

E-CONTENT



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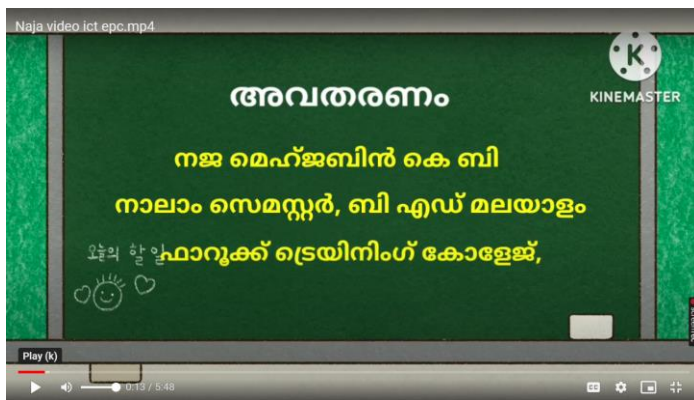
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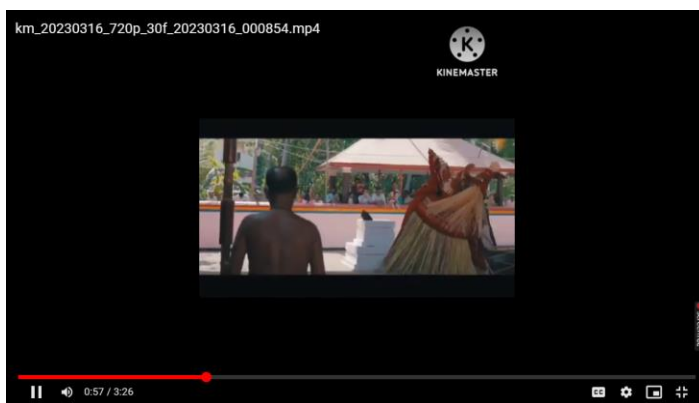
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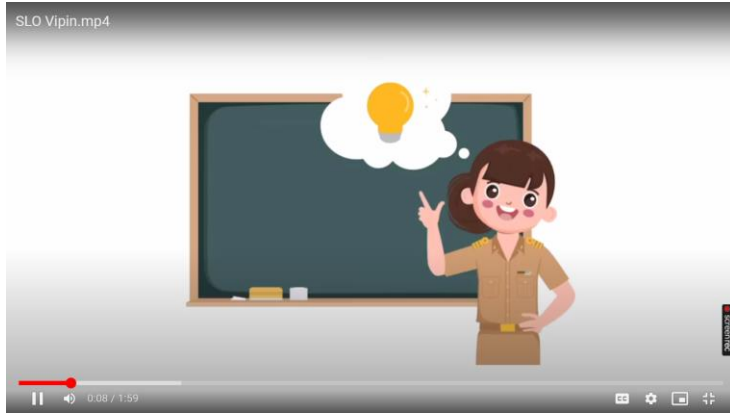
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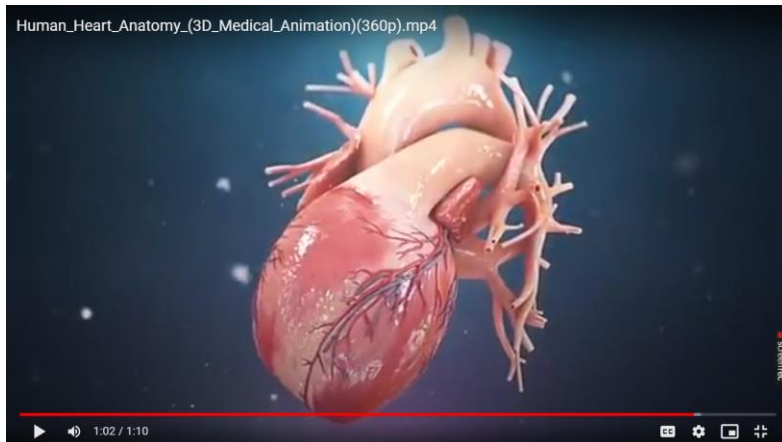
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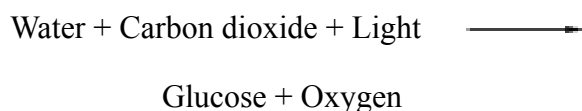
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CHEMICAL REACTIONS

PHOTOCHEMICAL REACTIONS

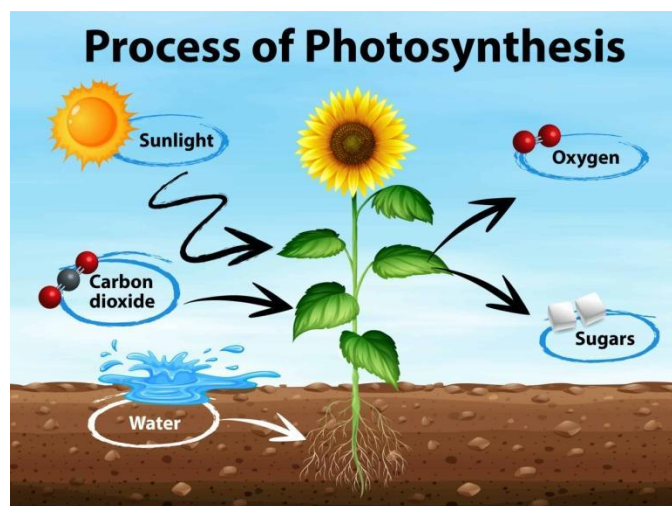
PHOTOSYNTHESIS

Photosynthesis is a chemical reaction that is responsible for sustaining life on earth. In this reaction, plants produce glucose by absorbing light. Note the chemical equation of this reaction.



Click the following link to watch video of photosynthesis.

<https://youtu.be/D1Ymc311XS8>

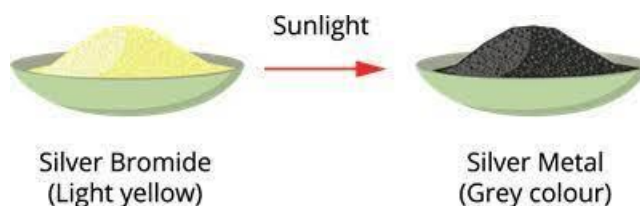


SALT THAT TURNS BLACK IN SUNLIGHT

Take some silver bromide in two dry watch glasses. Wrap one of them with a black paper. Keep both of them in sunlight for some time.

- What do you observe?
- In which watch glass does the colour of silver bromide change?
- Which form of energy was responsible for this chemical change?

This was due to the deposition of silver produced as a result of the decomposition of silver bromide by the absorption of light.



Chemical reactions which liberate or absorb light energy are known as **Photochemical Reactions**.

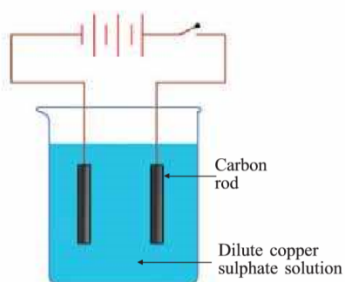
What could be the reason for storing certain medicines and chemicals in brown bottles?

<https://youtube.com/shorts/Iw9HM9kcAUw?feature=share>

ELECTROCHEMICAL REACTIONS

ELECTROLYSIS

Set up the apparatus as shown in Figure.



What changes do you observe when electricity is passed through the circuit?

- In the colour of copper sulphate solution:

- On the carbon rods :

The change in colour of copper sulphate solution and the deposition of copper at the electrode proves that a chemical change has occurred.

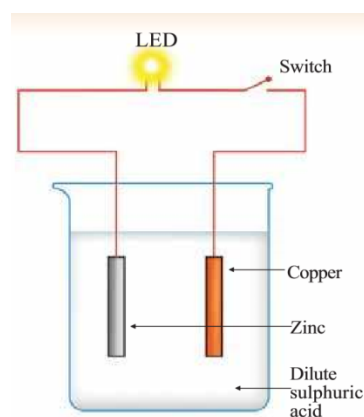
- Does it happen if a carbon rod is simply kept in copper sulphate solution?
- Which form of energy was responsible for this chemical change?
- Was the energy liberated or absorbed?

Try searching for the link below for help....

The process in which a substance undergoes decomposition by the absorption of electrical energy is known as **electrolysis**.

Scan the code to see a simulation

Set up the apparatus as shown below



- Why does the LED glow when the switch is turned on?
- How is this form of energy produced?

Here, electricity is produced as a result of a chemical reaction between the acid and the metals kept immersed in it.

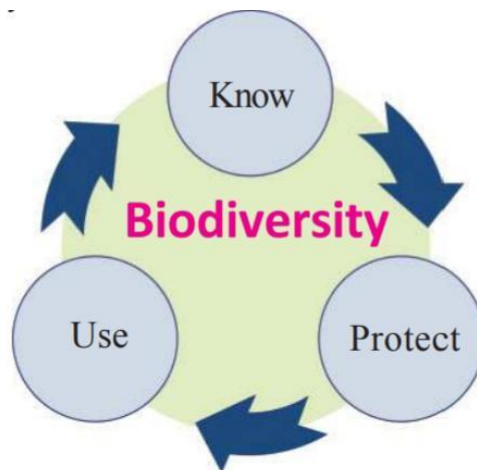
Arrangements which produce electricity as a result of chemical reaction are known as **Electrochemical cells**.

CONSERVATION OF BIODIVERSITY

Biodiversity mainly refers to the variety and variability of life existing on the planet Earth. The term biodiversity usually refers to the process of measuring the variation at the genetic, species, and ecosystem level. Biodiversity plays a vital role in boosting the ecosystem. The factors responsible for the cause of changes in biodiversity are:

- ❖ Pollution
- ❖ Invasive species
- ❖ Overexploitation
- ❖ Change in the climatic conditions

We all need to conserve biodiversity, as it leads to the conservation of essential ecological diversity to preserve the continuity of food chains. Sustainable development is possible only with the protection Of nature.






There are mainly two types of conservation

- a. IN-SITUE CONSERVATION
- b. EX-SITUE CONSERVATION

1.IN-SITUE CONSERVATION

It is the methods of conserving all the living species, especially the wild and endangered species in their natural habitats and environment. In-situ conservation of Biodiversity includes biosphere reserves, national parks, wildlife sanctuaries, etc.

Wild Life Sanctuary	National Parks
<p>These are forest areas declared as protected areas to prevent the extinction of wild lives by protecting the ecosystem. Peppara, Periyar, Wayanad etc., are examples of wild life sanctuaries in Kerala.</p> 	<p>National Parks are designed to protect wild lives along with the protection of historical monuments, natural resources and geographical features of an area. Eravikulam, Silent Valley, Anamudi Shola, Mathikettan Shola and Pambadum Shola are the national parks in Kerala.</p> 
<p>Community Reserves</p> <p>Community reserves are areas protected with the participation of the public. These are ecologically important places located in populated areas. The Kadalundi Community Reserve spread over the districts of Malappuram and Kozhikode is an example.</p> 	

EX-SITUE CONSERVATION

It is the methods of conserving all the living species in the artificial habitats that reflect their natural living habitats. Examples of ex-situ conservation of biodiversity include aquariums, botanical gardens, cryopreservation, DNA banks, zoos, etc

Zoological garden

Zoological gardens are conservation centres where Different varieties of animals are protected and housed Separately and where necessary arrangements are made Available for their reproduction. They also function as Conservation centres of organisms which have become Extinct in wild. There are zoological gardens at Thiruvananthapuram and Thrissur in Kerala.



Watch video :<https://youtu.be/pxTe-2E74cs>

Botanical gardens

These are wide research centres where rare and important plants of diverse species are protected. We can identify many plants and get more information about them by visiting a botanical garden. Jawaharlanehru Tropical Botanical Garden and Research Institute (JNTBGRI) at Palade in Thiruvananthapuram and Malabar Botanical Garden (MBG) at Olavanna in Kozhikode are examples.

Watch video :<https://youtu.be/q8EAmx-bZLA>



SONG OF A DREAM

SAROJINI NAIDU

ONCE in the dream of a night I
stood
Lone in the light of a magical wood,
Soul-deep in visions that poppy-like
sprang;
And spirits of Truth were the birds
that sang,
And spirits of Love were the stars
that glowed,
And spirits of Peace were the
streams that flowed
In that magical wood in the land of
sleep.

Lone in the light of that magical
grove,
I felt the stars of the spirits of Love
Gather and gleam round my delicate
youth,
And I heard the song of the spirits of



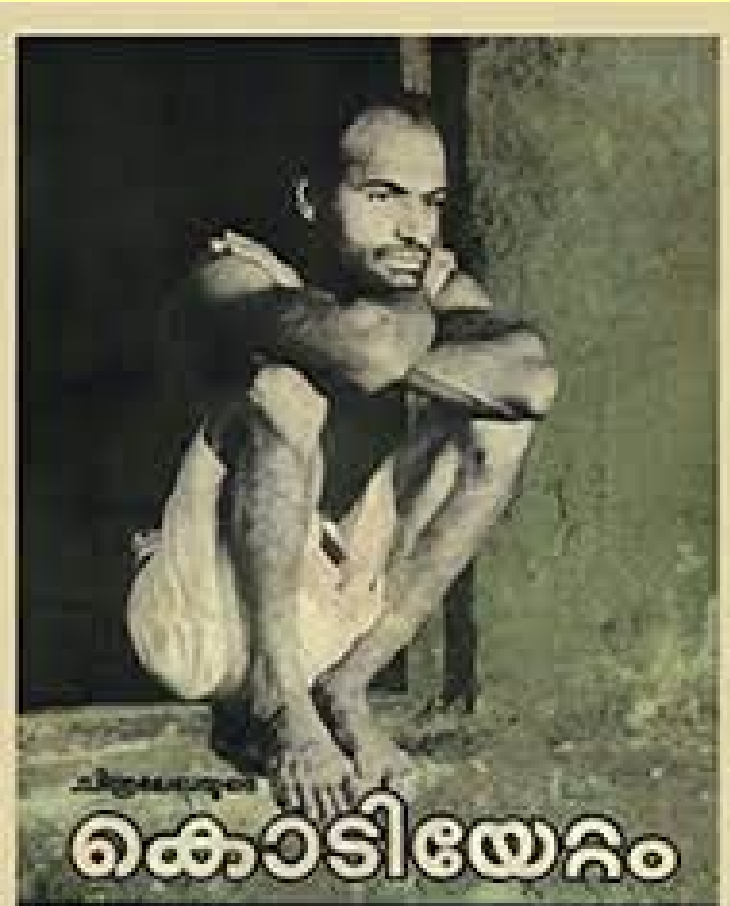
Truth;
To quench my longing I bent me low
By the streams of the spirits of
Peace that flow
In that magical wood in the land of
sleep.

See video : <https://youtu.be/ROGrjupDFEg>

മലയാളം അടിസ്ഥാനപാഠാവലി

ക്ലാസ് 9

കൊടിയേറ്റം



രചന, സംവിധാനം

അടൂർ ഗോപാലകൃഷ്ണൻ

ശാശാഗ്രഹണം

മക്കട രവിവർമ്മ

അഭിനേതാക്കൾ

ഭരത് ഗോപി

കെ. പി. എ. സി ലളിത

തിക്കുറിശ്ശി

അസീസ്

അടൂർ ഭവാനി

കൊടിയേറ്റം സിനിമ കാണാൻ ക്ലിക്ക് ചെയ്യുക

<https://youtu.be/BVVUKcYzuJU>

അടുർ ഗോപാലകൃഷ്ണനെക്കുറിച്ചറിയാൻ ക്ലിക്ക് ചെയ്യുക

https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=web&cd=&ved=0CAQQw7AJahcKEwjQ-OnTxrz9AhUAAAAAHQAAAAAQAg&url=https%3A%2F%2Fml.wikipedia.org%2Fwiki%2F%25E0%25B4%2585%25E0%25B4%259F%25E0%25B5%2582%25E0%25B5%25BC_%25E0%25B4%2597%25E0%25B5%258B%25E0%25B

OUR INDIA



*India is my country. All Indians are
by brothers and sisters. I love my
country and I am proud of its rich
and varied heritage.....*

Let's know more about India

<https://youtu.be/35npVaFGHMY>

We Indians are proud of the variety heritage of our country. The diversity in attire, language, tradition, etc. makes India unique. This diversity is also evident in physiography, climate, vegetation, lifestyle, etc. Amidst these diversities, the Indians live united like siblings; breaking the barriers of caste, religion and language. This chapter will help you to know more about the diversities of India vegetation, lifestyle, etc. Amidst these diversities, the Indians

India - Location and neighbouring countries

We have earlier discussed the continents. Can you identify the continent to which India belongs?

Find out India's neighbouring countries from the map of Asia.



You may use the atlas or wall maps for this. The part of the ocean to the east of India is known as the Bay of Bengal and that to the west is known as the Arabian Sea.

India – States

For administrative convenience, India is divided into 29 states. On 2014 June Andhrapradesh has been divided in to two states namely Seemandhra and Telangana. The administrative headquarters of each state is known as the state capital.

- List out the 29 states and their capital cities from the map of India.



Ecology

Ecology is the study of interactions between organisms and also between the organisms and their surroundings. This branch of study includes different types of ecosystems, interaction between organisms and environment protection etc.

Ecological interactions

Observe the illustration of some ecological interactions.



Illustration 13.4

Complete the illustration given below with suitable examples for ecological interactions.

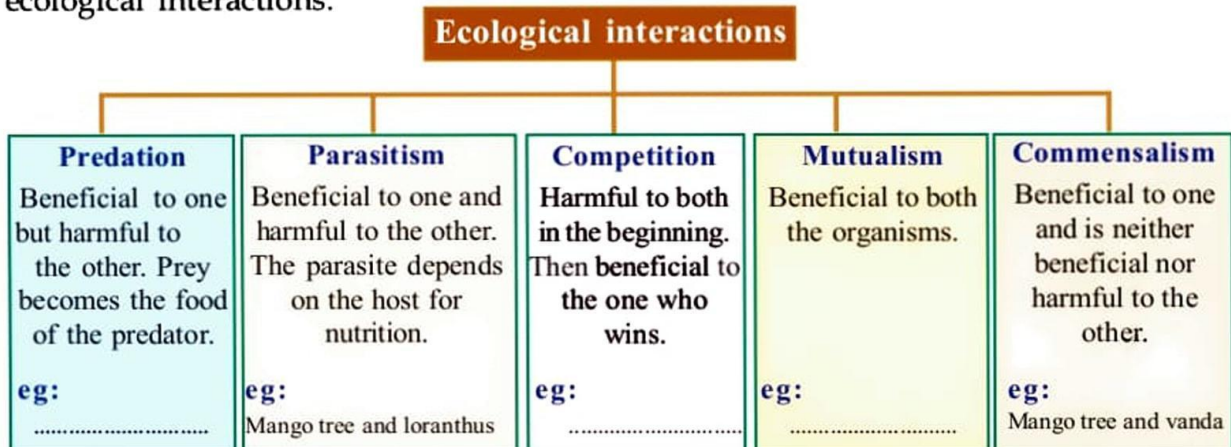


Illustration 13.5

There are many interactions in nature that we do not see or realise. These interactions maintain the balance and stability of the ecosystems. Food relations are visible instances of interaction among organisms.

PREDATION(Kingfisher&Fish)



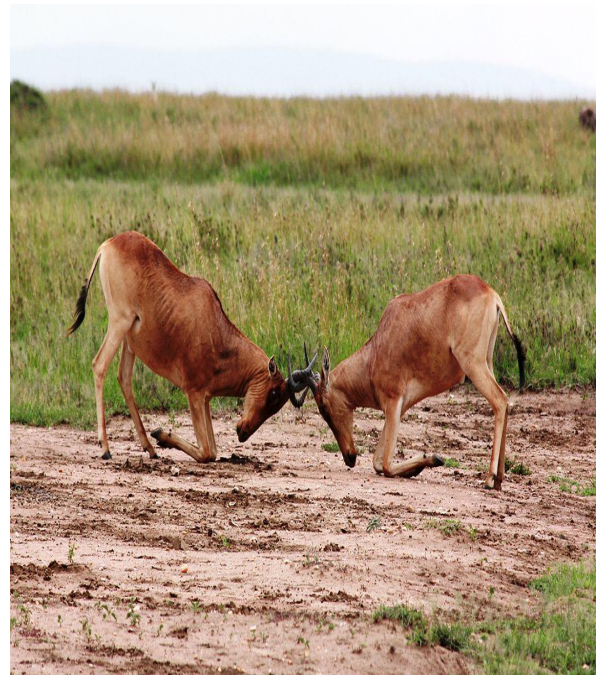
PARASITISM(Human and lice)



MUTUALISM(Crocodile and bird)



COMPETITION



[click here](#)