



Study Material for Class 6th

SCIENCE

CHAPTER:- MOTION

Lesson No.:- 12

- **MOTION**:- An object is said to be in motion when its position changes with respect to its surroundings as the time progresses.
- **REST**:- An object is said to be at rest, when its position does not change with respect to its surroundings as the time progresses.

Q.1. Why are motion and rest called relative terms ?

Ans:- An object be at rest with respect to one reference point and in motion with respect to another at the same time. For example : Two persons sitting in a moving bus are at rest with respect to each other, but the same two people are in motion with respect to the objects in the surroundings outside the bus. Hence, motion is a relative rather than an absolute term, and the states of rest and motion are relative.

TYPES OF MOTION:-

- ✓ **TRANSLATORY MOTION**:- The motion in which a body moves as a whole and every point on it moves the same distance is called translator motion. (OR) The motion of a body at any instant when all points within the body are moving at any equal distance with equal time interval is called translator motion.

Example:- a) The motion of a moving car.
b) An apple falling from a tree.
c) A ball sliding down a slope.

Translatory motion is of two types:-

a. Rectilinear Motion.

b. Curvilinear Motion.

- a. **Rectilinear Motion**:- The movement of a body along a straight line is called rectilinear motion.

Example:- 1. Motion of a car along straight road.
2. Movement of a bullet fired from a gun.

3. Falling of a stone.

b. Curvilinear Motion:- The movement of a body along a curved path is called curvilinear motion.

Example:- a) Woman walking along a curved path .

b) Throwing of a ball.

c) Motion of a pencil while drawing a circle.

✓ **ROTATIONAL MOTION**:- When a body rotates (spins) about a fixed axis without changing its position , it is said to exhibit rotational motion.

Example :- a) Motion of a ceiling fan.

b) Spinning of a top.

c) Movement of earth about its axis.

✓ **CIRCULAR MOTION**:- When an object moves along a circular path , it is said to exhibit circular motion.

Examples:- a) Movement of the Moon around the Earth .

b) Movement of earth around the Sun.

c) Motion of athlete running on a circular track.

✓ **OSCILLATORY MOTION**:- 1. The to and fro movement of a body about a fixed point (often referred as mean position) along the same path is termed as an oscillatory motion.

Example: a) Movement of a pendulum.

b) Swinging of a bell.

c) motion of a swing.

✓ **PERIODIC MOTION**:- Motion which repeats itself after a fixed or regular interval of time is termed as periodic motion.

Example: a) Motion of second hand of a watch.

b) Motion of the needle in a sewing machine.

c) Rotation of earth in its axis.

✓ **COMBINED MOTION**:-

In many objects , more than one type of motion can be observed , I.e; different kinds of motion exhibit in combination with each other.

A few examples are given below:-

- ❖ In a swing machine, the wheel executes rotational motion while its needle moves up and down in linear motion. However, both the motions are periodic motions.
- ❖ Earth revolves around the Sun in a circular path so it shows periodic as well as circular motion.
- ❖ The wheel of a moving car rotates as well as moves forward, thus exhibiting both rotational as well as linear motion.

Questions:- What is the difference between rotational motion and circular motion ? Explain with examples?

Answer:-

ROTATIONAL MOTION	CIRCULAR MOTION
1. When a body rotates (spins) about a fixed axis, it is said to exhibit rotational motion.	1. When an object moves along a circular path, it is said to exhibit circular motion.
2. The position of the body does not change.	2. The position of the body itself keeps changing with time.
3. The body has no translational motion.	3. The body exhibits translational Motion.
4. <i>Examples:-</i> a) motion of a ceiling fan. b) Spinning of a top.	4. <i>Examples:-</i> a) Movement of the moon around the earth. b) Motion of athlete running on a circular track.

CHAPTER:- FOOD

Classification of Vitamins :-

Vitamins are classified into two groups:-

1. Fat soluble vitamins:-

Fat soluble vitamins are soluble in fats and fat solvent. They are soluble in water Vitamin A, D, E and K.

2. Water soluble Vitamins :-

Water soluble vitamins are soluble in water, so they can't be stored in the body. Vitamin B and Vitamin C are water soluble vitamins.

Vitamins and their scientific names:-

- | | |
|----------------------------|------------------|
| 1. Vitamin A | Retinol |
| 2. Vitamin B ₁ | Thiamine |
| 3. Vitamin B ₂ | Riboflavin |
| 4. Vitamin B ₃ | Niacin |
| 5. Vitamin B ₅ | Pantothenic Acid |
| 6. Vitamin B ₆ | Pyridoxine |
| 7. Vitamin B ₇ | Biotin |
| 8. Vitamin B ₉ | Folic Acid |
| 9. Vitamin C | Ascorbic Acid. |
| 10. Vitamin D | Caciferol |
| 11. Vitamin E | Tocopherol |
| 12. Vitamin K ₁ | Phylloquinone |

TEXTUAL QUESTIONS

Q.1. What is the role of proteins in our body?

Ans:- Proteins are made up of Carbon , Hydrogen , Nitrogen , Oxygen , Sulphur and phosphorus. Proteins are body building food. They are essential for the growth and repair of the body tissues.

Q.2. What are deficiency diseases? What happens to children who do not get enough to eat?

Ans:- Diseases that are caused by the lack of some particular nutrient in a person's diet over a long period of time are called deficiency diseases. e.g , Night blindness due to deficiency of Vitamin A, Beri- Beri - Vitamin B deficiency etc. People who do not get enough to eat suffer from mal nutrition. A child in this condition becomes weak and thin. He shows poor growth compared to other children.

Q.3. Why is it important to include roughage in our diet?

Ans:- Roughage is the fibrous matter in food which cannot be digested. Its presence is essential in our food as mentioned below:-

- Roughage adds bulk to our food.
- It helps in regulating bowel movement.
- It helps our muscles to push the food through stomach and intestines.
- It helps to prevent constipation.

- It retains water in our body.

Q.4. What is balanced diet?

Ans:- A diet that consists of right amount of essential nutrients such as Carbohydrates, Proteins , Fats, Vitamins , Minerals , Roughage and water required by the body is called balanced diet. It is essential and vital for the optimal growth and development of the body.

ENGLISH

A very concise summary of the lesson **“Will the Pandas Disappear”** revolves around the magnificent and majestic animal. **“The Giant Panda”** and the poignant plight of these animals. It is elliptically clear from the lesson that we humans need to put in our efforts to save these endangered lots. The Giant Pandas have been living there on the earth for about 3 million years but now these endangered animals are on the verge of extinction because of human activities like clearing of forests for development, over grazing of animals and agricultural activities. We can find them only in the high forest areas in the mountains of south western China. Very soon, we will see only in pictures. They are the second most endangered animals of the world.

The writer of the lesson also tries to give a peep into the kind of habitat preferred by giant panda, their favourite food (Bamboo) , their qualities and their peace loving nature.

SUMMARY OF THE POEM “The Deer And The Hunter”

The poet very clearly and adeptly at the outset creates an atmosphere of awe and serenity.

In the very first stanza, poet describes the forest setting where in , the wind is behaving gently and whistling through the trees. It is a night scene as the stars are out and sky is dark and moon is casting its shadow. A passing reference is also given to the fresh, crispy snow lying on the ground.

Then the poet talks about the bob – tailed deer and the presence of hunter whose stomach hungers seeing the deer. The poet is successful in depicting the nervousness and excitement of the hunter on seeing the deer. The hunter then aims and pulls the trigger to kill the deer. The shot rings out very sickly. Now

coming to the last stanza, a reader gets trapped in the maze of uncertainty as to what happens to the deer.

HISTORY

CHAPTER 1:- “An Approach Towards The Past”

B) Short Answer Questions:-

Q.3. How did the Northern plains influence the history of India?

Ans. The Northern Plains have determined the development of India. The places along the rivers have developed faster than any other part of the country. Rivers were the main mode of travel. They provided the important resources of water and made the areas around them highly fertile.

Plains are among the most thickly populated regions in the world. This is because plains are formed by rivers are extremely fertile. It is also quite easy to construct buildings and lay transport network in the longer growing seasons in the plains also make them more suitable for habitation and farming.

C) Long Answer Questions:-

Q.2. How do historians find out about our past?

Ans) Historians find out about our past through two sources:-

- 1. Archaeological Sources (non- written):-** Archaeological Sources are “Direct” evidences. They have a significant effect on the writing of history. They cannot be changed or altered by human beings. They are physical evidences that are available. For example, Artifacts , Monuments, coins , Inscriptions etc.
- 2. Literary Sources:-** Records written by hand are called manuscripts. Whatever our ancestors wrote is an evidence in the form of written records. These are called literary sources. It is from these records our history is made as we know it today. Literary Sources may be divided into two types :- Religious Literature and Secular Literature.

Q.1. How does the study of history help us?

Ans. The study of history helps us for many reasons:-

- A) The study of history is important because it shows us how things that happened in the past have influenced our present and have the power to affect our future.
- B) We come to know about kingdoms, dynasties, kings and leaders by studying history. It also deals with the lives and activities of ordinary people.
- C) When we study history, we come to realize the mistakes committed by different people in the past. This is designed to help us avoid making the same mistakes.
- D) We can easily understand the basic nature of our society by studying history.
- E) We understand the continuous development of human beings by studying history. It includes the study of Literature, religion, art and architecture.

CHAPTER 2:- “The Stone Age and Earliest Societies”

B) Short Answer Questions:-

Q.3. Write a short note on the Paleolithic Age?

Ans. The word “Paleolithic age” comes from two Greek Words, palaeo meaning “old” and “lithic” meaning “stone”. The old stone Age marked a period of nomadic existence for humans. It roughly began around 500,000 BC and ended around 10,000 BC. During this stage, man lived as a hunter gatherer. This means that he dependent on two main things for survival a) hunting animals, b) gathering fruits, roots, seeds etc. This period is further sub_ divided into three phases on the basis of changes in climate and stone tools used.

- 1) Lower Palaeolithic or Early old stone Age.
- 2) Middle Palaeolithic or Middle old stone Age.
- 3) Upper Palaeolithic or Upper old Age.

C) Long Answer Question:-

Q.1. How did early humans make use of stones during the prehistoric period?

Ans. During pre historic period, humans made very crude tools with stone, wood and bones. They used these tools for hunting, removing hides of c. They attached stone to piece of bones or wood to make crude arrows, spears, or hammers and these were commonly used core tools. These tools were mostly used for hunting or digging.

Q.3. Why was the discovery of fire considered on important achievement?

Ans. Early man was aware that fire existed. He had seen fire caused by natural causes like lighting, sparks from falling rocks and overheating of forest by the sun's rays but they did not know how to light a fire on their own. In the later part, man learnt to light a fire by rubbing two stones together which happened to occur accidentally for the first time.

But the discovery changed their lives. They discovered that the flesh of animals tasted better when cooked on fire and learnt cooking. They saw that animals were scared away by fire and so they began lighting a fire at the entrance of their caves. Fire also kept them warm. So we can see why the discovery of fire is considered a big landmark in the history of human evolution.

CIVICS

CHAPTER 2:- “Diversity And Discrimination”

Short Answer Questions

Q.4. How can we co-exist in a society without any conflict?

Ans:- When we respect every individual, we can co- exist without any conflict. Everybody can use his or her skills and talents for the betterment of society. When people are discriminated against they tend to get aggressive and unhappy. This eventually affects the unity of the country.

Long Answer Questions:-

Q.1. What is a stereotype? What leads to its formation? What is the biggest disadvantage of stereotype?

Ans. A stereo type refers to a fixed image of people or a group on the basis of their religion , caste , wealth , language, etc.

Prejudice of ten leads the formation of stereotype. It is basically developing a dislike for people or seeing people as inferior without any reason. For example, if we say all tribals are uneducated , poor, dirty , and unintelligent or ball foreigners are beautiful , tall , and rich , we are stereotyping them.

The biggest disadvantage of a stereotype is that it tends to ignore the uniqueness of individuals. It leads to misrepresentation of reality and even causes clashes.

Q.3. How did the caste system bring inequality in our society?

Ans. Caste system traditionally divided the society into four castes _ Brahmputras , Kshatriyas , Vaishayas and Shudras. This division is based on occupation. In India , caste suste3m and the practice of untouchability have been a major source of discrimination. People belonging to low castes have traditionally suffered much humiliation at the hands of high castes, untouchables were involved or indulged in an unpleasant activities like washing and cleaning toilets, cutting hair , making pots , etc. Caste system gave rise to hatred and our society weakened. There has been a suppression of the lower castes. They have been kept away from the main stream. It was during the freed on struggle that it was realised that, this caste system divided all Indians.

GEOGRAPHY

CHAPTER 1:- “Our Earth and the Solar System”

Q.1. Write a short on the formation of the Universe?

Ans. The Universe is vast and limitless. It is also called space. All The heavenly bodies as well as dust and gases found in space are included in the Universe. Nobody knows exactly how the universe was formed. Most

astronomers think that the universe started with a very big explosion called Big Bang about 13.7 billion years ago.

Q.2. What are meteors and meteorites?

Ans. Some bright streaks of light moving across the sky with great speed. These are called meteors. They are also called shooting stars. Meteors are small pieces of rocks. Like many heavenly bodies, they also revolve around the Sun.

Sometime, meteors do not burn completely and fall on the Earth's Surface to create a large hollow or crater. Such fragments of rocks or metal that fall on the earth are called meteorites.

Long Answer Question:-

Q.1. Discuss the salient features of our planet Earth?

Ans. The Earth is the only Planet in the Solar System known to have life.

1. The Earth is at an optimal distance from the Sun. It gets just the slight amount of heat from the Sun about 14°C making it neither too hot nor too cold.
2. Water is essential for all forms of life. It is available on the Earth in all three forms – Solid (ice), Liquid (water), Gas (water vapour).
3. The Earth has enough oxygen gas in its atmosphere for the survival of living beings through breathing.
4. The Earth is surrounded by a blanket of air called Atmosphere. The Earth contains life sustaining gases such as oxygen, nitrogen, ozone, and carbon dioxide. The atmosphere also protect us from extreme temperature and harmful radiations from the Sun.