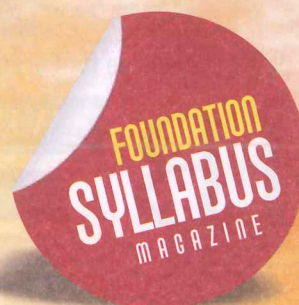


Help of Objective for Personal Evaluation



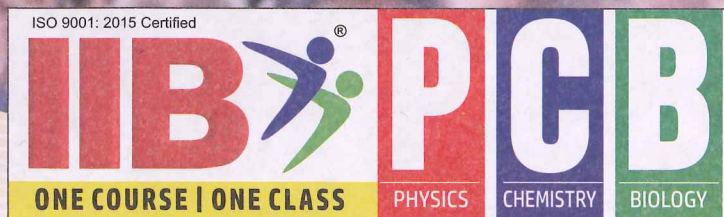
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e- Magazine FOUNDATION PROGRAMME

IIB Hope is an initiative to uplift students from the base to make them more oriented to face competition of future. Every preparation of future begins today. Thus to make students more competitive towards Future competition, IIB – premier leading institute in Coaching for Medical Entrance Exams has taken up initiative to prepare Foundation of Students from 8th, 9th, 10th by providing e- Magazine named IIB HOPE i.e. Help OF Objective For Personal Evaluation.

ABOUT THE E-MAGAZINE

- 1) The first e Magazine containing Topic Details will launch on every Sunday from 1-Sep 2021.
- 2) e- Magazine is free of cost to the students who have made subscription for the magazine.
- 3) Under this program student will receive Detailed Theory content, MCQs targeting exams like Olympiad, KVPY, BARC, and NTSE.
- 4) Each Month Schedule will be given on Day one of the month as e-copy.
- 5) Students Will Receive IIB EXAM app in which student will receive Video Lectures Of Important Points Of the Theory Content covered in magazine as well as there will be discussion on MCQs given in e-Magazine.
- 6) Monthly first three Sunday students will receive Theory + MCQs + Video Lectures. On every fourth Sunday the magazine will contain Flow chart/Mind Maps/Important Points of the previously covered portion in the Magazine.
- 7) On the fourth Sunday IIB Olympiad will be conducted online in IIB Exam App. The pattern of Examination will be given in IIB ExamApp.



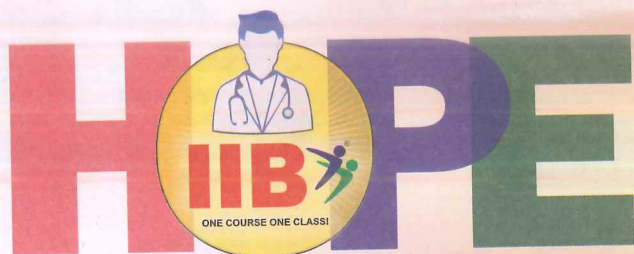
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We precisely follow the unique strategies in our educational process, and ensure that each and every student enjoy to learn and acquire the syllable knowledge along with learnings for life. We focus on making the line thinner between the students and syllabus to give confidence to bridge across this line towards academic success. We continuously follow and try to evolve the simplest techniques that allow students to learn more in less time, to remember for longer time period. We treat students friendly and are always ready to help them for career and learnings.

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FOUNDATION COURSE FOR THE

8Th PHYSICS

ACTIVITIES FOR BETTER UNDERSTANDING.

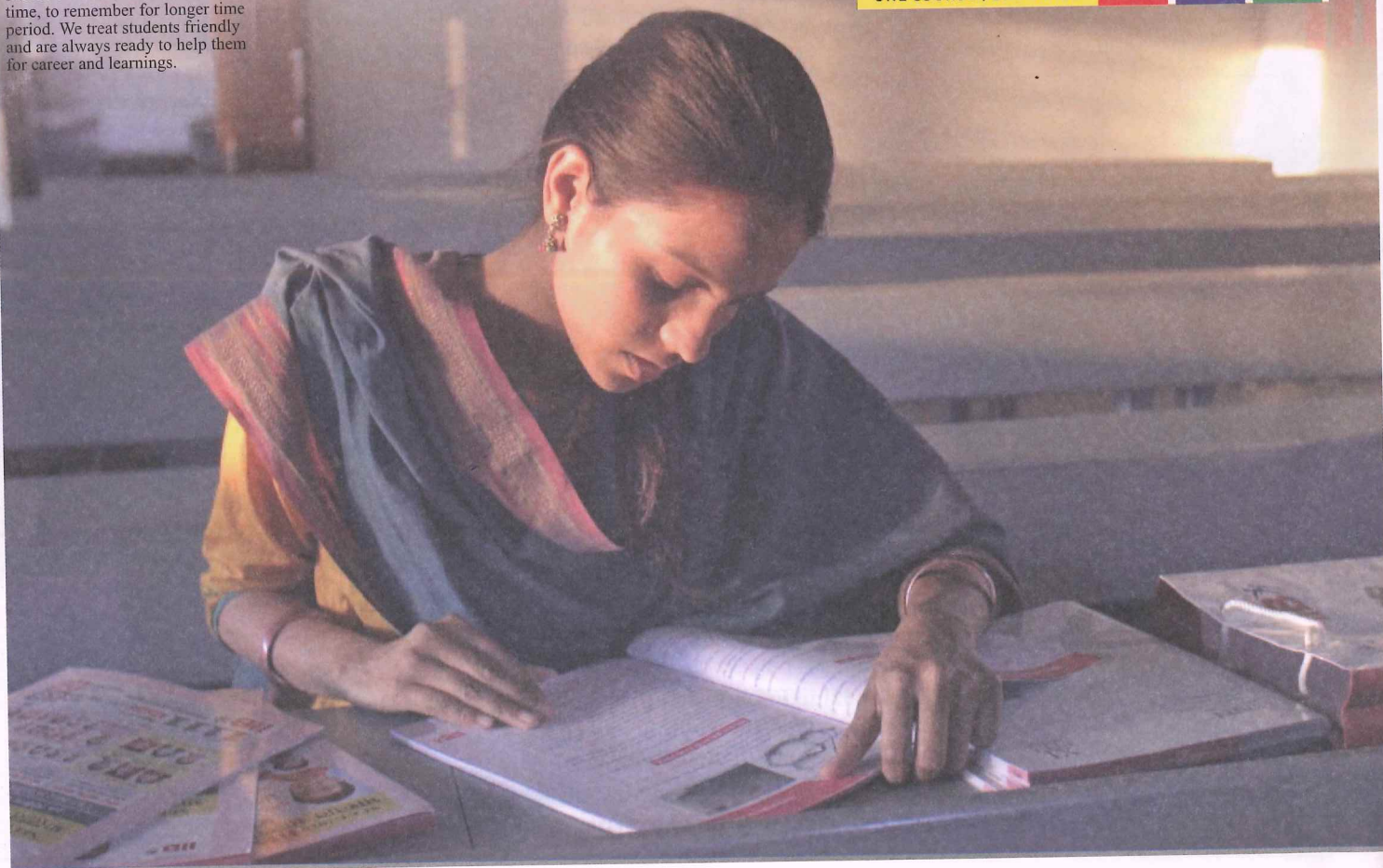
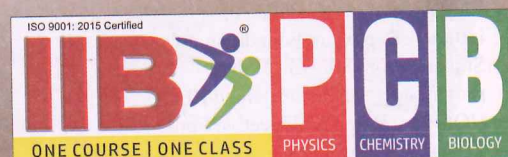
Your activities were designed to connect your thinking with scientific approach. Uptill now your syllabus have included many everyday life examples to develop your keen observation and sense in study. With minimum apparatus and efforts, we have tried to demonstrate the scientific phenomenon on in

front of you for your developing minds. Now the study of eighth standard becomes conceptual and competition oriented. You need to learn the fundamentals more clearly, so that you can apply the concepts for problem solving in many examinations like NEET, JEE Main and Advanced for s

ecuring marks. Success in these examinations is the result

of complete understanding of 8th 9th and 10th knowledge. As you, all know your science textbook can be categorized further into three subject's physics, chemistry and biology some of the chapters from your eighth textbook are part of physics. Now we will look into introduction of each chapter and its importance.

Introduction Over the seven years of study, your knowledge is grown. You are known to many fundamentals the famous characters Boo-jho and Paheli helped to encourage your interactive learning. They have asked you many questions and taught you many concepts. Their insightful questions have challenged your knowledge and encouraged to you for scientific activities for better understanding.





FORCE and PRESSURE

As you, all know force is required to move a stationary object or stop moving object.

It changes the state of motion of the object. Our daily activities like walking swimming or playing any sport require forces in different forms.

This chapter includes the study of different forms of forces, their application and different types of forces. Different activities in this chapter will encourage you to understand how force acts on a body and the behavior of the body. As we, all know that it is very easy to put a pointed nail in to wooden board than a blunt nail.

It is due to the concept of

pressure, which is included in this chapter. Pressure is not only exerted by solids but also by liquid and gases.

It will also focus on the flow of the liquid and finding the direction of the flow. As we know, air is present in the atmosphere. This air exerts pressure. In this chapter, you can find the explanation of pressure exerted by atmosphere on our body.



FRICTION

Friction force Normal contact force Have you taken a walk on a road and on marble tiles present in malls? Of course, you have, you have noticed that it is easier to walk on a road

surface but it is a slippery to walk on marble tiles. This is due to the difference in friction between the two surfaces. Similarly, as you ride a

bicycle friction is required keep the bicycle in motion. If you are not paddling the bicycle then it will automatically stop. In this chapter, we will study in detail the cause of friction and different types of friction in

different conditions. Friction is not only present in solid but also it is present in Gases and liquids this chapter also contains different activities to clarify your concept about friction.



SOUND

We listen to melodies and enjoy listening to music in our day today life. In your school, how do you come to know Your Lecture is over? It was due to the ringing bell. In many horror movies, sudden sound surprises us to bring out the emotion of fear. In this chapter, we are going to study different types of sounds that we hear in our day today life. We will also see the reason of production of sound.

This chapter also focuses on the sound produced by different musical

instruments. You will also come to know our vocal system, which enables us to Communicate with each other.

We are also going to study the propagation of sound in different medium and how we hear sound through our ears. We are also able to distinguish between different types of sounds. Not every sound that we hear is melody. Therefore, we need to understand the difference between noise and Melody.



LIGHT

As we all know, that light is the form of energy, which makes objects visible, and it is seen with the help of our eyes. In this chapter we will study light in a scientifically with different laws of light and how to apply them in reflection. We will also study how image is formed due to reflection of light. This chapter also gives us a brief introduction about structure of our eyes and its working. There are many interesting activities, which will help you to understand persistence of vision. This chapter is also informative about taking care of our eyes. A brief introduction to interesting BRAILLE system for visually challenged person is an informative point in this chapter.



STARS AND THE UNIVERSE

Whenever we look at sky, it ignites a small spark of curiosity in our minds. The shining stars the moon and movement of planets always caught our attention. This chapter is a brief introduction of the different phases of moon and different group's stars Called constellations.

In this chapter, we are also going to learn about our solar system and different planets in it. We are also going to see the arrangement of

planets are in our solar system and how they revolve around sun. You will be surprised to know there are other members present in our solar system. We will also learn about satellites around earth. Let us study all the topics in detail so that we can understand our universe better.



FOUNDATION COURSE FOR THE 8th CHEMISTRY

It really important for the students to gain knowledge about all the basic chemistry required for chemistry in higher classes. With in-depth knowledge of basics of chemistry this course will enable the student to score high marks in school level exam as well as various National level exams like NEET. This course will develop confidence and necessary critical reasoning and thinking in the students for the better academic performance. In 8th standard we will learn following topics which are discussed below in the brief :-

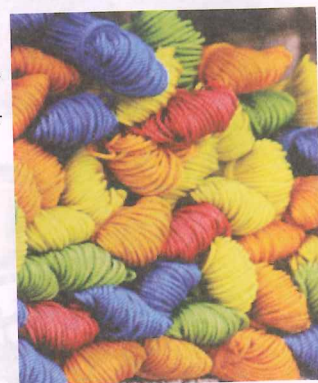
- 1) synthetic fibre and plastic
- 2) materials : metals and nonmetals
- 3) coal and petroleum
- 4) combustions and flame.



SYNTHETIC FIBRES AND PLASTICS

In our day to day life we come across various kind of material which are made from plastic. In this chapter we will get to know the science behind all these materials and learn about following topics

- 1) what are synthetic fibres and Plastics.
 - 2) Different types of synthetic fibres and plastics.
 - 3) Commonly used plastics and their properties such as nylon, polyester, acrylic, polythene etc.
 - 4) use of these materials.
 - 5) Harmful effects of plastics.
- This chapter will enhance our awareness about these materials and we will know where to use and where not to use them. From competitive examination such as NEET point of view this chapter will work as

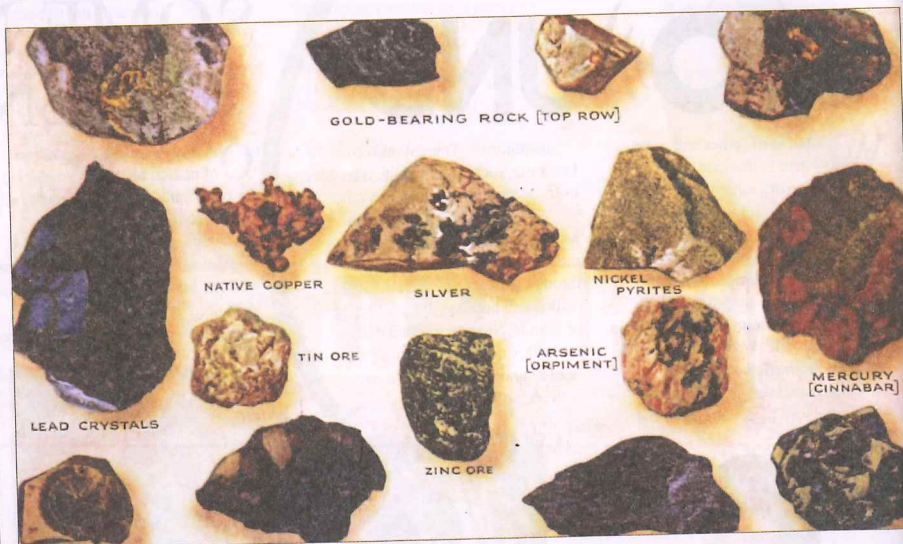


MATERIALS: METALS AND NON-METALS

we all have seen iron rods, copper wire, Aluminium foil, charcoal etc. In this chapter we will learn to classify all those materials in the category of metals and nonmetals. We will learn following topics -

- 1) Physical properties of metals and nonmetals like conductivity, malleability, ductility etc.
- 2) Chemical properties of metals and nonmetals in which we will see reactions of metals and non metals with oxygen, water, Acid and base.
- 3) what are the displacement reactions.
- 4) Different uses of metals and nonmetals.

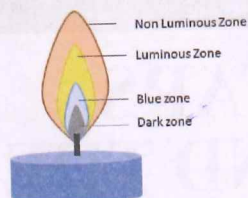
This chapter will make us understand why these materials are used in some specific application. From examination point of view this chapter contains very important concepts which will be used in many chapters of forthcoming classes and these have been asked in multiple times in various exams.



COMBUSTIONS AND FLAME

we all are familiar with burning of fuel, candle and other things. In this chapter we will get to know the science behind these processes through following subtopics -

- 1) Combination and its necessary conditions
- 2) Methods to control fire.
- 3) flame and its structure.
- 4) Different types of fuel and their efficiency.
- 5) Harmful effect of burning fuel.



COAL AND PETROLEUM:

Everyone has heard about petrol, diesel, kerosene, CNG etc. In this chapter we will learn about all these natural resources and their formation and preparation methods. we will master following topics -

- 1) Different products prepared from COAL- eg. Coke, Coal tar, Coal gas.
- 2) what is petroleum, how to obtain and its refining process which furnishes petrol, diesel, petroleum gas, oil, wax etc.
- 3) natural gas and its uses.
- 4) limitations of exhaustible natural resources.

By this chapter we will become more aware about origin of coal and petroleum their uses & what are their harmful effects. From competitive exam point of view this

chapter will give us an idea of different terms such as fossil fuels, paraffin wax, bitumen, LPG etc



FOUNDATION COURSE FOR THE

8th BIOLOGY

Education is basic for overall development of mankind, which not only enable us to understand world but also helps us to explore the world, present day education system reflects its competitive nature.

To be part of competition become need of time, it assures our success and successful life of our family. Foundation and constant efforts in right direction assure our future success story, competitive

examination and its right time right basic preparations is essential to achieve desired goal. Goal to serve nation goal to serve mankind, to be doctor, To become doctor is easy but, with right preparation in right direction is important. Preparation of exams required to enter in world of medical college is essential, such preparations if we start in early days not only creates

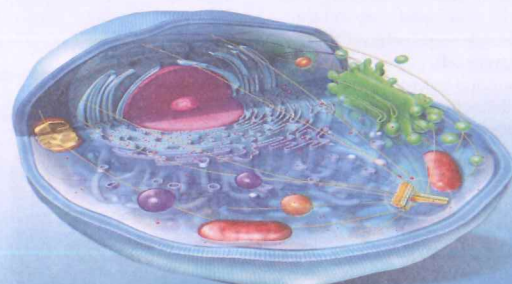
interest in us but also boost us for

higher examination preparation.

Foundation is important its perfection decides our success ratio. To qualify NEET examination with good score assure our admission in medical college, so we must start this academic year with full of energy, direct your energy in direction given by institution show the world you are best in studies, Biology (Bio - life logy- to study) study from 8th

class is essential, following topics of biology its basic understanding is necessary not only for future exam preparation (NEET) but also will helps us to explore different examination, that are conducted too such olynplaid and NTSE. This year we learn following topics.

- Crop production and management
- Cell structure and function
- Microorganisms : friends
- Reproduction in animals
- Conservation of plant and animals
- Reaching the age of adolescence



CROP PRODUCTION AND MANAGEMENT:

As we all are very well known that food is basic need of all living organisms. Because food which we consume it acts as source of energy for us, in this topic we will understand terminology related to agriculture such as crop (when a plant of same kind are cultivated in one place) and we will understand classification of crops based on seasons in which they grow (cereals, vegetable and fruits), cropping patters (Kharif and Rabi) we will understand

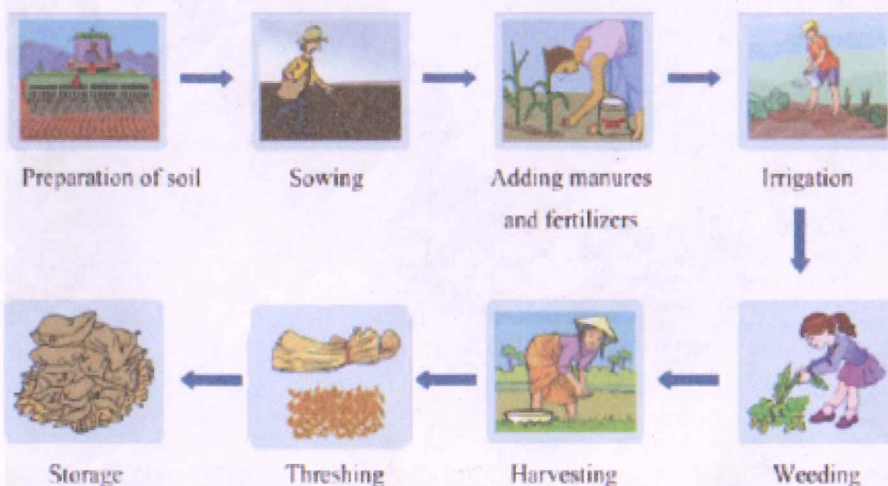
how to increase nutrient content of soil, and will also understand about how to increase fertility of soil, will understand different aspects of agricultural practices in order to enhance food production.

- Agricultural practices,
- Basic practices of crop management,
- preparation of soil,
- Agriculture implements : Plough, hoe, cultivar,

- Sowing of seeds, adding manure and fertilizers,
- Concept of crop rotation,
- Irrigation practices (Tradition and modern methods)
- Protection from weed (undesirable plants called weeds)
- Harvesting
- Storage
- Food from animals



Drip system



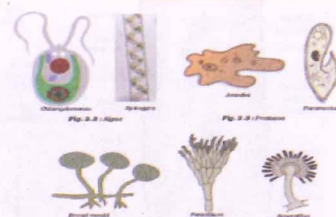
Microorganism Friend's Foe

When we think about the variety of living organism on planet earth we will certainly remember the organism that we generally look in our surrounding but with the discovery of microscope we understood that along with higher plant and animals there are variety of unicellular microorganism are also there but there size is very small and we cannot see them with open eyes in this topic we will be focusing on microorganism and their diversity classification (Bacteria, fungi, protozoa, algae) viruses

- Where do microorganism live
- We will understand harmful and beneficial role of microbes
- Friendly microorganism - used in preparation of different house hold products
- Commercial use of

microorganism

- medicinal use of microorganism
- vaccine and microorganisms
- increase soil fertility
- cleaning the environment
- disease causing microbes (Pathogen) in human being
- disease - causing microorganisms in plant and animals
- Food poisoning and food preservation
- Different preservation methods
- Nitrogen cycle and nitrogen fixation



Conservation of Plant And Animals :

Planet earth has wide range of living types existence all living organism is paramount important for wellbeing and survival of mankind in this topic we will learn following points.

- Conservation of forest and wildlife
- Biosphere reserve
- Concept of flora and fauna
- Endemic species
- Wild life sanctuary
- National park
- Red data book
- Migration Recycling of paper
- reforestation



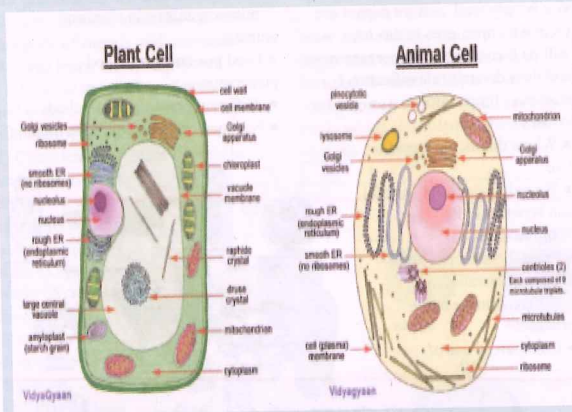
CELL STRUCTURE AND FUNCTION

All Living organisms are made up of basic structural and functional unit of life cell. When We think of cell what exactly it composed of we will also understand about prokaryotic and eukaryotic cell, we will also understand how the plant cell differs from animal's cell, in this chapter we will focus on

- discovery of cell ,
- cellular variety (number , shape , size and function)
- parts of cell ,
- Cell membrane,
- cell wall ,
- cytoplasm,
- nucleus ,
- Comparison between plant and animal cell.



- | | | | |
|-----------------|---------------------------|-------------|-------------------|
| 1 Nucleus | 2 Endoplasmatic Reticulum | 3 Cytoplasm | 4 Golgi Apparatus |
| 5 Mitochondrion | 6 Ribosome | 7 Lysosome | 8 DNA |
| 9 Cell Membrane | | | |



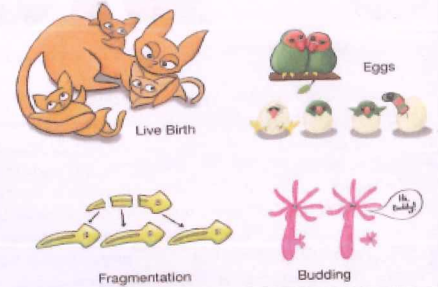
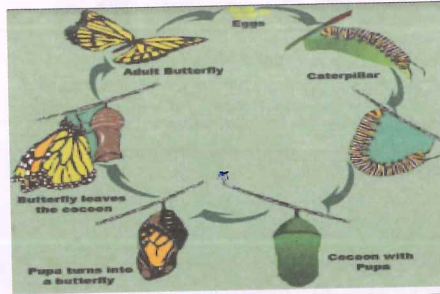
REPRODUCTION IN ANIMALS :

Reproduction is biological process in which organism give rise to young one, reproduction is process responsible for the continuation of species generation after generation on planet earth

in this chapter we will learn about

- modes of reproduction
- sexual reproduction
- male reproductive organs
- female reproductive organs
- fertilization

- Development of embryo
- Viviparous and oviparous animals
- Young one to adult
- Asexual reproduction



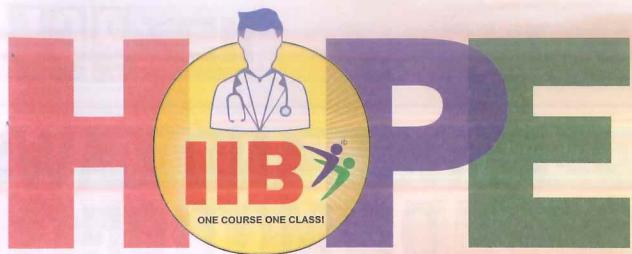
REACHING THE AGE OF ADOLESCENCE

In this chapter we will understand about different changes that occurs in human body after which a person becomes capable of reproduction

We will focus on following points

- Adolescence and puberty
- Changes at puberty
- Role of hormones in initiating function of reproductive functions
- Reproductive phase of life in humans
- Sex determination
- Hormones and other than sex hormone
- Role of hormones in completing life , history insects and frogs
- Reproductive health Say No to drugs





Friday, 20 AUG 2021

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FOUNDATION COURSE FOR THE 9Th PHYSICS

Till 8th class we came across the basics of physics, as we understand the physics by day - to - day examples like how objects start moving on application of force, Friction explains how we walk, we feel hot in summer and cold in winter due to transfer of heat.

We also understand the pressure exerted by solids, liquids and gases. We also learned an importance of sound and how we communicate by producing different sounds. These sounds are produced by creating a pressure difference in air.

How the image of a person is formed in front of mirror is explained by the law of reflection. We learned that light travels in a straight line

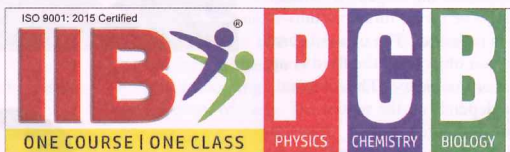
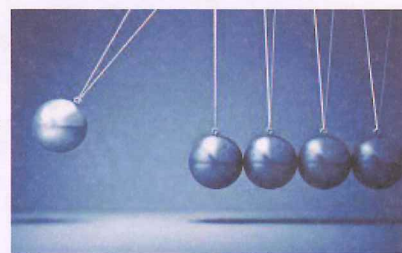
and bouncing of light is reflection. Lightning, thunderstorm, earthquakes etc. are

the natural phenomenon which we learned in an

interesting way. Now in 9th standard our focus is on understanding the natural laws.

These laws govern the universe. Day - to - day life events can be explained by these laws. Now we learn the mathematical approach of these laws.

We try to find the solution of every problem and developed our problem - solving ability. This will increase our IQ level. To crack the national level exams like NTSE, Olympiads, Homi Bhabha Balvaidnyanik Examination, NEET and JEE etc. 9th class will lay the foundation so that we crack these exams and understand our potentials to do great things in life. Now we look into each chapter and know the basis of laws.



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MOTION

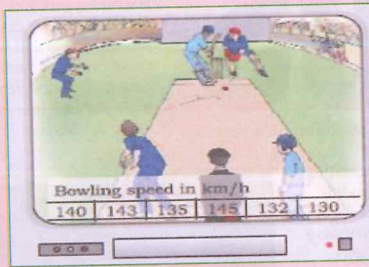
To understand the motion of an object we need to understand the reference point. With the help of reference point we can define the distance, speed and acceleration of an object. Now we can easily understand that how an object moves and which path it will follow.

Motion with constant velocity is uniform motion whereas with variable velocity is non uniform motion. Velocity can be defined as how the position is changes with respect to time. We learn to find the average speed and average velocity. Whereas acceleration

is rate of change of velocity with respect to time.

In this chapter we will learn to plot the motion of objects on graph. Graph between distance and time, velocity and time, acceleration and time etc. are important to understand. We derive three equations of motions by graphical method. And these equations define the motion

of object with constant acceleration. Circular motion is another form of non-uniform motion where there is a centripetal acceleration. This centripetal acceleration is always directed towards the centre.



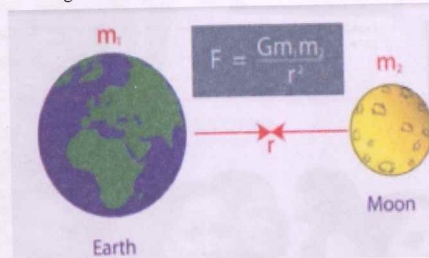
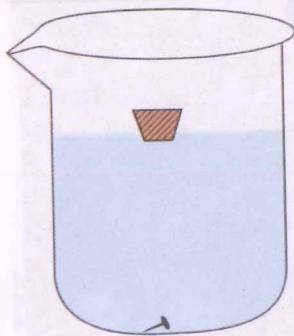
GRAVITATION :

Human mind always wondered how the earth move around the sun. why moon is revolving around the earth? Newton gave the answer to this question. Universal gravitation law given by Newton give all the answers. This law is also called as inverse square law. Every object in the universe at-

tracts every other object by a force

This force is directly proportional to product of their masses and inversely proportional to square of the distance between them. Motion of object under influence of gravitation force due to earth provides information that all objects will fall in same time from same height. It does not depend on shape and size of objects. A small nail and a big rock will take same time

to fall from the same height. Weight of object on moon is one sixth times smaller than the weight on earth. The force acting on an object perpendicular to the surface is called thrust. The thrust force per unit area is pressure. The upward force acting on objects by the fluid is up-thrust or buoyancy. This buoyant force depends on the volume of object immersed in fluid. More the immersed volume more will be the buoyant force. Therefore, the nail will sink and ship will float on water. Archimedes said that the buoyant force acting on objects will be equal to the weight of liquid displaced by the object.



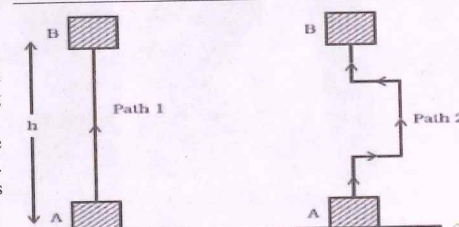
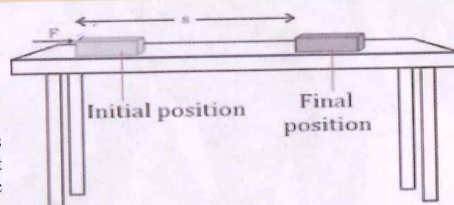
WORK AND ENERGY

Scientific definition of work requires two things one is force acting on the object and other is displacement of object. Work can be defined as the product of force and displacement in direction of force.

Work = force * displacement

In this chapter we will discuss the energy. The word energy is frequently used in daily life. Energy possessed by an object is measured in terms of its capacity to do work.

We will study the different form of energies in this chapter like potential energy, kinetic energy, heat energy, electric energy, chemical energy etc. kinetic energy of an object is due to its motion whereas potential energy is due to its position. We will come to know that work done by gravity depends on initial and final potential energy. Can we convert one form of energy into another form of energy? We will know this concept by studying conversion of energy and concept of conservation of energy. We came across one more term that is power. The rate of doing work is power. We will discuss the power and units of power in this chapter.



FORCE AND LAWS OF MOTION

In this chapter we learn the cause of motion. How the object will start moving and stops after motion. Force is the cause of motion.

Balanced force does not cause the motion but unbalanced force will cause the motion.

Newton gives three laws of motion which describes the motion of objects. These three laws define the force. First law defines what is force. Second law gives the method to calculate the value of force.

Third law give the direction of force.

First law is law of inertia. To change inertia, we have to apply force. Inertia is directly proportional to mass. Second law say the rate of change of momentum is force. Force always comes in pair is define by third law. We can say for every action there is reaction.

Momentum of an object is product of mass and velocity. To change momentum, we have to apply force. If net force acting on system is zero then momentum is conserved.



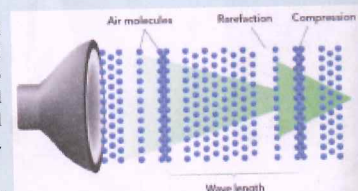
SOUND

Every day we hear sounds from various sources like humans, birds, bells, machines, vehicles, televisions, radios etc. Sound is a form of energy which produces a sensation of hearing in our ears. We will discuss how the sound is produced. The sound of the human voice is produced due to vibrations in the vocal cords. When a bird flaps its wings, do you hear any sound? Think how the buzzing sound accompanying a bee is produced.

A stretched rubber band when plucked vibrates and produces sound. We also came to know that sound needs medium to travel from one place to another. Sound wave can be described by its frequency, amplitude and speed.

Echo is heard when sound is reflected back from objects. Human ear can hear only certain range of frequency. This range is between 20Hz to 20000Hz. We also learn about ultrasound, which are high frequency waves. Ultrasound have many practical examples such as measuring depth of sea bed.

We will study all the topics in detail in 9th class. Lets study these laws and try to understand our surroundings.



FOUNDATION COURSE FOR THE 9th CHEMISTRY

This course is extremely necessary for understanding the concept of 9th Standard student who cover this course sincerely find it very easy to understand the concept of class 9th which can be sometimes daunting for the Student who has not covered these basic concepts. This course will impart necessary confidence in the students so that they can solve

various problems which require reasoning and critical thinking ability. Along with its students will become very comfortable with multiple choice questions and approach to solve those questions which is the demand of all competitive exams of current time. This course will cover following four chapters detail about which are given below.



Is Matter Around Us Pure

Many times in our day to day life we often think about purity of substances. In this chapter we will get to know how we can decide something is pure or not and the methods to separate the pure substance from impure one. We will learn the science of mixture and pure substances through following topics.

- 1) Mixture and their types -solution, suspension and colloidal solution.
- 2) properties and differences between solution, suspension and colloidal solution.
- 3) purification techniques such as Evaporation, Cen-

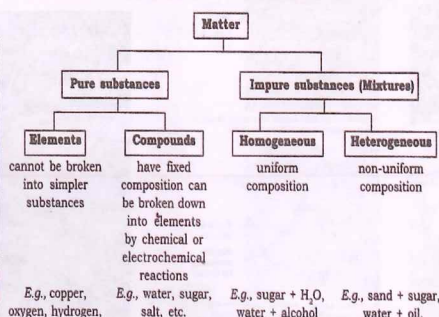
trifugation, sublimation,

Chromatography, Distillation.

- 4) Water purification system.
- 5) Types of pure substances- elements and compounds.

This chapter contains very important concepts like purification techniques

and element and compound, which are very important for the chemistry in forthcoming classes and from competitive examination point of view.



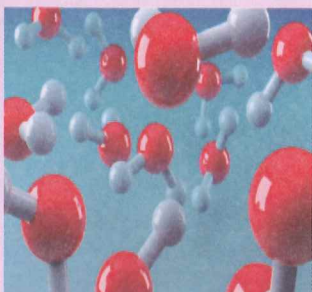
ATOMS AND MOLECULES

Sometimes we wonder about limit upto which we can divide a matter in smaller parts and what calculations a chemist do. In this chapter we will explore the same questions and learn about smallest particles and how their masses are calculated. We will get to learn this from the following topics

- 1) laws of chemistry (law of conservation of mass, and constant proportion).
- 2) what are atoms? and how we can calculate their mass.
- 3) molecules and Ions.
- 4) writing chemical formula.
- 5) Mole concept in which we will learn basic calculation of chemistry.

This chapter will serve as the foundation for the PHYSICAL

CHEMISTRY which have various calculations. Concepts of this chapter are extremely important for various competitive exam as the basic calculation of this chapter forms the foundation of all chapters with numericals in chemistry.



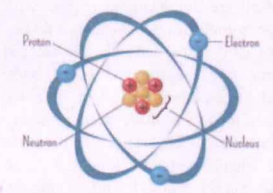
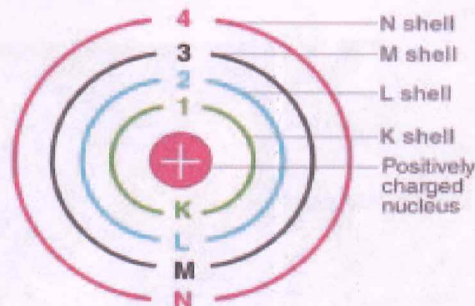
Structure of Atom

Atom can be considered as a basic building block of matter and this chapter will deal with the structure of that basic building block. In this chapter we will learn what are the different particles are present inside that atom and how one atom differ from another atom and reasons for the differences. We will analyse the structure through following topics -

- 1) Charged particles inside an atom - electrons, protons.
- 2) Different models of atom Thomson's model and Rutherford model and Bohr's model.
- 3) Distribution of electrons in atoms and valency.
- 4) Important Terms- Atomic number, mass number, isotopes and isobars. Structure of atom

is quite complex but to understand that in higher classes this chapter will serve as a guiding pathway from examination point of view this chapter has the basic concept necessary to understand chemical reactions and nature of compounds which are asked in various competitive exams.

BOHR'S MODEL OF AN ATOM

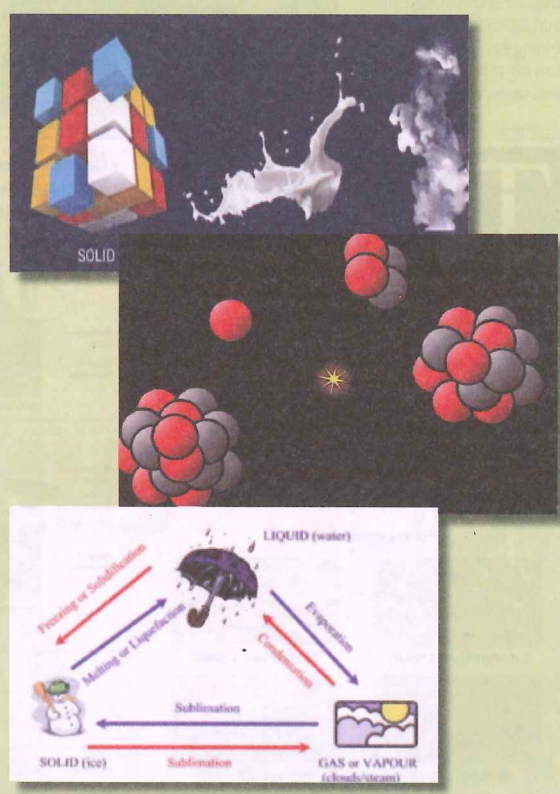


Matter In Our Surrounding

As we observe our surrounding we see different forms of material like solid, liquid and gases. In this chapter we will learn the science behind the states of matter and how we can convert them into one another. We will go through following topics -

- 1) properties of particles of matter
- 2) There states of matter i.e solid, liquid and gas, their properties and differences.
- 3) How can we convert matter from one state to another state using temperature and pressure.

4) Evaporation process. This chapter will form the very basic understanding of matter in chemistry and their behaviour, which is necessary for understanding chemistry in higher classes. From competitive examination point of view many questions have been asked in NTSE and olympiad, from this chapter And it contains various important concepts like interconversion of matter, evaporation etc for exams like NEET and JEE.



FOUNDATION COURSE FOR THE

9th BIOLOGY

We are moving from 8th class to 9th class, we have learn different aspects of living forms in earlier class, now as we are grown up and we are curious for new knowledge, we want to explore, we are looking for directions which directs us to fulfill our desire of knowledge. 9th class biology to be one step closer to NEET preparation it's in depth understanding will help us to explore more in the world of biology, this curriculum with respect to biology composed of following topics. its conceptual understanding will not

only help us to gain knowledge but also will helps us to explore in different competitive exams held at particular level.

Topic :

- The Fundamental unit of life
- Tissue
- Diversity in living organisms.
- Why do we fall ill
- Natural resources
- Improvement in food resource

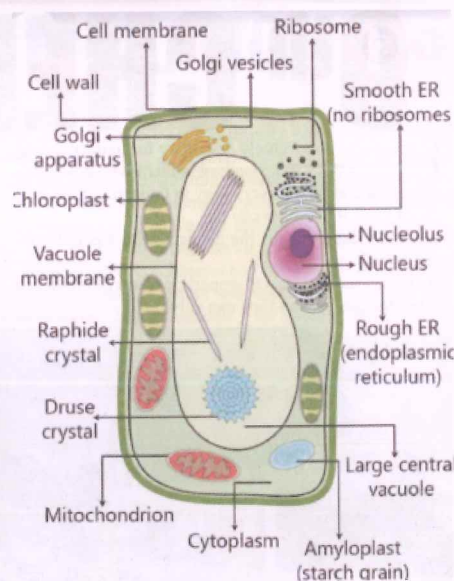


THE FUNDAMENTAL UNIT OF LIFE :

In this topic which let us learn about the basic structural and functional unit of life, living things that we see in our surrounding are plant and animals. What exactly they are made up of and also will understand why they are termed as basic units and we will understand that even such small units are composed of still tiny structures called organelles, each one is specialize and performance its function in coordination with other organelle.

in this topic we will focus in following points.

- What are living organisms are made up of
- What is cell made up of
- What is structural organization of cell
- Plasma membrane
- Cytoplasm
- Cell organelle
- Cell division (Mitosis and meiosis)

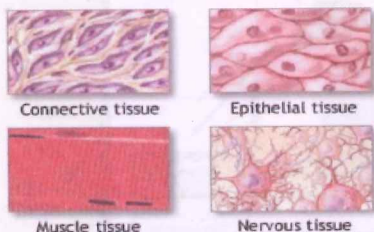


Tissue

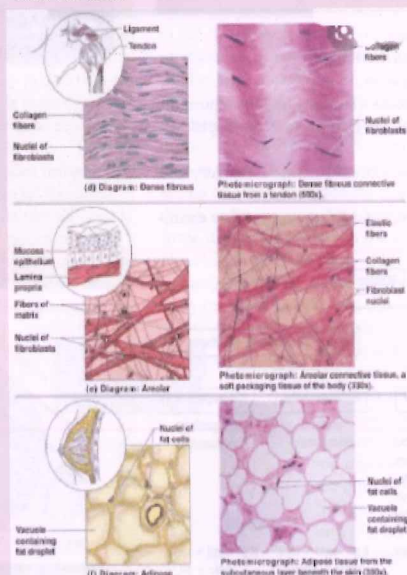
All living organisms are made of basic fundamental unit of life, but when we observe the higher plant and animals we will come to know that there is still higher level of organization in them, understanding tissue will help us to clear about physiological process in plant and animals. We will study the following points.

- Are plants and animals are made of same type tissue
- Plant tissue (Meristematic)
- Animal tissue
- Epithelial tissue

Four types of tissue



- Connective tissue
- Muscular tissue
- Nervous tissue



DIVERSITY IN LIVING WORLD :

Planet earth is one of amazing planet in which we come to know variety of living organism are there all these organisms even on planet earth also found in unique place called habitat, this variety of living things represents diversity in this topic we will understand about diverse living organisms and learn their classification, We will focus on following points.

- What is basis of classification
- Classification and Evolution
- The Hierarchy of Classification- Groups
- Monera
- Protista
- Fungi
- Kingdom Plantae
- Kingdom Animalia



Why do we fall ill ?

we all are living organisms but with time sometimes we get ill, we do not feel well, we certainly understand something is wrong with us, our body and after certain period of time we starts feeling well we become happy and we came back to our healthy life too what's mystery behind it. This we will come to know from this chapter. In this topic we will focus on following points

- Health and its failure
- Diseases and its causes
- Acute and chronic disease
- Causes of diseases
- Infectious and non - infectious disease
- Infectious disease
- Means of spread
- Principle of treatment
- Principle of prevention.



Improvement in food resource

We are very well known that food is basic need of all living organism because the food that we get us from surrounding are acting as source of energy, with increase in Worlds population it become necessity that food production must increase, this topic focuses on improvement in food production we will learn following points.

- Improvement in crop yield
- Crop variety improvement
- Crop production management
- Manure • Fertilizers
- Irrigation • Cropping pattern
- Crop protection management
- Storage of grains
- Animal husbandry
- Poultry farming
- Fish production
- Bee keeping practices

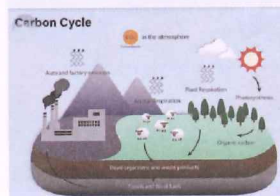


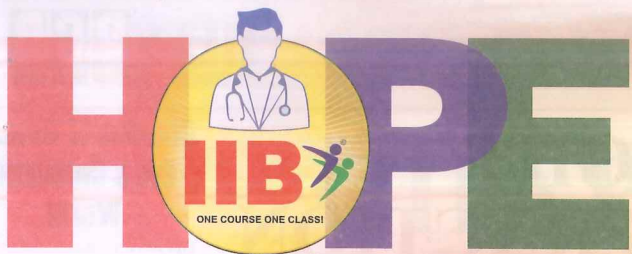
Natural Resource

When we talk about variety of living organism on planet earth it represents biotic communities on planet earth however along living forms on planet earth nonliving things are there which represents abiotic environment with which living organisms continuously interacts, the physical environment, in this topic we will learn about undesirable changes causes adverse effect on living forms that is pollution, we will also learn about different biogeochemical has important role in recycling of essential minerals, also we will focus on dramatically increased in some of gases in atmosphere resultants greenhouse effect and ozone depletion related problems. In this topic we will cover following points.

- The breath of life Air
- Rain • Air pollution
- Water a wonder liquid
- Water pollution
- Mineral riches in soil
- Biogeochemical cycle
- The water cycle
- Nitrogen cycle
- Carbon cycle
- Greenhouse effect
- Oxygen cycle and
- ozone layers e

Types of Natural Resources





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We precisely follow the unique strategies in our educational process, and ensure that each and every student enjoy to learn and acquire the syllable knowledge along with learnings for life. We focus on making the line thinner between the students and syllabus to give confidence to bridge across this line towards academic success. We continuously follow and try to evolve the simplest techniques that allow students to learn more in less time, to remember for longer time period. We treat students friendly and are always ready to help them for career and learnings.

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FOUNDATION
COURSE
FOR THE

10th PHYSICS

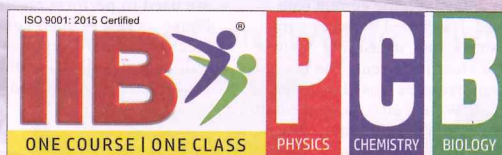
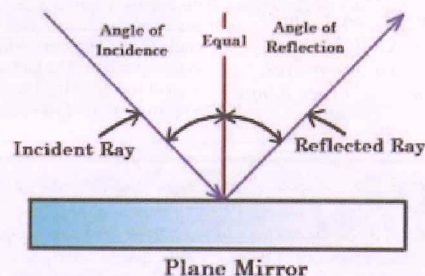
We have believe "Knowledge is power" however it does not always come with power. Knowledge is the state of understanding or alertness. It is learning of specific information about something which is gained due to scientific study. It means our students can form their view or they can develop their own theory. Due to our scientific knowledge students can support their assumption with definitive laws and mathematics. This knowledge is power if the students use it for their personal growth and for the betterment of humanity. Thus a student who has the ability to perform effectively with his knowledge, then he gains Power.

Your last 9 standards were about gathering knowledge. Now you are stepping in to more competitive world where you need to learn quickly and apply the same for solving problems. 10th standard will provide you with the basics required to excel in competitive exam like NEET, JEE Main and Advanced. It is like a launched pad for fast journey in to your bright future.

Our 10th class textbook contain 16 chapters. In 11th and 12th we divide science into three sections namely physics, chemistry and biology. Following list of chapters belong to our physics section.

- Chapter 10 – Light – Reflection And Refraction
- Chapter 11 – Human Eye And Colourful World
- Chapter 12 – Electricity
- Chapter 13 – Magnetic Effects Of Electric Current

- Chapter 14 – Sources Of Energy
- Let's look into introduction of each chapter.



CHAPTER 10 – LIGHT – REFLECTION AND REFRACTION

Are you able to see anything in the dark room? No, to see a variety of objects in the world around us we need light. Thus, light is the form of energy which makes objects visible. On lighting up the room, objects become visible. During the day, the sunlight helps us to see objects. An object reflects light that falls on it. This reflected light, when received by our eyes, enables us to see things.

When we look through a colourful red glass we will see everything in red colour. It is due to passing of light through transparent glass slab. This phenomenon is called refraction.

There are a number of common wonderful phenomena associated with light such as image formation by mirrors, the twinkling of stars, the beautiful colours of a rainbow, bending of light by a medium and so on. A study of the properties of light helps us to explore them. By observing the common optical phenomena around us, we may conclude that light seems to travel in straight lines. The fact that a small source of light casts a sharp shadow of an opaque

object points to this straight-line path of light, usually indicated as a ray of light. In this Chapter, we shall study the phenomena of reflection

and refraction of light using the straight-line propagation of light. These basic concepts will help us in the study of some of the optical phenomena in nature.

We shall try to understand in this Chapter the reflection of light by spherical mirrors and refraction of light and their application in real life situations.



Chapter 11 Human Eye & Colourful World

You have studied in the previous chapter about refraction of light by lenses. You also studied the nature, position and relative size of images formed by lenses. How can these ideas help us in the study of the human eye? The human eye uses light and enables us to see objects around us. It has a lens in its structure. What is the function of the lens in a human eye? How do the lenses used in spectacles correct defects of vision? Let us consider these questions in this chapter. We have learnt in the previous chapter about light and some of its properties. In this chapter, we shall use these ideas to study some of the optical phenomena in nature. We shall also discuss about rainbow formation, splitting of white light and blue colour of the sky.

You are familiar with flow of water, air and sand etc. In the same way charges flow to produce electric current. In this chapter we will see the flow of current in the conductor and also see that some materials will not allow the flow of current called insulators. Many times you have heard the term old age it is a very common term in our day-to-day life voltage is required to start many home appliances. We are also going to study its measurement and its relationship with current. You have also heard about Ohm's law. This law introduces new term, which is a natural opposition to flow of current called resistance that we will see in this chapter.

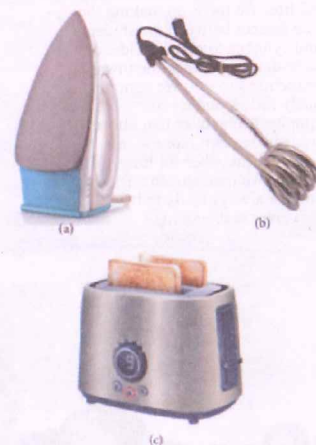
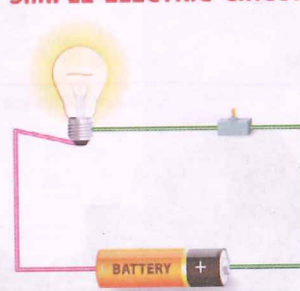
To represent flow of electric current path must be closed. It is closed by using wire, electrical components, measuring devices and source of electric current. The flow of electric current requires closed path called electric circuit. We are also going to study common electrical symbols required to draw the electrical circuit. We will also learn to calculate effective resistance of a complete circuit and voltage across any component used in the circuit. We will learn new formula which will help us to solve circuits. Are you familiar with electric heater? Yes, it is used to heat up the water in winter. When current flows through any conductor it develops certain amount of heat this effect is called heating effect of electric current. We are going to learn to calculate the amount of heat developed and its dependence. Heat is the form of energy and it is used to perform electrical work many electrical components

are used to perform electrical work. Any house is full of such components. Our electricity board supplies the power which will help the electric components to perform their functions and every month we

receive electric bill which are calculated on the basis of amount of electrical energy consumed. We are going to learn how to calculate electric bill and different methods to save electricity.



SIMPLE ELECTRIC CIRCUIT



CHAPTER 13 – MAGNETIC EFFECTS OF ELECTRIC CURRENT

In current electricity we have already studied the heating effect of electric current. In 18th century scientist performed experiments on the flow of electric current through conductor. Scientist Oersted was performing an experiment to study electrical flow and accidentally he discovered that magnetic needle placed near the conductor shows a deflection. After repeating the experiment many times he realised that electric current

produces magnetic field when it flows through a conductor. This effect is known as magnetic effect of electric current and it can be related with magnetism. You are familiar with the magnet which shows attractive property for iron particles. Similarly a current carrying conductor can be treated as a magnet which produces the magnetic field.

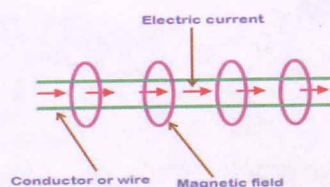
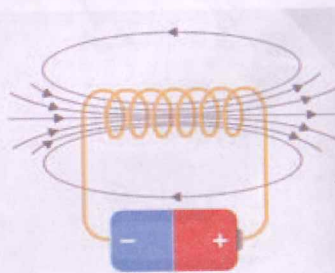
Now we will learn to find the direction of magnetic field and ways to represent it on the paper. This effect plays an important role in working of electric motors, which are helpful in many electrical appliances like fan, mixer, washing machine.

Can we produce electric current by using magnetic field? Can the vice versa

be true? Yes, this reverse effect is called electromagnetic induction which is used in AC generator to produce electricity at the time of emergency. We are also going to study the applications of electromagnetic induction in our day-to-day life.



MAGNETIC EFFECTS OF ELECTRIC CURRENT



CHAPTER 14 – SOURCES OF ENERGY

In this chapter we are going to study the different sources of energy.

A source of energy is that which is capable of providing enough useful energy at a steady rate over a long period of time. We require such good sourced to perform our day- to-day work. A good source of energy must have following characteristics.

- Safe and convenient to use, For example; nuclear energy can be used only by highly trained engineers with the help of nuclear power plants. It cannot be used for our household purpose.

- Easy to transport, For example; coal, petrol, diesel, LPG etc. have to be transported from the places of their production to the consumers.

- Easy to store, For example; huge storage tanks are required to store petrol, diesel, LPG etc.

To study sources of energy in detail we classify it in to two types.

1. Renewable sources of energy.

2. Non-Renewable sources of energy.

We will look at introduction of each source.

1. Renewable sources of energy:
Renewable sources of energy are those which are inexhaustible, i.e., which can be replaced as we use them and can be used to produce energy again and again. These are also called nonconventional sources of energy. Due to the increasing demand of energy it is a need to use these modern sources of energy. These are available in an unlimited amount in nature and develop within a relatively short period of time.
Example of Renewable Sources of Energy

- Solar energy.
 - Wind energy.
 - Water energy (hydro-energy).
 - Geothermal energy.
 - Ocean energy.
 - Biomass energy (firewood, animal dung and bio degradable waste from cities and crop residues constitute biomass). These sources will last as long as the Earth receives light from the sun. They are freely available in nature.
2. Non-Renewable Source of Energy:

Non-renewable sources of energy are those which are exhaustible and cannot be replaced once they have been used. These sources have been

accumulated in nature over a very long period of millions of years. These are also called conventional sources of energy as we are using these sources since ancient times.

Examples of Non-renewable Sources of Energy :

- Coal.
 - Oil.
 - Natural gas.
- All these fuels are called fossil fuels. We face certain problem in using these sources
- Due to their extensive use, these sources are fast depleting.
 - It is difficult to discover and exploit new deposits of these sources.
 - These sources are a major cause of environmental pollution.
- We will study how to minimize these problems and use new sources of energy.



Non- Renewable Energy



Natural Gas



Coal



Nuclear



Oil



FOUNDATION COURSE FOR THE

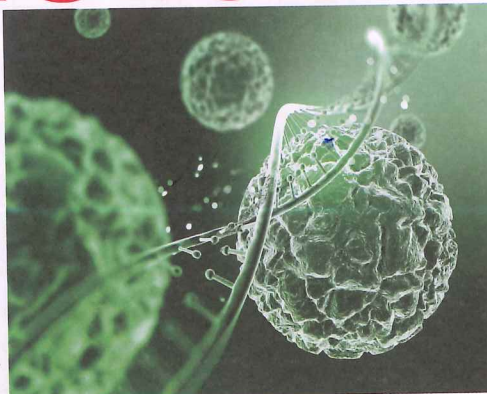
10th BIOLOGY

Now we are moving from 9th class to 10th class, in 9th class we learn many aspects of biology and certainly understand that still many things about to learn, we should explore and curious about next curriculum because we will be learning new concepts of life, to which we herd somewhere very partially. This year is most important to us, because everyone in our surrounding ask us regarding progress and studies to which become some time tiered too,

but its time woke up with new zeal and great energy to use our energy in right direction given by institution, we have to be more focused so that at each concept taught in class will cleared with aspects, hard work at this steps will take you more closer to your dream preparation of NEET, in this tenth following topics you are going to learn

Topics

- Life processes
- Control and coordination
- How organism reproduce
- Heredity and evolution
- Our Environment

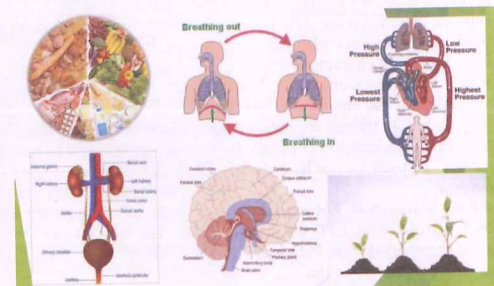


LIFE PROCESSES

In this topic we will understand about processes that are required for maintenance normal functioning of organisms. All such processes constantly continuously occur in body of organism with respect to both animals and plants. In which will understands we obtained and use food from surrounding (Nutrition), process of gaseous exchange and importance of oxygen for cell and its relation in generating

energy, we will also focus on transport of food and water and minerals in both animals and plants, We will understand in depth following point.

- What are life processes
- Nutrition (Autotrophic and heterotrophic)
- Nutrition in human being
- Respiration
- Transportation
- Excretion



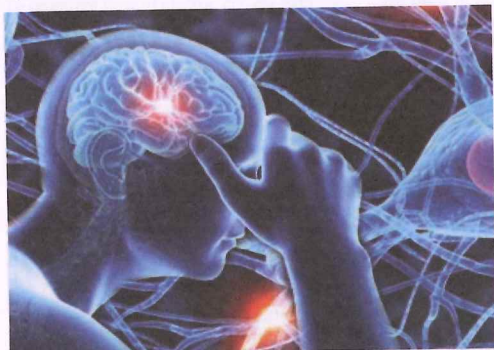
CONTROL AND COORDINATION

In this topic we will understand about system one of most important system which enable us to understand change (Stimulus) which occurs in our surrounding not only sense but also we learn about how we responds it, we will understand about

hormones chemical substance produced in small concentration but have great role in coordinating body activities.

NERVOUS SYSTEM :

- Neurons
- Human brains
- Coordination in plants
- Hormones in animals

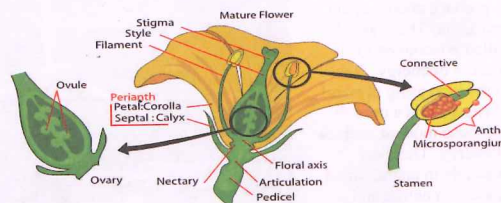
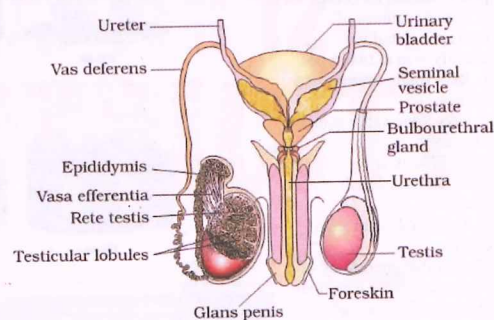
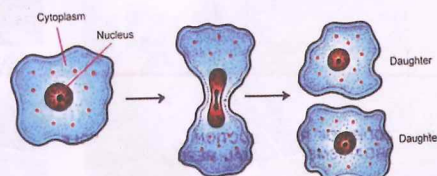


HOW DO ORGANISMS REPRODUCE

We are now very much clear about this fact that planet earth has wide range living types this chapter will help us to understand a process behind the continuous existence of species over planet earth, we focus on different mode of reproductions that are found in unicellular and multicellular organism. Where we will understand asexual reproduction is primitive and do not came with variations and sexual reproduction gives rise to variations

In this topic we will focus on following points.

- Do organisms creates exact copies of them selves
- Mode of reproduction used by single cell organisms
- Asexual mode of reproduction
- Sexual mode of reproduction (Plants and animals)
- Reproductive health
- Asexual mode of reproduction
- Sexual mode of reproduction (Plants and animals)
- Reproductive health



OUR ENVIRONMENT

We all living being we are part of this planet earth, but if we think of our planet we will understand along with all living form's we are surrounded by environment In this topic we will focus on different component of environment interacts with each other and how

our different activities affect environment.



We learn following points

- Eco-system what are its com-

ponents

- Concept of food chain and food web
- How do our activities affect the environment?
- Ozone depletion

Sustainable management of natural resources

Natural resources are gifted by nature for us. Its proper and efficient utilizations very important, in this chapter we

will understand its sustainable management so that these natural resources will be available for future In this topic we will focus on following points

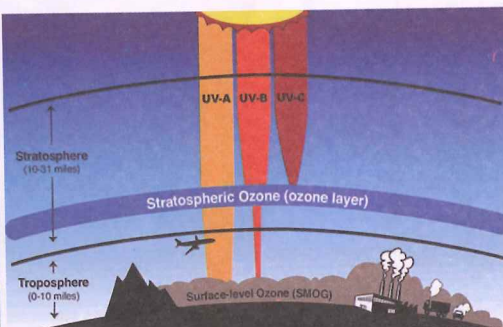
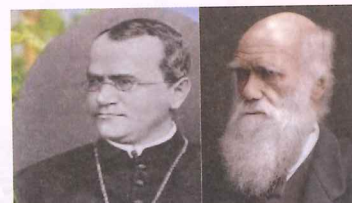
- Why do we need to manage our resources?
- Forest and wild life
- Water for all
- Coal and petroleum
- an overview of natural resource management.

HOW DO ORGANISMS REPRODUCE

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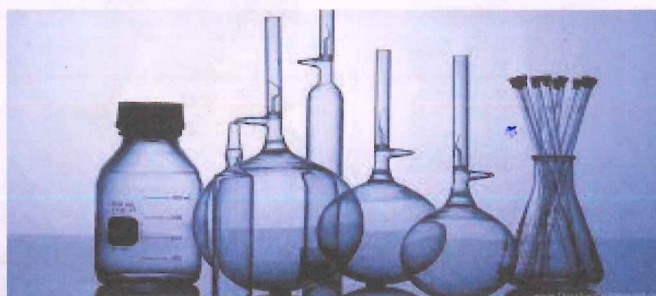


FOUNDATION COURSE FOR THE

10th CHEMISTRY

This course will prepare student not just for the board exam but also competitive exams like NTSE and Olympiad and along with this build a foundation for the subject in class 11th and 12th standard and exams like NEET. This course will impart critical thinking and reasoning in the student and boost confidence of student by making them accustomed to a large number of multiple choice questions which is demand of competitive exams of current time. This course will cover following chapters in the chemistry.

- 1) chemical reaction and equation.
- 2) acids bases and salts.
- 3) metals and nonmetals.



4) carbon and its compounds.
5) periodic classification of elements.

Brief overview of above chapters are given below.

CHEMICAL REACTION AND EQUATION

Everyone must have observed the chemical reaction that are shown in various books, advertisement. In this chapter we will get to know how many types of these reactions are there, how we write them and what are their applications. We will go through the following topics -

- 1) Chemical equation.
- 2) Balancing of chemical equation.
- 3) Types of chemical reaction (combination, decomposition, Displacement, Double

displacement and redox reaction) 4) Corrosion, rancidity and how to prevent them. This chapter will make students enable to represent any chemical change using symbols and we will know what happens in all these chemical reactions. From competitive examination point of view this is important as all the chapters in chemistry of higher classes contain many chemical reactions, for which this chapter provides a Foundation.



ACIDS, BASES AND SALT

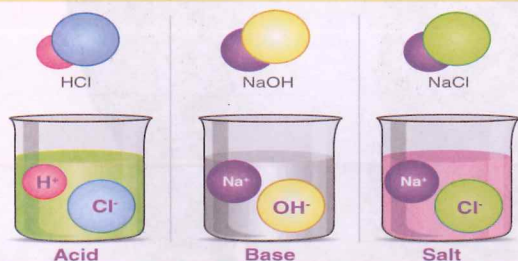
We all have seen vinegar, common salt and heard about acidity, acid rain etc. In this chapter we will deal with all these compounds, how can we identify them and what purpose they serve in our daily life. We will get to know the

science of acids, bases and salt through following subtopics -

- 1) what are acids and bases.
- 2) Reactions of acids and bases.
- 3) pH indicators to compare strength of different acids and bases.
- 4) What are salt and important salts like common salt, sodium Hydroxide,

Bleaching powder, Plaster of paris, Washing soda, baking soda. This chapter will make us aware about one of the most important category of compounds in chemistry which are used in preparation of many other compounds.

Questions from this topic have been asked multiple times in various examinations and it contain many important compounds and their properties which will be useful in forthcoming classes.



METALS AND NO-NMETALS

In our daily life we all come across various materials and they are made up of either metals or nonmetals. In this chapter we will get to know the difference between metals and nonmetals, various reactions of metals, how they are obtained from nature. This chapter contains following subtopics

- 1) Physical properties of metals and nonmetals.
 - 2) Reaction of metals with air, water, solution of other metals and nonmetals.
 - 3) What are ores and how metals are extracted from ore.
 - 4) Corrosion and prevention methods.
- From this chapter students will acquire

knowledge of different properties of metals and their reactions which are very important for study of higher chemistry. Along with it concepts from this chapter have been asked not only in exams like NTSE and Olympiad upto X standard but exams like NEET, JEE also.

Metals vs Nonmetals

- Form cations
- Metallic luster
- Good conductors
- Malleable and ductile
- High melting point
- Most solid at room temperature
- Sonorous

- Form anions
- Dull, colorless to colorful
- Poor conductors
- Brittle
- Low melting point
- Often liquids or gases at room temperature
- Not sonorous

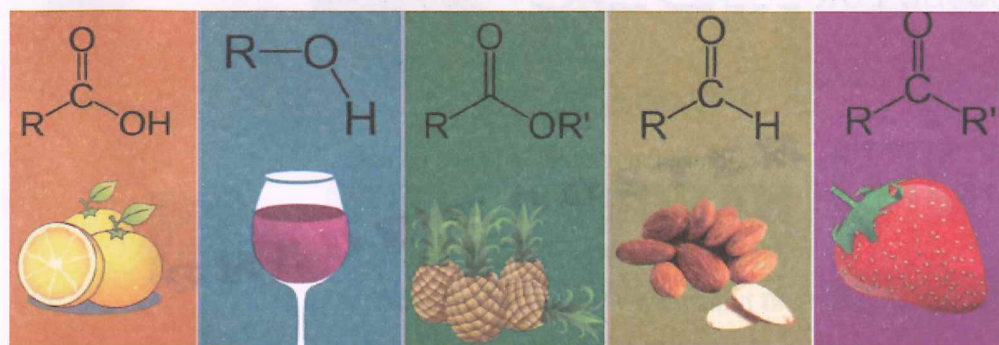
CARBON AND ITS COMPOUNDS

In today's world in every aspect of our life we encounter some or other compound made up of carbon. In this chapter we will analyse the reason for formation of such a large number of compounds their naming and some

of the important compounds. Topics in this chapter are as follows :-

- 1) Covalent bond in carbon and its versatile nature.
- 2) Saturated and unsaturated compounds.
- 3) Nomenclature (naming) of

carbon compound like addition, substitution, combustion and oxidation. 4) Some important carbon compounds and their uses like ethanol, ethanoic acid, soap and detergent. This chapter forms the foundation of organic chemistry (study of carbon compounds) in higher classes. Concept in this chapter are very important not just for scoring well in examination but many many chapter in the chemistry in forthcoming classes.



PERIODIC CLASSIFICATION OF ELEMENTS

You must have seen a chart where symbol of various elements are written in different boxes. That chart is modern periodic table. In this chapter we will get to know the different attempts made by chemists to classify and arrange elements to establish a relation between them. We will learn following in this chapter -

- 1) early attempts to classify elements - (Dobereiner's triads, Newland's law of octaves and Mandeleev's periodic table).
- 2) The modern periodic table and position of different

3) Trends in the modern periodic table (valency, atomic size, metallic and nonmetallic properties). This chapter is important to learn inorganic chemistry in higher classes as groups, periods and blocks of periodic table are mentioned repeatedly at various places in study of chemistry. Or examination point of view this chapter will enable the students to understand all the chapters of inorganic chemistry (Study of compounds of elements other than carbon).

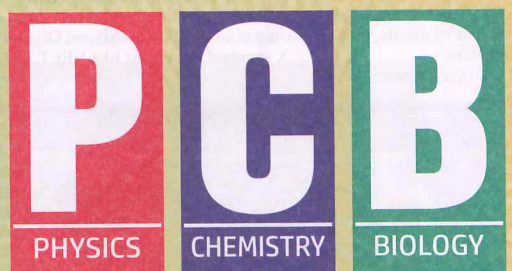
Li	Be																	B	C	N	O	F	Ne
Na	Mg																	Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr						
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe						
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn						
Fr	Ra	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr							
																		Fl			Lv		
Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu										
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr										

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