



CDT- 2 Materials

Class – V

Subject – EVS & GK



1. The Greenhouse Effect

It is a natural process that warms the earth's surface. When the sun reaches the earth's atmosphere, some of it is reflected back to space and the rest is absorbed and re-radiated by greenhouse gases.

Greenhouse gases include water vapour, carbon dioxide, methane, nitrous oxide, ozone and some artificial chemicals such as chlorofluorocarbons(CFCs).

The absorbed energy warms the atmosphere and the surface of the earth. This process maintains the earth's temperature at around 33 degrees Celsius warmer than it would otherwise be, allowing life on earth to exist.

Enhanced greenhouse effect-

The problem we now face is that human activities- particularly burning fossil fuels (coal, oil, and natural gas), agriculture and land clearing-are increasing the enhanced greenhouse effect, which is contributing to warming of the earth.

Steps of greenhouse effect-

Step 1: Solar radiation reaches the earth's atmosphere- some of this is reflected back into space.

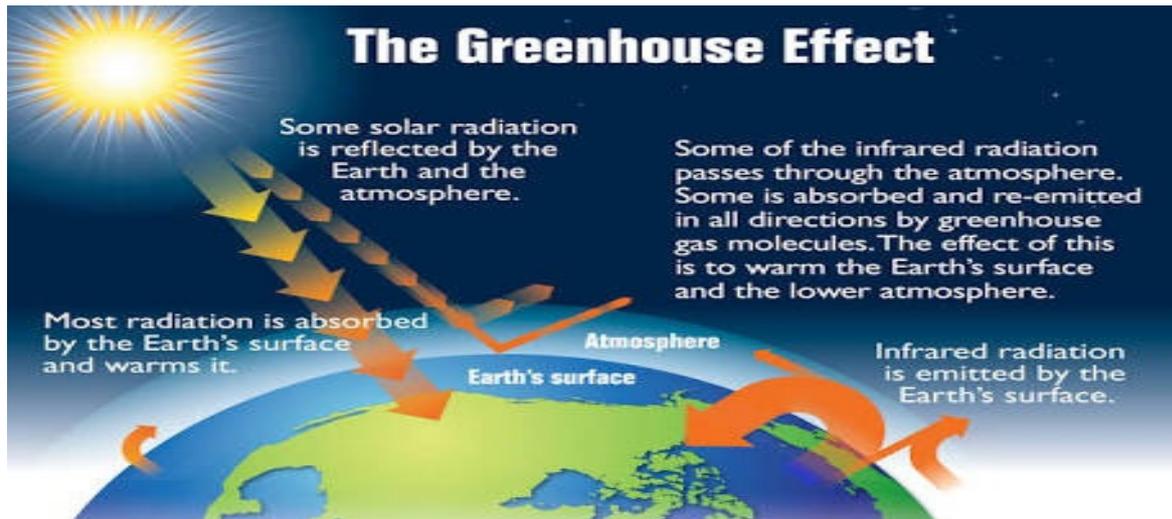
Step 2: The rest of the sun's energy is absorbed by the land and the oceans, heating the earth

Step 3: Heat radiates from earth towards space.

Step 4: Some of this heat is trapped by greenhouse gases in the atmosphere, keeping the earth warm enough to sustain life.

Step 5: Human activities such as burning fossil fuels, agriculture and land clearing are increasing the amount of greenhouse gases released into the atmosphere.

Step 6: This is trapping extra heat, and causing the Earth's temperature to rise.



2. Blood: Types and Transfusion

There are eight major blood types. Someone who is accidentally given the wrong type of blood can become very ill. Hospitals keep track of blood types. All blood contains the basic components (red cells, white cells, platelets, and plasma), not everyone has the same types of markers on their red blood cells. These markers (also called antigens) are proteins and sugars that our bodies use to identify the blood cells as belonging in our own system.

The four main blood groups are-

Type A- Has Marker "A".

Type B- Has Marker "B".

Type AB- The blood cells have in this type have both the markers A and B.

Type O- Neither A nor B marker.

Plus, Rh Factor Some people have an additional marker called Rh factor. Because each of blood groups may or may not have Rh factor, scientists further classify blood as either "positive" (meaning it has Rh Factor) or "negative" (without Rh factor).

Eight Blood Types

The different markers that can be found in blood make up eight possible blood types:

- | | | |
|----------------|---------------|----------------|
| 1.) O negative | 3) B negative | 5) AB negative |
| 2) O positive | 4) B positive | 6) AB positive |

Why Blood Types matters

The immune system produces proteins known as antibodies that act as protectors if foreign cells enter the body. Depending on which blood type you have, your immune system will produce antibodies to react against other blood types. If a patient is given wrong blood type, the antibodies immediately set out to destroy the invading cells it can give the person fever, chills and low blood pressure. It can even lead vital body system like breathing or kidneys –to fail.

Universal Donor-Type O-Negative blood can be given to people with any blood type because it has none of the markers that **can** set off a reaction.

Universal Recipient- Type AB-positive blood has all the markers, people with this blood type can receive any blood type.

3. Crops and vegetables

Plants that are grown in large quantities to provide food and other useful substances are called crops. The practice of growing plants on a large scale for food and other purpose is called agriculture. Different crops are grown in different seasons.

Kharif crops- In India, Crops that are grown in the summer season are called Kharif crops. Kharif crops are cultivated and harvested in South Asia during the rainy season, which lasts from July to October. Example- paddy, maize, millet, pulses and cotton crops.

Rabi Crops-Crops that are grown in winter (October to March) are called rabi crops.

Example-Wheat, Gram, mustard, onion, garlic, peas etc.

Ziad Crops-the crops grown in short duration between Rabi and Kharif crops season, mainly from march to June, are called Ziad Crops. These crops are grown mainly on irrigated lands which do not have to wait for monsoons. Examples-Watermelon, Sugarcane, Pumpkin, Sunflower, Bitter gourd.

4. Microorganisms

Different types of microorganisms-

1. Bacteria
2. Fungi
3. Algae
4. Protozoa
5. Viruses

They affect every aspect of life on earth.

Harmful microorganisms-

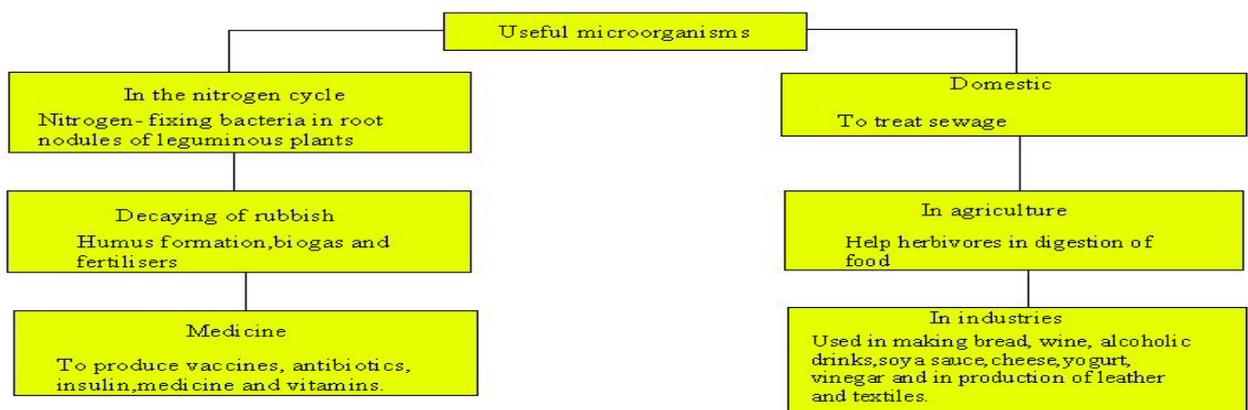
Micro organisms include bacteria, fungi, viruses and protozoa are very tiny but can cause diseases and even lead to death. They are called pathogens.

Although every microbe is not harmful and pathogenic. Pathogens may affect or damage the whole body system or some specific organs or tissues. Some human diseases caused by pathogens are cholera, rabies, mumps, malaria, food poisoning etc.

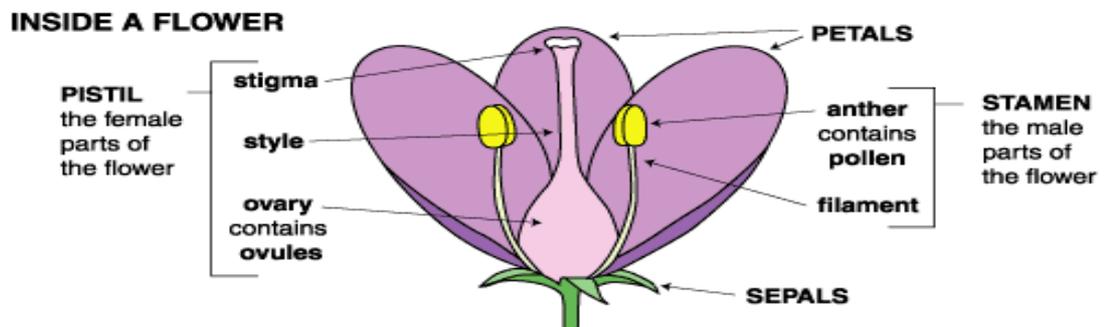
Caused by bacteria	<ul style="list-style-type: none"> •Conjunctivitis •Cholera •Mumps •Scabies
Caused by virus	<ul style="list-style-type: none"> •Flu •Cough •AIDS •Measles •Chicken Pox
Caused by fungi	<ul style="list-style-type: none"> •Ringworm •Tinea
Caused by protozoa	<ul style="list-style-type: none"> •Malaria

Helpful microorganisms-

The environment is incomplete without microorganisms. They are crucial part of the ecosystem and take part in activities like production of minerals like nitrogen, gases like oxygen, carbon dioxide, cleaning by action on dead matters etc. in various industries, microbes are used intentionally due to their role in human welfare.



5. Parts of plant



Fruits

It is a matter of common observation that the flower on the plant is replaced by the fruit after some time. The fruit develops from the ovary of a flower after its maturation. In other words, fruit is a ripened ovary. The fruit consists of two parts, i.e., pericarp or fruit wall and the seed. The pericarp develops from the wall of the ovary, while seed develops from its ovule. The pericarp is made up of three layers:

Epicarp

This is the outermost layer which forms the skin of the fruit. In some fruits like mango and banana, we discard it, while in some, such as apricot and guava, we eat it.

Mesocarp

This is the middle, fleshy and edible layer of a fruit, such as in mango and banana.

Endocarp

The innermost and hard layer which encloses the seed of a fruit is called endocarp; for example, the mango seed.

Seed

Seed is a fertilized ovule and is found in a fruit. Each seed carries a baby plant inside, which is called an embryo developed from the zygote. The embryo is protected by cotyledons which also store food needed by the embryo to grow. The embryo consists of two parts, i.e. Plumule, which develops into shoot, and radicle that develops into roots. When a seed finds favorable conditions of water, oxygen and temperature it germinates and a young plant, called seedlings, emerges from the embryo. This grows into a mature plant which gradually produces flowers and fruits. Thus seeds propagate the species of a plant.

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, Sri Lanka, Thailand Economic Cooperation
6.	CAG	Comptroller and Auditor General Of India.
7.	CBDT	Central Board Of Direct Taxes.
8.	DNA	Deoxyribo-nucleic 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 Emission 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

Q1) What is the layer of the atmosphere that contains greenhouse gases?

- | | |
|-----------------|---------------|
| a) Stratosphere | c) Mesosphere |
| b) Troposphere | d) Exosphere |

Q2) What is an example of the greenhouse effect?

- | | |
|---|-----------------------------------|
| a) Steam rising from boiling water | b) Baking brownies on a metal pan |
| c) Stepping on hot pavement and it burning your feet. | |

d) Inside of a car becoming hot on a warm day.

Q3) Which blood type is the universal recipient?

- a) AB+
- b) O+
- c) B+
- d) A-

Q4) If a blood type ends in +(positive) that means-

- a) You are positive for Rh Protein.
- b) You are positive you know your blood type.
- c) You are positive in your attitude.
- d) Nothing, but + at the end looks really cool.

Q 5) Which of the following is not a kharif crop?

- a) Paddy
- b) Maize
- c) Cotton
- d) Mustard

Q.6) Bread or idli dough rises because of

- a) heat
- b) grinding
- c) growth of yeast cells
- d) kneading

Q7) Which Day is celebrated as World Health Day?

- A. 30 January
- C. 7 August

- B. 1 April
- D. 7 April

Q8) Which of the following award is given for contribution in public services?

- A. Kalinga Prize
- B. Booker Prize

- B. Lata Mangeshkar Prize
- D. Roman Magsaysay Award

Q9) The edible fleshy part of mango is called

- a) pericarp
- b) mesocarp
- c) endocarp
- d) epicarp

Q10) Ovary wall gives rise to-

- a) fruit wall
- c) mesocarp

- b) seed coat
- d) endocarp