflected.
- The earth's axis of rotation is tilted which causes change of seasons on the Earth (The axis of rotation of the Earth is not perpendicular to the plane of its orbit).
- Earth has only one natural satellite: the Moon.

Mars (Mangal)



- Mars is the 4th planet from the sun which is the first outside the orbit of the Earth
- It is called the red planet because It appears slightly reddish due to the reddish iron oxide prevalent on its surface.

- Mars has two small natural satellites.

OUTER PLANETS

Jupiter (Brihaspati)

- Jupiter is the largest planet of the solar system.
  It is so large that it can accommodate 1300 earths. However, the mass of Jupiter is about 318 times that of our Earth.
- It rotates very rapidly on its axis.
- It also has faint rings around it.
- It appears quite bright in the sky. If you observe it with the help of a telescope, you can also see four of its large moons.
- Jupiter has a large number of satellites.

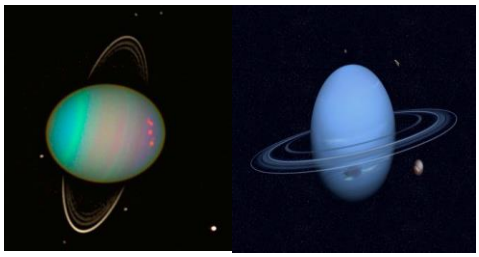
Jupiter and its four large satellites.

Saturn (Shani)

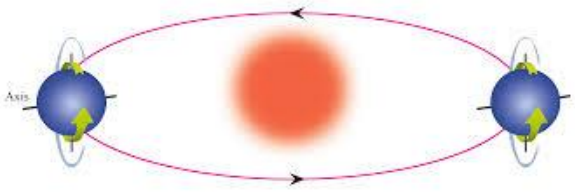
- Saturn appears yellowish in colour.
- It has beautiful rings which makes it unique in the solar system. These rings are not visible with the naked eye. It can be observed with a small telescope.
- Saturn also has a large number of satellites.

- Saturn is the least dense among all the planets. Its density is less than that of water. This means that If we imagine Saturn in a large pool of water then it will float.

Uranus and Neptune



- These are the outermost planets of the solar system.
- They can be seen only with the help of large telescopes.
- Like Venus, Uranus also rotates from east to west.
- The most remarkable feature of Uranus is that it has highly tilted rotational axis. As a result, in its orbital motion it appears to roll on its side.

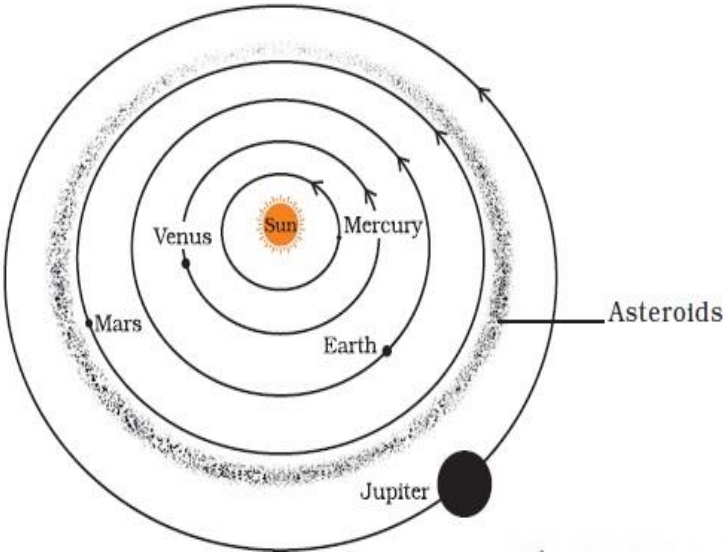


Uranus in its orbital path

Some Other Members of the Solar System

There are some other bodies which revolve around the Sun and are also members of the solar system.

Asteroids

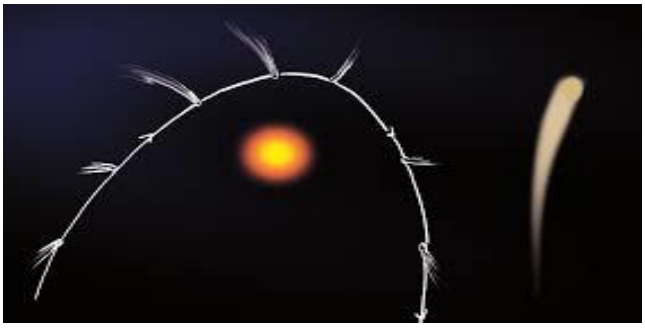


The Asteroid belt

- Asteroids are a large number of small objects between the orbits of Mars and Jupiter that revolve around the Sun.
- Asteroids can only be seen through large telescopes.
- Asteroids together form a belt called Asteroid belt.
- It can only be seen through large telescopes.

Comets

- Comets are celestial bodies that revolve the sun in highly elliptical orbits.
- Their period of revolution round the Sun is usually very long.
- A Comet appears generally as a bright head with a long tail. The length of the tail grows in size as it approaches the sun. The tail of a comet is always directed away from the Sun.



Different position of a Comet

- Many comets are known to appear periodically. One such comet is **Halley's comet**, which appears after nearly every **76 years**. It was last seen **in 1986**.

Meteors

Streak of a Meteor

- **Meteors** are small objects mainly leftover broken asteroids that enter the earth's atmosphere at high speeds causing bright streaks of light.
- They are commonly known as **shooting stars**, although not a star.
- The **friction between the atmosphere and the meteor heats it up which glows and evaporate** quickly before it reaches the surface because of which bright streaks of light last for a very short time.

Meteorites

- Sometimes when a meteor is large and does not evaporate completely in the atmosphere, it reaches the Earth known as a **meteorite**.
- Meteorites help scientists in investigating the nature of the material from which the solar system was formed.

Meteor Showers

- When the Earth crosses the tail of a comet, swarms of meteors are seen. These are known as meteor showers.
- Some meteor showers occur at regular intervals each year.
- We can find the time of their appearance from a scientific magazine or from the internet.

Artificial Satellites

- India has built and launched several artificial satellites.
- **Aryabhatta** was the first Indian satellite.
- Some other Indian satellites are **INSAT, IRS, Kalpana-1, EDUSAT**, etc.
- **Practical applications:** They are used for forecasting weather, transmitting television and radio signals. They are also used for telecommunication and remote sensing which means collecting information from a distance.

Artificial Satellites	Natural Satellites
Artificial satellites are man-made satellites which are launched from the Earth.	The natural Satellites are celestial bodies that orbit a Planet or any other Celestial body and are formed by nature.
They revolve around the Earth much closer than earth's natural satellite.	They revolve around Earth farther than artificial satellites.

Indian satellites are INSAT, IRS, Kalpana-1, EDUSAT	Natural satellite of Earth is moon

ASSIGNMENT 3

MULTIPLE CHOICE QUESTIONS

1. The change in seasons on the earth occurs because :

   (a) the distance between the earth and the sun is not constant.
   (b) the axis of rotation of the earth is parallel to the plane of its orbit.
   (c) the axis of rotation of the earth is perpendicular to the plane of its orbit.
   (d) the axis of rotation of the earth is tilted with respect to the plane of its orbit.

2. Morning star is the name given to

   (a) pole star
   (b) planet Venus
   (c) planet Jupiter
   (d) star Sirius

3. Asteroids are found between the orbit of

   a) Mars and Jupiter
   b) Earth and Mars
   c) Jupiter and Saturn
   d) None of these

Very short answer type questions:

1. Name the planet nearest to the Sun.
2. Name the brightest planet in the night sky.
3. Name two planets which do not have satellite of their own.
4. Which planet is called Red Planet?
5. Name a planet which is least dense among all the planets.

6. Name a comet which appears periodically after every 76 years.

Short answer type questions:

1. Why planet Mercury can only be seen just before sunrise and after sunset?
2. Why could Saturn hypothetically float on water?
3. Why Earth appears blue from outer space?
4. Give difference between Natural and Artificial Satellites.
5. Explain the orbit of a comet.

Note: Answers will be uploaded within 3-4days.

CLASS 8

CHAPTER-17 STARS AND THE SOLAR SYSTEM

ANSWERS OF THE ASSIGNMENT 3:

MULTIPLE CHOICE QUESTIONS

1. (d) The axis of rotation of the earth is tilted with respect to the plane of its orbit.
2. (b) planet Venus
3. (a) Mars and Jupiter

Very short answer type questions:

1. MERCURY
2. Venus
3. Venus and Mercury
4. Mars
5. Saturn
6. Halley's comet

Short answer type questions:

1. Because Mercury is usually hidden due to the sun's glare as it is nearest to Sun.
2. Saturn could float on water because density of Saturn is less than that of water.
3. The earth appears bluish green from outer space due to reflection of light from the landmass and water bodies.
4.

Artificial Satellites	Natural Satellites
Artificial satellites are man-made satellites which are launched from the Earth.	The natural Satellites are celestial bodies that orbit a Planet or any other Celestial body and are formed by nature.

They revolve around the Earth much closer than earth's natural satellite.	They revolve around Earth farther than artificial satellites.
Indian satellites are INSAT, IRS, Kalpana-1, EDUSAT	Natural satellite of Earth is moon

5. Comets are celestial bodies that revolve the sun in highly elliptical orbits. Their period of revolution round the Sun is usually very long. A Comet appears generally as a bright head with a long tail. The length of the tail grows in size as it approaches the sun. The tail of a comet is always directed away from the Sun.

CONTINUATION…….
(Read, Learn and write down the notes in any available copy or sheet).
Main Objective: The summary is about moon, various phases of moon, lunar month and surface of moon.

The Moon

- The moon is the natural satellite of Earth.
- It is the brightest object in the night sky

Phases of moon

- The various shapes of the bright part of the moon as seen during a month is called **Phases of moon.**
- The moon is a non-luminous body. It reflects the light of the sun which falls on it.
- When the moon rotates and revolves around the Earth, it changes the direction and position which changes the amount of sunlight received by it leading to the occurrence of various phases of moon.
- From Earth, we see the moon grow from a thin crescent to a full disc (or full moon) and then shrink back to a thin crescent again before vanishing for a day.
- When we see no moon in the sky, the phase is called New Moon. This happens when the moon is between the Earth and the Sun. In this case, the light falling

on the moon reflects back completely in the opposite direction thereby not reaching the surface of Earth.

- The next day the moon changes its position slightly due to the relative motion between the Earth and the moon. It is thus visible as the **crescent.**
- Each day, the amount of light falling on the surface of the moon increases and accordingly forming different shapes.
- Then, the **Full Moon** is formed in which the entire circle of moon is visible.
- After this, the little part of the moon again decreases and the reverse cycle goes on till the New Moon.

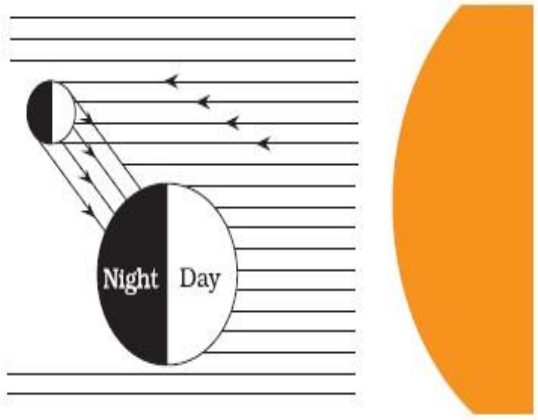


Fig. Moon is visible due to reflected sunlight

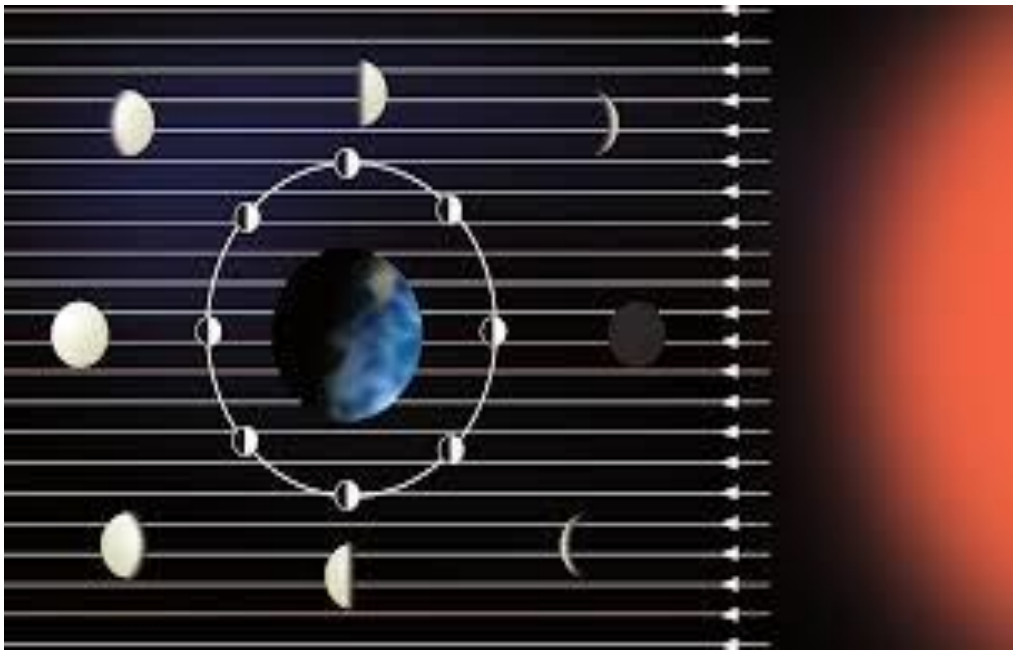


Fig. Positions of the moon in its orbit and its corresponding phases

- **New Moon Day**: The day when moon is not visible.
- **Full Moon Day:** The day on which the whole disc of moon is visible.
- **Crescent moon:** The very next day after a new moon day in which only a small portion of moon appears in the sky.
- Gap between consecutive new moon day and full moon day is of **15days**.
- **Lunar Month:** It is a time period between one full moon to next full moon. It is slightly **longer than 29days.**
- The moon completes one rotation on its axis as it completes one revolution around the Earth.

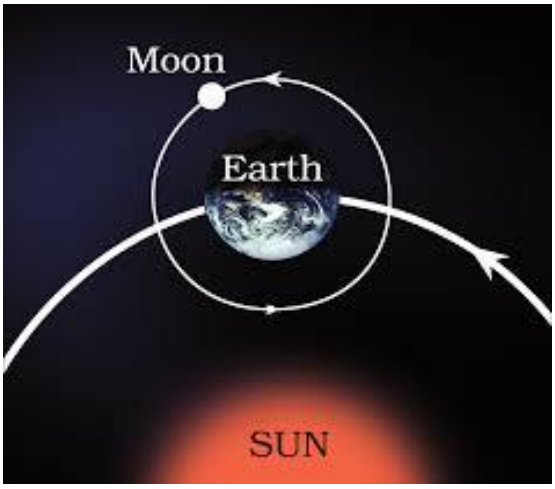


Fig.: Earth accompanied by moon revolving around the Sun

- The moon revolves around the Earth. The Earth along with the moon, revolves around the Sun.

The Moon's Surface

- The moon's surface is dusty and barren and has no water.
- There are many craters of different sizes.
- It also has a large number of steep and high mountains. Some of these are as high as the highest mountains on the Earth.
- We cannot hear on the surface of the moon because the moon has no atmosphere and sound cannot travel without medium.

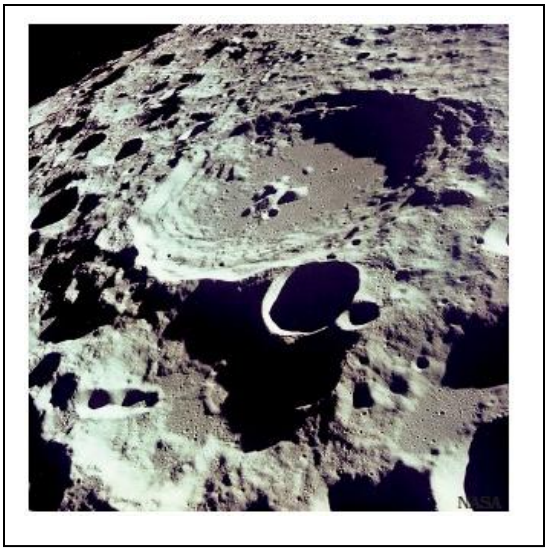


Fig. Surface of moon

NOTE: On July 21, 1969 (Indian time) the American astronaut, Neil Armstrong, landed on the moon for the first time followed by Edwin Aldrin.

Fig. An astronaut on the moon

Assignment 4

1. The first of a month is the new moon day. On fifteenth of the same month, which of the following figures would represent the phase of the moon?

(a) 

(b) 

(c) 

(d) 

2. Phases of the moon occur because

(a) we see only that part of the moon which reflects light towards us.

(b) our distance from the moon keeps changing.

(c) the shadow of Earth only covers a part of moon's surface.

(d) the thickness of the moon's atmosphere is not constant.

Answer the following:

1. Can u hear on the surface of the moon? If not, why?
2. Explain various phases of the moon.
3. What is a lunar month?

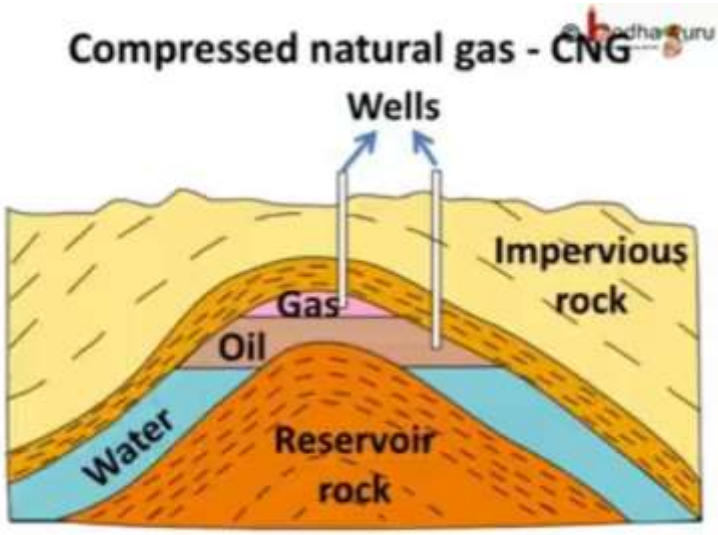
Note: Answers will b uploaded with 3-4days

CLASS – VIII
CHEMISTRY
CHAPTER – 5
COAL AND PETROLEUM

POINTS TO REMEMBER

Petroleum

Petroleum was formed from organisms living in the sea. As these organism died, their bodies settled at the bottom of the sea and got covered with layer of sand and clay. Over millions of year, absence of air, high temperature and high pressure transformed the dead organisms into petroleum and natural gas.



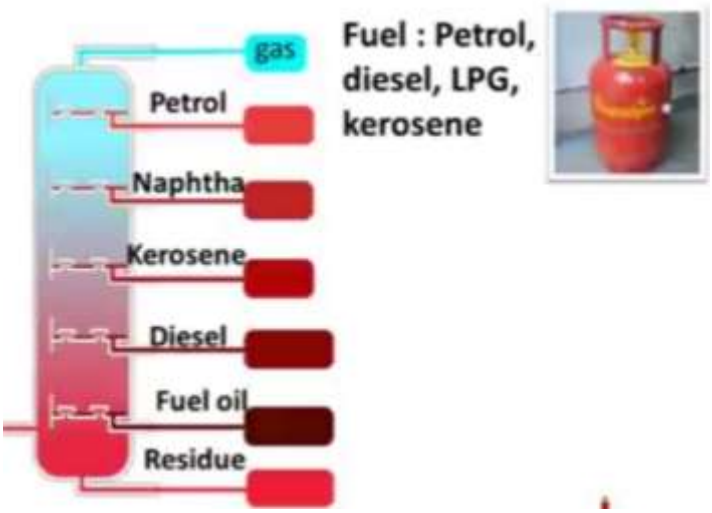
Petroleum and Natural Gas deposits

Refining of petroleum

Petroleum is a dark oily liquid. It has an unpleasant odour. It is a mixture of various constituents such as petroleum gas, petrol, diesel, lubricating oil, paraffin wax, etc.

The process of separating the various constituents/fraction of petroleum is known as refining. It is carried out in a petroleum refinery.

PETROLEUM REFINING



Various constituents of petroleum and their uses

1. Petroleum gas in liquid form (LPG) – fuel for home and industry
2. Petrol – motor fuel, aviation fuel, solvent for dry cleaning
3. Kerosene – fuel for stoves, lamps and for jet aircrafts
4. Diesel – fuel for heavy motor vehicles, electric generators
5. Lubricating oil – lubrication
6. Paraffin wax – ointment, candles, Vaseline, etc.
7. Bitumen - paints, road surfacing

Natural gas

Natural gas is stored under high pressure as compressed natural gas.

Uses of CNG (Compressed Natural Gas)

CNG is used in power generation as a fuel for transport vehicles because it is less polluting. It is a cleaner fuel.

Some tips from the petroleum conservation research association (PCRA)

- Drive at a constant and moderate speed as possible
- Switch off the engine at traffic lights or at a place where you have to wait
- Ensure correct tyre pressure
- Ensure regular maintenance of the vehicle

CHAPTER 5
COAL AND PETROLEUM
ASSIGNMENT – 2

1) What are the advantages of using CNG and LPG as fuels?

2) Fill in the blanks

a) Fossil fuel are _____ ,_____ and _____

b) Process of separation of different constituents from petroleum is called _____

c) Least polluting fuel for vehicle is _____

3) Explain why fossil fuel are exhaustible natural resources?

4) Explain the process of formation of petroleum.

5) Name the constituent of petroleum

a) Which is used for making ointments and candles.

b) Which is used in heavy motor vehicles.

c) Which is used as a fuel for home and industry.

6) Write the full form of PCRA and the tips given by PCRA to save environment.

7) Draw the labelled diagram to show petroleum and natural gas deposits.

Class VIII (computers)

INTRODUCTION TO COMPUTERS : NETWORKING

Computer networks have shrunk the world and brought people together. They have extended the power of a computer beyond the expanse of a room. Advancements in networking techniques, protocols and so on have made a profound impact in areas of communication and learning. The size of computer networks may vary. The Internet is an example of a computer network that spreads all across the world. The Internet is also referred to as the worldwide network of computers and it is growing at a rapid rate.

A computer network consists of two or more computers that are linked in order to share resources such as printers, exchange files and allow communication.

NEED FOR COMPUTER NETWORKS

Nowadays, computer networks are a vital part of any organisation. Some of the advantages of computer networks are:

- **Resource Sharing:** All computers in a network can share resources such as printers, fax machines, modems and scanners.

- **File Sharing and Remote Database Access:** A computer network allows sharing of files and access to remote database. We can easily access the files stored on various computers on a network. Also, networking allows many people to work simultaneously on the data stored in a database.

- **Ease of Communication:** Computer networks allow people to communicate through emails and instant messaging facilities. This makes the transmission of information easier, more efficient and less expensive.

TYPES OF COMPUTER NETWORKS

The following are the types of networks based on the geographical area covered or scale of the network.

Personal Area Network (PAN):

A PAN is a computer network organised around a person. It is used for communication between devices such as phones, personal digital assistants, printers and laptops that are in close proximity. We can use these networks to transfer files and photos between the various devices

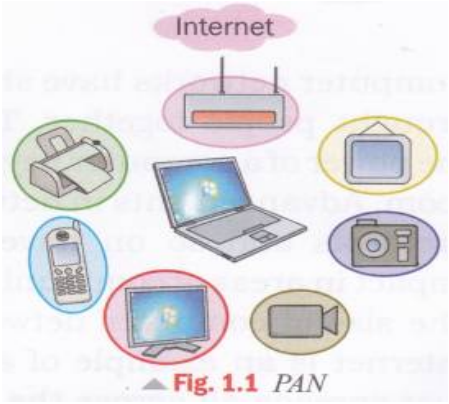


Fig. 1.1 *PAN*

Local Area Network (LAN):

A LAN is a computer network that is limited to a local area such as a laboratory, a school or an office building. Cables (wires) or low-power radiowaves (wireless) are used for the connections in a **LAN**. A wireless LAN (or **WLAN**) is also sometimes called **LAWN** (Local Area Wireless Network).

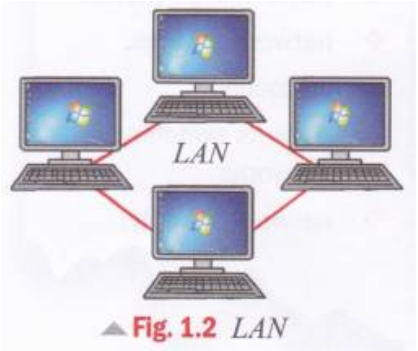


Fig. 1.2 *LAN*

Campus Area Network (CAN):

A CAN is a computer network that connects multiple local area networks (**LAN**) in a limited geographical area. A **CAN** is smaller than a wide area network (**WAN**) or metropolitan area network (**MAN**). It can be set up by a college, company and so on.

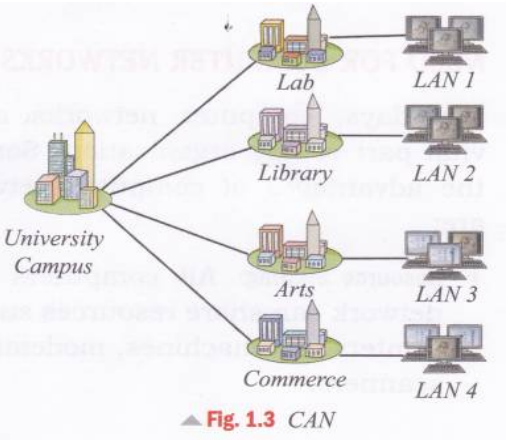


Fig. 1.3 CAN

Metropolitan Area Network (MAN):

A MAN is a computer network that usually covers a larger area than a LAN. For example, a network that connects two offices in a city, a neighborhood area and so on.

Wide Area Network (WAN):

A WAN is a computer network that spans a wide geographical area. A WAN may be spread across cities, countries and continents. A WAN is formed by connecting LANs and MANs. Computers or networks across long distances are usually connected with optical fibre cables, satellite radio links or microwave radio links.

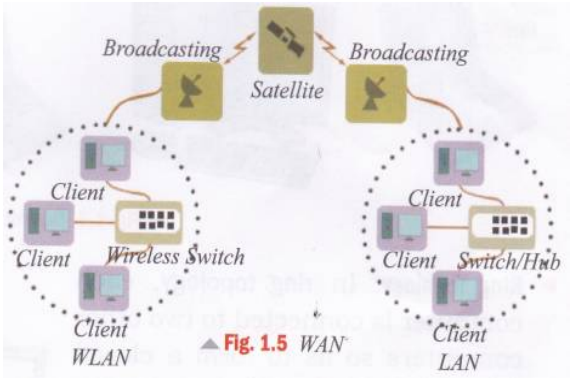


Fig. 1.5 WAN

NETWORK TOPOLOGIES

Topology refers to the layout pattern in which various computers are connected to one another to form a network. The computers on a network are also referred to as nodes.

Bus Topology: In bus topology, all the computers are connected to a single cable called the bus The transmission of data from any computer travels through the length of the bus in both the directions and can be received by all other computers on the network.

The advantage of the bus topology is that it is quite easy to set up.

However, a network cannot function if there are breaks in the bus.

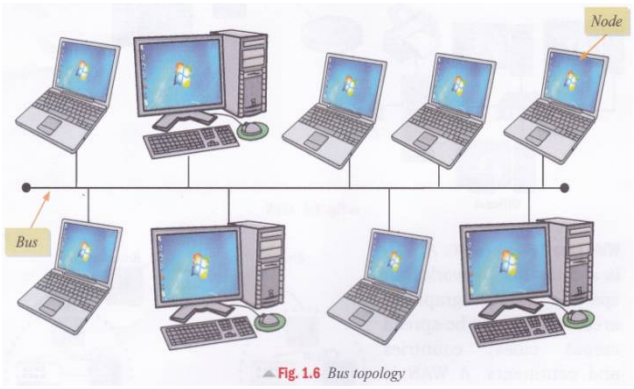


Fig. 1.6 *Bus topology*

- **Ring Topology:** In ring topology, each computer is connected to two other computers so as to form a closed ring-like structure In this topology, data is transmitted in one direction only.

  The disadvantage of the ring network is that the breakdown of any one computer on a ring can disable the entire system or network.

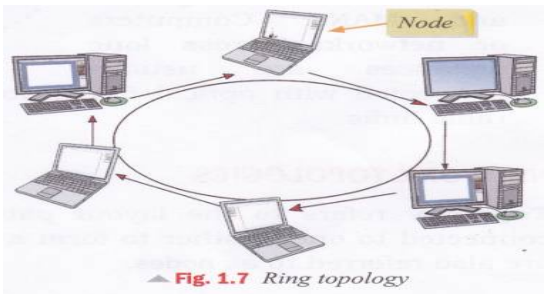


Fig. 1.7 *Ring topology*

Star Topology: In star topology, all the computers are connected to a central computer or a central node called Server. The data to be exchanged between any two computers passes through the central node. The central node controls all the activities of the nodes. More computers can be easily added to the network.

The breakdown of computers, except the central node, does not affect the functioning of the network.

However, the failure of the central node disables the communication across the entire network.

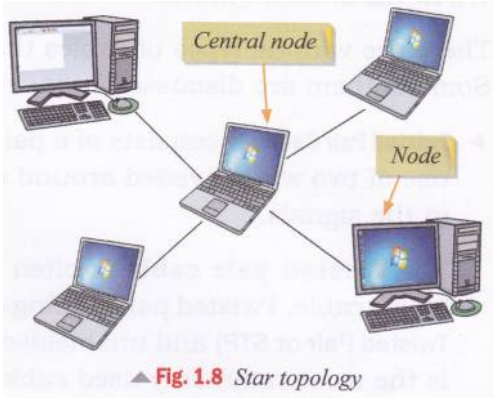


Fig. 1.8 *Star topology*

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Questions / Answers

Q.1 What is a computer network?
Ans.A computer network is a collection of computers and peripheral devices connected by communication links.

Q.2What is a Workstation?
Ans.When we connect our computer to a network using a cable or other communication media then that computer becomes a workstation on the network.

Q.3 What is a topology?
Ans. The way in which the nodes of a network are linked together is called topology -

Q.4What are the basic types of topologies?
Ans.There are three basic topologies: -
1.) Star topology 2.)Ring topology 3.)Bus topology.

Q.5 What is a node?
Ans. A node is a computer or any other device on a network that communicates with other devices.

Q.6 Differentiate between LAN and MAN.
Ans. **LAN**: - A Local Area Network (LAN) is the most common type of a network. A LAN connects computers and devices located close to one another, such as in one building. Usually this type of network doesn't consist of more than 100 computers. For example, computers connected in an office.

MAN: -A Metropolitan Area Network (MAN) is also a collection of Local Area Networks. MAN connects computers in the same geographical area such as a city or a town. For example, branches of a local bank in a city.

Q.7 Name the hardware parts required to establish a network.
Ans. Computer networks require at least the following hardware: -
1)Computers 2) Cables 3) Connectors 4) Network Interface Card
5) Hub/Switch.

Q.8 Write any three benefits of a network?
Ans. Three benefits are: -

1. **Sharing Resources: -** Computers connected to a network can share equipments and devices including Printers and Hard drives called resources.
2. **Work from Home: -** The network computers allow people to connect to the company's network using a modem. Once users are connected to the network, they can work with any data available onthe network.
3. **Ease of access: - The** network stores most of the information on a central computer. Storing information on one Or two central computers make it easy for people to work with and manage their files.

Q.9 Write the advantages and disadvantages of the following.
1.) Ring Topology 2.)Star Topology 3.) Bus Topology

Ans. **Ring Topology**:

Advantages

- The ring topology works well where there is no central-site computer system.
- It is more reliable than star topology

Disadvantages

- The ring topology requires more complicated control software.
- Failure of one node results in the failure of the entire network

Star Topology: -

Advantages

- Star topology has minimal line cost.
- If any of the local computer fails, the remaining portion of the network remains unaffected.

Disadvantages

- The system crucially depends on the central switch.
- If central computer fails, the entire network goes down.

Bus Topology: -

Advantages

- It is quite easy to set up
- Failure of one node doesn't affect the rest of the network

Disadvantages

- It offers limited flexibility for change.
- A signal on the bus must be strong enough to reach the receiver

ST GREGORIOS SCHOOL,DWARKA

CLASSVIII- MATHS WORKSHEET(2)

SQUARE AND SQUARE ROOTS (IN CONTINUATION OF PREVIOUS WORKSHEET)

Dear Students,

I hope you must have learnt the square of first 30 natural numbers.

In today's worksheet, we will learn the following. Please go through solved examples of NCERT textbook (which can be downloaded)for the following concepts.

1) Square of numbers without actual multiplication

2) Pythagorean triplets.

3) The concept of square roots

4) Square root by prime factorisation method

5) To make a perfect square by multiplication method and division method.

SQUARE OF NUMBERS WITHOUT ACTUAL MULTIPLICATION

EXAMPLE 1

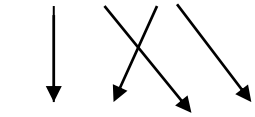
24^2=576

Now without actual multiplication we will find the square of 24

24=20+4

$(24)^2 = (20+4)^2$

=(20+4)(20+4)



=20(20+4) +4(20+4)

=400+80+80+16 (USING DISTRIBUTIVE LAW)

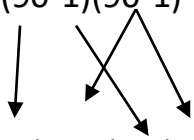
=576

EXAMPLE 2

89=90−1

$(89)^2 = (90-1)^2$

= (90-1)(90-1)



=90(90-1) -1(90-1) (USING DISTRIBUTIVE LAW)

= 8100-90-90+1

=8100 -180+1

= 8100-179

= 7921

PYTHAGOREAN TRIPLETS

Any three numbers are called Pythagorean triplets if they obey PYTHAGORAS THEOREM.If m , n,o are Pythagorean Triplets then $(m)^2=(n)^2+(o)^2$

EXAMPLE 1 : 3,4,5 are called Pythagorean Triplets because

$(5)^2 = (4)^2 + (3)^2$

25=16+9

HOW TO FIND PYTHAGOREAN TRIPLET IF ONE MEMBER IS GIVEN

Question 1) Find the Pythagorean Triplet whose one member is 4

STEP 1) Equate 4 to 2m

2m=4

m=2

STEP 2) Put the value of "m " in the expression (m^2+1)

(m^2+1)

$= (2)^2 +1$

$=5$

STEP 3) Put the value of "m" in the expression (m^2-1)

(m^2-1)

$=(2)^2-1$

$= 3$

Hence 3,4,5 are called PYTHAGOREAN TRIPLET

THE CONCEPT OF SQUARE ROOT

1) The symbol of square root is $\sqrt{}$.

2) If 9 is the square of 3 ,then the square root of 9 which is written as $\sqrt{9}=3$

3) If 484 is the square of 22 , then $\sqrt{484}=22$

To find SQUARE ROOT of any number using PRIME FACTORIZATION

EXAMPLE 1:- Find the square root of 144 by prime factorization

2	144
2	72
2	36
2	18
3	9
3	3
	1

so the prime factorization of 144 is

144= 2x 2x2x2 x 3 x3

Make pairs of the factors

so $\sqrt{144}$ =2x2x3

=12

EXAMPLE 2 : Find the square root of 1764 by prime factorisation

2 | 1764	
2 | 882	
3 | 441	so the prime factorisation of 1764is
7 | 147	1764= 2x2x3x7x3x7
3 | 21	=2x2x3x3x7x7 (make pairs)
7 | 7	=2x3x7
1	=42
	So $\sqrt{1764}$ =42

HOW TO MAKE A PERFECT SQUARE USING MULTIPLICATION METHOD

Q1: Is 162 a perfect square ? if not, make it a perfect square by multiplication method?

2 | 162	
3 | 81	162= 2x3x3x3x3
3 | 27	= 2 x 3x3 x3x3 (make pairs)
3 | 9	2 does not have a pair.So 162 ,if multiplied
3 | 3	by 2 will become a perfect square
1	162x2=324,which is a perfect square
	$\sqrt{324}$ =18

How to make a perfect square using division method

Q1: Is 162 a perfect square ? if not, make it a perfect square by division method?

2	162
3	81
3	27
3	9
3	3
	1

162= 2x3x3x3x3

= 2 x 3x3 x3x3 (make pairs)

2 does not have a pair. So if 162 ,is divided by 2 ,it will become a perfect square. 162÷2=81, which is a perfect square.

$\sqrt{81}$ =9

ASSIGNMENTS:

Q1:- Find the square root by prime factorisation method?

1) 15625 2) 196 3)7744 4) 2304 5)9604

Q2:- Is 1008 a perfect square? If not, find the smallest number by which it should be multiplied so that the product is a perfect square.

Q3:-Find the smallest number by which 2028 should be multiplied so that the product becomes a perfect square. Also, find the square root of the square number so obtained.

Q4:- Find the smallest number by which 2925 should be divided so as to get a perfect square. Also, find the square root of the number so obtained.

Q5:- Find the Pythagorean Triplet whose one member is

1)8 2)12 3)14 4) 6

Q6:- Solve the following:-

1) $\sqrt{441} + \sqrt{529}$

2) $\frac{\sqrt{400}}{\sqrt{625}}$ 3) $\sqrt{196}$ x$\sqrt{169}$

Solve exercise 6.2 and 6.3 of NCERT Textbook (which can be downloaded)in any copy.

St Gregorios School

Class :VIII

Subject :English

Topic : Preposition

Preposition: A preposition is a word placed before a noun, pronoun or gerund. It denotes the relation of the person or thing with something else.

Eg- The food is on the table.

In this sentence, **on** shows the relation between the nouns **table** and **food.**

Q1. Complete the paragraph using suitable prepositions.

Hand drumming can alter your response to stress (a)___a genomic level. Playing a hand drum engages the creative and intuitive right side (b)____your brain and shifts the pressure (c)_____the critical thinking left brain. So ,(d)____an intense day (e)___work, the drum can physiologically relax and refuel you (f)___the next day.

Q2. Fill in the blanks using suitable prepositions.

1. The plane is visible just _____the clouds.
2. What time does the train _____Jaipur arrive at New Delhi station?
3. The girl who is standing ____ the house is known to me.
4. Make no mistake _____ this man, he is a wonderful person.
5. Many shops don't open _____ Sundays.
6. Latha had promised to be back ____ 5 o'clock.
7. Sameer made amends _____his rude behavior by apologizing in front of her.

Topic: Articles

Articles: We use the articles **a**, **an** and **the** before nouns to specify what exactly the noun refers to. Articles can be classified into two categories –indefinite and definite. **A** and **An** are called indefinite articles. They are used to refer to a person or a thing in general. They are used before singular countable noun. The definite article **the** refers to a particular person or thing. It can be used with both singular and plural nouns and also with uncountable nouns.

Eg. I met **an** old woman yesterday.

The old woman I met yesterday lives in my locality.

Q1. There is an article missing in each line. Put a slash(/) where the article should be inserted and write it down in the space provided.

One evening, my mother and I were sitting on couch. 1._____

We were talking about book which mother was reading 2._____

at that time. Suddenly , strange sound came from 3._____

kitchen. I started sweating. In my fear, I asked 4._____

mother, 'Is it alien?' My mother laughed and said, 5._____

'Let's find out what it is.' As we reached kitchen area, 6._____

I closed my eyes. Then, I heard familiar sound of my mother's 7._____

joyful chuckle. 'See, we have uninvited visitor.' I opened 8._____

my eyes to naughty monkey, staring at us. 9._____

Q2. Fill in the blanks with the articles –a, an or the.

The B M Birla Science Museum in Hyderabad was inaugurated in September 1985 by _____ late Chief Minister of _____state. _____ museum has _____ planetarium with _____ latest and _____ most trendy equipment ._____planetarium offers _____ virtual tour of _____ stars and _____ solar

system._____ experience transports _____ visitors into ___ new world, as they watch _____ large dome of _____open sky ,full of shining stars looking upon them._____ newest addition to the planetarium is _____ Dinosaurium. It is _____unique Natural History gallery.

CLASS VIII
CIVICS
Chapter-1
THE INDIAN CONSTITUTION

CONSTITUTION:

A constitution is an important document laying down the fundamental principles of a country. The country is governed by these principles. It lays down ideals the people want their country to seek and uphold. Our Constitution was drafted by the Constituent Assembly and came to effect on the 26th of January 1950, a day selected for its historical significance because at the Lahore Session in December 1929 it was decided that 26th of January would be celebrated as the day of 'Purna Swaraj' or complete Independence.

IMPORTANCE OF OUR CONSTITUTION:

- Our Constitution contains valuable information regarding the structure of the country's polity, organs of the government and their duties and responsibilities.
- Our Constitution regulates the relationship between the various organs of the government as well as between the citizens and the government.
- Our Constitution has a system of 'checks and balances' that prevents misuse of power vested in the government.
- In a country like India which has a diverse population it is important to protect the rights of the minorities. Our Constitution guarantees certain rights to the minoritiesto protect them against the oppression by the majority.
- Our Constitution also guarantees certain Fundamental Rights to the citizens in order to protect them against any injustice by the government.
- Our Constitution also ensures that people do not act in any way that goes against the larger interests of the country.

NEED FOR LAWS:

- Laws are meant for the welfare and security of the people. They serve as a means of bringing about social change and establishing an egalitarian society, where all the citizens are granted equal political, economic, social and civil rights.
- In a traditionally diverse society like India, which is plagued by social evils , even today, the need for laws becomes even more important.
- These laws not only allow the government of a country to rule efficiently but also ensure people enjoy the rights and freedom guaranteed to them.
- Over the years , The Indian Constitution has been amended several times as and when the need for new laws or changing existing laws arose.
- When the Constitution was adopted , it had 395 Articles and 8 Schedules. Now it has 448 Articles , 12 Schedules and 101 Amendments.
- An Amendment is defined as a change in the provisions of the constitution through an Act. Amendments have to be passed by both the Houses of the Parliament and must be approved by the President.

THE CONSTITUTION OF INDIA:

- Colonial rule and policies had convinced our people that a free India should be based on the ideals of democracy , where all people were treated equally and participated in the government.
- For this, our leaders needed to figure out how a democratic government was to be established and the rules it would have to abide by.
- In December 1946, a Constituent Assembly was set up to draft a Constitution for India. Around 300 members of the assembly

met over the next three years to discuss the features of the Constitution.

- Framing a Constitution for such a diverse people, ensuring national unity, socio-economic development and a democratic government was a tough task .
- But the leaders managed to draw up a document that covered all these goals. In November 1949, the drafting committee headed by B.R. Ambedkar finalised the Constitution that came into effect on the 26th of January,1950.

FEATURES OF THE INDIAN CONSTITUION:

- India has the longest written and the most detailed Constitution in the world. In order to give the people of India the best possible Constitution, the framers of our Constitution studied and incorporated the best features of various constitutions of the world.
- The Constitution of India begins with a Preamble, an introduction which tells us about the ideals the nation aspires towards.
- According to the Preamble, India is a Sovereign, Socialist, Secular, Democratic Republic that ensures Justice, Liberty and Equality among its people and promotes Fraternity.
- SOVEREIGNTY is the freedom to govern oneself within a territory and to be free from any external control.
- SOCIALISM means that everyone must enjoy social and economic equality. Under social equality everyone must have equal status and opportunities. Economic equality refers to equitable distribution of wealth and a decent standard of living for all. This is especially important for development in an unequal society like ours where the gap between the rich and the poor keeps broadening and prevents many people from receiving good education , which in turn prevents them from

getting well-paid jobs and they are caught in a vicious circle of poverty.

- SECULARISM is when there is no state religion and all religions are treated equally. The Constitution guarantees the Right to Freedom of Religion as a Fundamental Right which allows freedom to profess, propagate and practice any religion. Hence every religious group in India can practice and propagate its faith .
- PARLIAMENTARY FORM OF GOVERNMENT: (DEMOCRACY) This is one of the most important features of our Constitution. This refers to the government wherein people have the power to vote and elect their representatives to the government and these representatives then make laws on behalf of the people. In India, citizens who are 18 yrs and above have the right to vote, known as Universal Adult Franchise. Elections are held every Five years and if the people are dissatisfied with the government , they can vote it out. Thus the ultimate power lies in the hands of the people.
- FEDERALISM: India has a federal form of government , which means that our country is governed at three levels, i.e.at the centre, the state and at the local level. The President is the Constitutional Head of our country and the Prime Minister heads the government at the centre and the Parliament makes laws for the country. At the State level, the Governer is the nominal head while the Chief Minister heads the government.The third tier i.e. Local self-government in India is a form of government below the level of state ,in urban areas run by Nagar Palika and in rural areas run by Panchayati Raj . The powers and functions of all the three levels have been clearly defined by the Constitution.
- SEPARATION OF POWERS: The Constitution of India lays down three organs – The Legislature, The Executive, The Judiciary and their functions.The Legislature is that organs that makes

laws foe the country; the Executive is the organ that is responsible for implementing the laws; and the Judiciary helps uphold the laws.' Separation of Powers' means the three organs function independently of each other ensuring a check on each other thereby preventing misuse of power.

INDIA IS A DEMOCRATIC REPUBLIC:

A Democratic Republic refers to a government chosen by the people. Thus, the government is answerable to its people. Political democracy grants equality to everyone regardless of caste, creed, sex, religion or wealth.

The term Repubic means that the head of the state shall not be a hereditary head, but will be chosen by the people through an election. In a republican form of government , the head is elected for a certain period of time, for example in India, The President is elected for term of Five years .

As a republic, India aims to secure Justice, Liberty, Equality and Fraternity to all its citizens.

- JUSTICE implies that the individualshould get what is due to him/her, also setting right whatever is wrong.
- LIBERTY indicates absence of any subjective restraints on individual freedom foe her/his holistic development.
- EQUALITY means all people are born equal and have equal opportunities.
- FRATERNITY indicates the spirit of brotherhood which is essential to maintain the unity of the nation.

FUNDAMENTAL RIGHTS AND DIRECTIVE PRINCIPLES OF STATE POLICY:

Fundamental Rights are enshrined in Part III of Our Constitution and the are justiciable, which means that if they are interfered with of violated, a person can move court of law foe remedy.

The Fundamental Rights, however, are not absolute, i.e. in case of any external aggression or internal threat, The Fundamental Rights, except Right to Life and Liberty are suspended. Thus, Our

Constitution attempts to strike a balance between individual liberty and social control.

The Six Fundamental Rights are: Right to Freedom, Right to Equality, Right against Exploitation, Right to Freedom Of Religion, Cultural and Educational Rights and Right to Constitutional Remedies. Some Rights have been added with change in times and the need of the society like Right to Life, Right to Information and Right to Education etc.

Directive Principles are guidelines given to the government in Part IV of Our Constitution, to ensure the welfare of the people. These are principles to promote a just social order. The Supreme Court refers to these Directive Principles as the 'conscience of the Constitution'. It is essential that the government follows these principles in administrative and legislative matters.

FUNDAMENTAL DUTIES:

Rights cannot exist in isolation as rights and duties go hand in hand. People will understand the value of rights only if they are under the obligation to perform certain duties.

The 42nd Amendment Act of 1976 added some responsibilities of citizens to our Constitution called Fundamental Duties.

The Fundamental Duties are as follows:

- We should show respect to our national symbols like the National Flag and the National Anthem.
- We must respect the ideals that inspired our national leaders during the national movement (democracy, non-violence, secularism) and follow them in our daily lives.
- We must do all that we can to protect the sovereignty, unity and integrity of our country.
- Whenever required, we should be prepared to show our patriotism by defending our country.

- We should promote harmony and brotherhood among people by giving up differences based on religion, language and region.
- We must take care of public property.
- We must preserve our natural environment such as forests, rivers, lakes and wildlife from destruction and degradation.
- We must develop scientific attitude and discard superstitious beliefs.
- We must not follow harmful social practices such as dowry, alcoholism, drug addiction and gambling.
- We must value and preserve our rich cultural heritage.
- It is the moral duty of all parents and guardians to send their wards to school.

  We must realize that the feeling of responsibility towards these duties will help to strengthen our democracy and lead our country toward progress and prosperity.

ANSWER THE FOLLOWING:

Q1. Why was the Constituent Assembly formed? Who headed it?

Q2. What is a constitution? Why do we need to have a Constitution?

Q3. Why are Laws essential? With the help of an example from any one recent situation, explain that people can oppose laws that seem ‘unjust’ for few.

Q4. What is an amendment? Why are amendments made in the Constitution?

Q5. Write down the features of all the Six Fundamental Rights guaranteed by our Constitution.

Q6. Explain the difference between Separation of Powers and Federalism.

Q7. Explain the importance of The Right To Constitutional Remedies.
Q8. Why do you think the Constitution decides the type of government a country will have?
Q9. Why are Fundamental Duties and Directive Principles important?
Q10. It is sometimes said that ‘economic equality’ should precede ‘political equality’. Explain what it means.

NOTE: ANSWERS WILL BE UPLOADED IN 3….4 DAYS TIME.