



CDT- 2 Materials

Class – IV

Subject – EVS and G.K.



1. ORGAN SYSTEM

The human body is made up of several organ systems that all work together as a unit to make sure the body keeps functioning. There are ten major organ systems in the body, each of which plays a different role in helping the body work.

An organ system is a group of organs that work together to perform a certain function in an organism's body. Most animals and plants have organs, which are self-contained groups of tissues such as the heart that work together to perform one function. Humans and other mammals have many organ systems. An example of an organ system is the circulatory system, which includes the heart, arteries, veins, and capillaries. The human body has 11 different organ systems.

Examples of some Organ Systems

Some of the human organ systems are:

- Skeletal
- Muscular
- Circulatory
- Respiratory
- Digestive
- Urinary

The Skeletal System: The skeletal system is made up of all the bones in the human body, i.e., the skeleton. The skeleton forms the supporting structure of the body. A human infant has 270 bones, some of which fuse together to form the 206 bones in the adult human body.

The Muscular System: The muscular system includes the different types of muscles in the body: cardiac, smooth, and skeletal muscles. Cardiac muscles are found only in the heart and contract to pump blood. Smooth muscles are found in organs such as the stomach, intestines, and bladder and move without conscious effort by the organism. Skeletal muscles are attached to bones and work together with bones to move the body.

The Circulatory System: The circulatory system, also known as the cardiovascular system, consists of the heart, veins, arteries, and capillaries. The circulatory system circulates blood throughout the body in order to transport nutrients and oxygen to the cells.

The Digestive System

The digestive system digests food and absorbs it into the body. It is made up of the gastrointestinal tract (which includes the esophagus, stomach, liver, and intestines) along with accessory organs of digestion. These include the tongue, liver, pancreas, and gallbladder.

The Respiratory System

The respiratory system is made up of the organs used for breathing, including the lungs, diaphragm, trachea, bronchi, and bronchioles. In the lungs, oxygen and carbon dioxide are exchanged between the outside air and the blood

The Urinary System

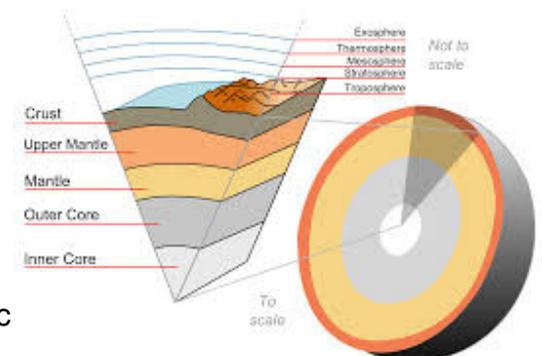
The urinary system gets rid of wastes from the body in the form of urine. The kidneys, ureters, bladder, and urethra are all part of the urinary system. Sometimes the organs of the urinary system are grouped together with organs that remove wastes such as the skin, lungs, and large intestine, and this is called the excretory system.

2. Layers Of The Earth

Earth is made up of three layers and each of these has different properties. These are the Crust, the Mantle and the Core. However, these layers are further broken down into sub-layers. The crust is made up of two sub-layers; oceanic crust and continental crust. The mantle is divided into two portions; upper mantle and lower mantle. Upper mantle is further subdivided into two layers; lithosphere and asthenosphere. The core consists of two regions; outer core and inner core.

1. The Crust: The outer layer

1. The outer layer of the Earth is called the crust.
2. It is a thin layer and it is composed of rocks.
3. The crust is further divided into two types: oceanic



2. The Mantle: The middle layer.

1. It is a solid and rocky layer.
2. The mantle layer is so huge that it consists more than 82 percent of the entire volume of the Earth.
3. The thickness of the mantle layer is almost 2,900 kilometers.
4. The mantle is made up of two portions; upper mantle and lower mantle

3. The Core: The inner layer (Outer layer and Inner layer).

1. The core is made up of iron and nickel alloys. In addition to these, there are some other elements that react with iron very quickly and develop into different compounds. These small amounts of elements are sulfur, oxygen and silicon.

2. There is a great pressure inside the core.
3. The core is further divided into two different parts: Outer Core and Inner Core.

4. The Outer Core

1. It is a liquid layer.
2. The thickness of outer layer is about 2,270 kilometers.
3. The magnetic field of the Earth is produced when the iron metal moves in the outer core. Therefore, this is actually the zone from where magnetic field originates.

5. The Inner Core

1. It has a higher temperature as compare to the outer core.
2. The iron exists in solid form in this core region. It is because of the great pressure at the center of the Earth.

3. Food

All living beings need food . They need food and oxygen to make energy in their bodies .This energy helps them to do all the things they do. Animals depend on plants and other animals for their food. Plants make their own food with the help of photosynthesis .So green plants are also called producers. We get most of our food from plants. They are; Pulses, Cereals, Fruits ,Vegetables, Oil, Sugar, Spices etc.

Some food items we also get from animals. Ex. Oil, eggs, poultry birds, fishes, milk and milk products etc. If we don't eat the right food, our bodies don't work as well as they can. Healthy food gives our bodies the tools they need to:

- Build bones and muscles healthy body
- Repair and replace worn out cells
- Keep all systems working
- Keep us healthy.
- Protect us from illness



The five food groups are:

- Vegetables and legumes/beans.
- Fruit.
- Lean meats and poultry, fish, eggs, tofu, nuts and seeds, legumes/beans.
- Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties.
- Milk, yoghurt, cheese and/or alternatives, mostly reduced fat.

It is really important that we give our bodies the right kinds of food or Balanced diet.

Balanced diet: Our diet should be such that it meets our nutritional requirements and thus helps us in staying healthy. In addition, it should provide for storage of some amounts of nutrients in the body so that the body can withstand short periods of low dietary intake. It is called a balanced diet. A balanced diet is one which contains different types of foods in such quantities that the individual's need for the various nutrients is adequately met, and some amounts of nutrients are stored in the body to enable it to withstand short periods of low dietary intake.

4. The earth and its movements

There are two important movements that affect the Earth. The first is the rotation of the Earth around an invisible axis. It takes the Earth about 24 hours to finish one complete rotation. The second important movement that affects the Earth is its revolution around the Sun.

Rotation of the earth:

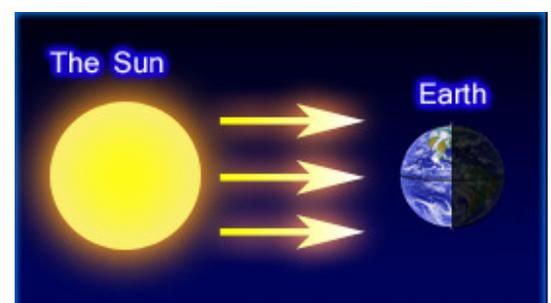
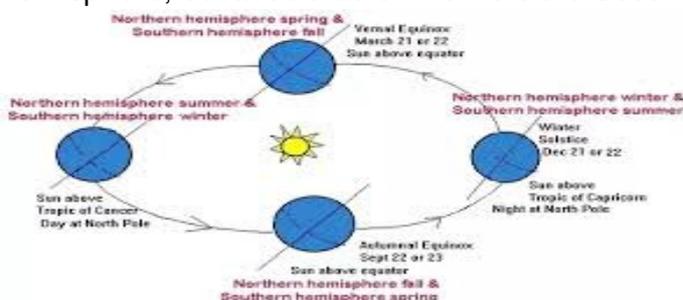
The Earth rotates on its axis from west to east. The axis is an imaginary line passing through the northern and the southern poles. Earth's rotation is completed in about 24 hours — this is called the daily motion of the earth. This motion is responsible for the occurrence of day and night.

- One rotation is completed when a given heavenly body crosses the observer's meridian two times in succession.
- As a result of the apparent motion of the sun, the appearance of the night sky as seen from the Earth changes from day to day. The stars rise every day, four minutes earlier than the preceding day. Also, every night, one degree of celestial sphere is added to the eastern sky while one degree is lost from the western sky.

Revolution of the earth:

The movement of the Earth around the sun in its orbit is called revolution. This movement of the earth is also from west to east. The period of revolution is one year (365 1/4 days). This type of movement of the tilted earth causes seasons on the earth. Sometimes it is the North Pole tilting toward the sun (around June) and sometimes it is the South Pole tilting toward the sun (around December).

It is summer in June in the Northern Hemisphere because the sun's rays hit that part of Earth more directly than at any other time of the year. It is winter in December in the Northern Hemisphere, because that is when it is the South Pole's turn to be tilted toward the sun.



5. Natural Resources

A natural resource is anything that people can use which comes from the natural environment. People do not make natural resources, but gather them. Examples of natural resources are air, water, wood, oil, wind energy, iron, and coal

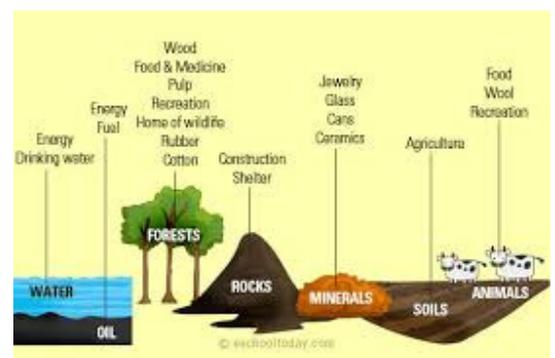
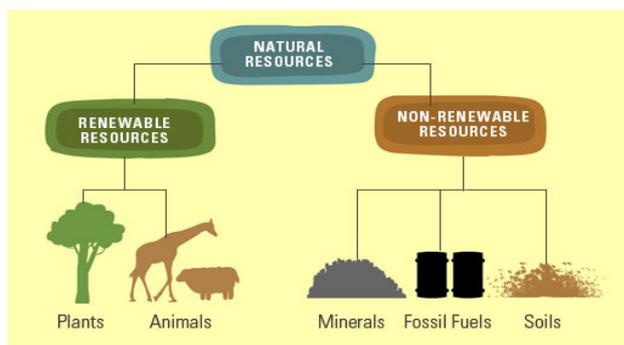
Natural resources are useful raw materials that we get from the Earth. They occur naturally, which means that humans cannot make natural resources. Instead, we use and modify natural resources in ways that are beneficial to us. The materials used in human-made objects are natural resources. Some examples of natural resources and the ways we can use them are:

Natural Resource	Products or Services
Air	Wind energy, tires
Animals	Foods (milk, cheese, steak, bacon) and clothing (wool sweaters, silk shirts, leather belts)
Coal	Electricity
Minerals	Coins, wire, steel, aluminum cans, jewelry
Natural gas	Electricity, heating
Oil	Electricity, fuel for cars and airplanes, plastic
Plants	Wood, paper, cotton clothing, fruits, vegetables
Sunlight	Solar power, photosynthesis
Water	Hydroelectric energy, drinking, cleaning

Biotic and Abiotic Natural Resources

There are several ways to classify natural resources, including where they come from and if they are renewable or not. If natural resources come from living things or organic materials, then they are considered biotic resources. Biotic resources include plants, animals, and fossil fuels. The three fossil fuels are coal, oil, and natural gas. Fossil fuels are classified as biotic resources because they were formed from the decay of organic matter over millions of years. On the other hand, abiotic resources originate from nonliving and inorganic materials. For example, air, sunlight, and water are abiotic natural resources. Minerals (gold, copper, iron, diamonds) are also considered abiotic.

Renewable and Nonrenewable Resources



Renewable resources are those that can be replenished during our lifetime, such as sunlight, wind, water, plants, and animals. The rate at which renewable resources are replenished may differ. For example, we will never run out of sun and wind in our lifetime because the Earth constantly supplies these resources.

Nonrenewable resource is a resource of economic value that cannot be readily replaced by natural means on a level equal to its consumption. Most fossil fuels, such as oil, natural gas and coal are considered nonrenewable resources in that their use is not sustainable because their formation takes billions of years. Biotic natural resources also include fossil fuels such as coal and petroleum which are formed from organic matter that has decayed. Abiotic: these resources come from non-living and non-organic material. Examples of these resources include land, fresh water, air, and heavy metals (gold, iron, copper, silver, etc.).

the term nonrenewable resource also refers to minerals and metals from the earth, such as gold, silver, and iron, which are similarly formed as a long-term result of geological processes such as plate tectonics. These resources are often costly to mine, as they are usually deep within the Earth's crust, but they are much more abundant than fossil fuels. Some types of groundwater are considered to be a nonrenewable resource, if the aquifer is unable to be replenished at the same rate at which it's drained. Also, nuclear materials such as uranium are nonrenewable resources.

6. Abbreviations and Acronyms.

<u>Sl.</u>	<u>Short form</u>	<u>Full form</u>
1.	AICTE	All India Council Of Technical Education.
2.	ASEAN	Association Of South East Asian Nations.
3.	BARC	Bhabha Atomic Research Centre.
4.	BHEL	Bharat Heavy Electricals Ltd.
5.	BIMSTEC	Bangladesh, India, Myanmar, Srilanka, Thailand Economic Cooperation
6.	CAG	Comptroller and Auditor General Of India.
7.	CBDT	Central Board Of Direct Taxes.
8.	DNA	Deoxyribo-nucliec Acid
9.	DTP	Desktop Publishing
10.	FIR	First Information Report
11.	GATE	Graduate Aptitude Test in Engineering
12.	GSLV	Geo-Synchronous Satellite Launch Vehicle
13.	GSM	Global System for Mobile Communications
14.	IPC	Indian Penal Code
15.	LASER	Light Amplification by Stimulated Emmission of Radiation
16.	NABARD	National Bank for Agriculture and Rural Development.
17.	NATO	North Atlantic Treaty Organization.

18.	ONGC	Oil and Natural Gas Corporation.
19.	SEBI	Securities and Exchange Board of India.
20.	WWW	World Wide Web

7.Books and Authors

<u>Sl.</u>	<u>Book</u>	<u>Author</u>
1.	Akbarnama	Abul Fazal
2.	Chitra	Rabindra Nath Tagore
3.	Gitanjali	Rabindra Nath Tagore
4.	Godan	Prem Chand
5.	Guide	R K Narayan
6.	Hamlet	William Shakespare
7.	Harvest	Manjula Padmanabhan
8.	Jungle Book	Rudyard Kipling
9.	Saket	Maithili Sharan Gupta
10.	The Dairy of a Young Girl	Anne Frank

8.Important dates and days.

<u>Sl.</u>	<u>Days</u>	<u>Event</u>
1.	January 30	Martyr's Day
2.	March 20	World Day for Water
3.	April 7	World Health Day
4.	April 22	Earth Day
5.	July 11	World Population Day
6.	August 29	National Sports Day
7.	September 15	Engineer's Day
8.	September 27	World Tourism Day
9.	October 9	World Post Day
10	October 16	World Food Day

9.Important awards and honours.

<u>Sl.</u>	<u>Awards</u>	<u>Concerned Field</u>
1.	Bhartaiya Jnanpith Award	Literary Award for Indian Languages
2.	Sahitya Akademi Award	Outstanding Literary Contribution
3.	Saraswati Samman	Outstanding Literary Contribution
4.	Kalinga Prize	Popularising Science
5.	Dada Saheb Phalke Award	Film
6.	Tulsi Samman	Traditional and folk arts.
7.	Arjuna Award	Sports
8.	Dronacharya Award	Coaches to different games
9.	Booker Prize	Novels in English
10	Roman Magsaysay Award	Outstanding Contribution to Public Services.

10.Scientific Instruments.

Some of the important scientific instruments are listed below.

<u>Sl.</u>	<u>Instruments</u>	<u>Uses</u>
1.	Altimeter	In aircraft to measure altitude.
2.	Ammeter	Electric current.
3.	Audiometer	Intensity of sound
4.	Barometer	Atmospheric pressure
5.	Cardiogram	Tracing movement of heart
6.	Dynamo	Mechanical energy to electrical energy
7.	Galvanometer	Small current
8.	Hydrometer	Specific gravity of liquids
9.	Lactometer	Purity of milk
10	Odometer	Electric or mechanical vibrations
11.	Rain gauge	Rainfall at a place
12.	Stethoscope	Movements and condition of heart and lungs.
13.	Telescope	To view distant objects.
14	Transformer	High voltage to low voltage and vice-versa.
15.	Xylophone	Musical instruments with tuned wooden bars of different dimensions.

Sample Questions

1. Which organ system in human body helps to get rid of waste in the form of urine?

- A. Digestive system
- B. Urinary system
- C. Respiratory system
- D. Circulatory system

2. In which of the following layers soil is present?

- A. Crust
- B. Mantle
- C. Core
- D. Inner core

3. A balanced diet should consist of:

- A. Both plant and animal foods.
- B. Only plant foods.
- C. Only animal foods.
- D. None of the above.

4. Which of the following award is given for contribution in public services?

- A. Kalinga Prize
- B. Lata Mangeshkar Prize
- B. Booker Prize
- D. Roman Magsaysay Award

5. Which of the following is the example of non-renewable natural resource?

- A. wind
- B. water
- C. coal and minerals
- D. sunlight

6. Most of the water in the world is in :

- A. under the ground
- B. ponds
- C. oceans
- D. rivers

7. Seasons are caused on the earth because of:

- A. The tilt and revolution of the earth
- B. Atmosphere on the earth
- C. Both A and B
- D. None of these

8. Which of the following is an internal organ?

- A. eyes
- B. lips
- C. lungs
- D. toes

9. Which Day is celebrated as World Health Day?

- A. 30 January
- B. 1 April
- C. 7 August
- D. 7 April

10. The amounts of nutrients required by different people are

- A. The same.
- B. Generally the same but occasionally different.
- C. At times the same and at times different.
- D. Different.
