EMMANUEL COLLEGE OF EDUCATION-245

Tamaram, Makavarapalem (Mdl), Visakhapatnam (Dt)-531113

B.Ed. Programme (Academic Year -2015-2017)

Semester – I / ~~II~~ / ~~III~~ / ~~IV~~

Course : Pedagogy of Physical Science

Name : Sagar Thokdar

Roll No : _____ Regd. No : 216124502005

Pedagogy : ~~Physics~~/ Mathematics

ANDHRA UNIVERSITY

VISAKHAPATNAM

CERTIFICATE

This is to certify that Mr./Mrs/Kumari Sagar Thokdar student of Emmanuel College of Education, has completed 5 activities in College / School /Society and submitted the same as **Activities Record** of the Course Physics as a part of his / her **I / II/ III /IV** Semester in B.Ed., Programme.

ROLL.NO. _____ REG.NO 216124502005

nature of the Lecturer

Signature of the Principal

PRINCIPAL
Emmanuel College of Education
Tamaram (V), Makavarapalem (Md)
Visakhapatnam, Pin-531 113

Initial of the member of Moderation Board

College Seal

EMMANUEL COLLEGE OF EDUCATION
TAMARAM, VISAKHA DT.

Dt.....

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PHYSICS

ACTVITY - 1

Q Identify the most obstract concept difficult topic from any class physical Science text book. Suggest ways and means to make it easy to understand and concrete.

CLASS :- 8th class

PHYSICS :- Force

INTRODUCTION :-

Have you ever picked the hail stones falling down in a hail storm? a paper boy through a news paper. have you ever wonder about this action like stretching a rubber band, pulling a wheelbarrow throwing a ball etc are some more Examples where our help to change of the objectives.

TYPES OF FORCES :-

Contact forces and Forces at a DISTANCE :-

why does the tooth paste come out when we press the tube? why does the needle of a magnetic compass move when we place a bar magnetic near it have you observed the difference b/w the force you apply on the needle of a compass.

Assumptions of Construct Force :-

Knowledge is constructed from assumption Experience. you observe that there is direct physical contact b/w your hand the tube force. which result when there is a direct physical contact b/w two interacting objectives.

MUSCULAR Force :-

In all the actions that we perform in our daily life like brushing bathing, eating bathing, eating, writing driving and walking we have to exet a force DO you know from where the force comes? Even we smile our muscles exert force to bring changes changes our muscular force can be exerted only through contact.

Force of friction :-

when you roll a ball on a level ground it invariably stop after sometime.

why does the ball stop.

Is there any hidden force which bring in to stop.

TENSION :-

We know that the stone would fall down due to gravitional pull of the earth if the string is broken.

For a stone tied to the string gravity. pulls down the stone all the time but it does not fall down because it is by the string. above fig thus there exists a force which support the stone against and it's called Tension.

Forces acting a distance :-

Magnetic Force :-

Take a sewing needle Rub it with a bar magnet several times always a swaph moving the needle get magnetised

ELECTROSTAIC FORCE:-

Take a balloon inflate it and tie up the open end. Now cut a paper in to small piece and bring the balloon near the piece of papon what happens now? Are the bits of paper pulled.

The force exerted by a charged body on another charged body is known as electrostatic force.

Gravitional Force:-

It is our common experice that if a pen slips off from our hands it falls down to the floor

what does the pen fall down?

If we keep the same pen on a table it does not fall down. Every object on the earth or close to earth will experience a gravitational pull. The force of gravity is not just due to attraction of the earth.

ACTIVITY - 2.

Identify suitable methods & approaches of teaching dif topics from physics Text Book of and 6th - 10th class.

INDUCTIVE APPROACH :-

In the inductive approach the concept generalisation is devided after selecting a number of Examples from pupils. It is reasoning from particular to general" in the teaching of physical of physical science. as formular in Construction method.

we make use of the inductive method of teaching whenever children we before. Children a number of

Facts Examples or objects and then endeavor to lead them to to draw conclusions for Examples in science by heating yellow metals expand when heated.

Some Eg:- gold copper, aluminium

Steps in Inductive approach to problem Solving.

The various steps in inductive appvach:-

Sensing the problem:-

Here the students defince the problem to expand the metals.

Analysing the situation:-

Here a detailed analysis of all metals of the situation is done.

Collecting the data :-

The students collect the of relevant data from (metals) like all details in collect the diffant sources like books field etc.

Framing possible solutions :-

After collecting the data student frame ponible solutions.

Verification :-

The metals are expand are not to the problem situations and the results are checked and repeated number of times.

DUDUCTIVE METHOD :-

It is opposite to Inductive method of verification of formulae

DEDUCTIVE approach is from gural to particular. It is sometimes called "going from the known to the unknown" because it involves making logical inference from general statements that have been accepted. This method of verification of formulae.

Example :-

Acids changes blue litmus paper is red and Bases changes paper es blue.

Take four test tubes containing from a number of sources like library. laboratory field etc.

Drawing inference:-

The principles, generalizations are reviewed to find facts which be best applicable to the problem in question.

Verification:-

The principles or generalisation is applied to the particular case. It if solves the problem then it is accepted, other wise the procedure is repeated till a better solution is found.

PHYSICS
ACTIVITY - 3

prepare and anignment on any physicence and its applications and implications with other branches of knowledge.

INTRODUCTION :-

No subject can be taught in isolation Correlation signifies the close relation slip blw various subjects of the curriculum Different subjects have Coorelation with life they have Correllation with each other to Explain any object to bring about the awareness of the should work in harmony.

Correllation of dif subjects is important for checking artificialitp of

treatment and for achieving the unity of knowledge. so the principle of correlation demands that various subjects should contribute to the child development and Education and laws have a relation-ship with one another.

views of different Educationist about Correlation :-

Correlation. as the word, signifies is the reciprocal relationship between various subjects of the curriculum.

Carter v. good :-

Correlation is bringing together the elements of two or more diff subject matter fields that bear on the same.

Eg :- $M = \frac{\sin i}{\sin r}$

Science and Crafts :-

Different crafts are based upon the principles of science The help of necessary in finding out the ingredients of wood clay metal etc thus science and both are related with each other :

Science and music :-

All the musical instruments are the built on the principles of science The are exist at the science now a day the modern inventions in the field are the of science.

Froebel :-

Play should be the centre of Education while teaching the elementary classes. He suggested that all subjects connected with play.

Ziller :-

He propounded that all teaching should centre around one core subject.

Physical science with Mathematics :-

All branches of mathematics have direct application of science scientific inventions cannot be achieved without the help of mathematics various theories of science are tested. The table and graphs made available only with the help of mathematics.

Physics and Mathematics :-

There is a close relation between phys and mathematics. we can say that there is no difference in between physics and mathematics.

a, measurments statistics, kinematics, collisions are based on mathematics.

Eg $v = u + at$

$v^2 - u^2 = 2as$

b, The relation between wave motions velocity and wave lengths.

Eg :- $v = n\lambda$, $n = 1/T$

c) To Explain light phenomenas like refractive Index

Science and language :-

It is not possible to learn Science without adequate of knowledge on the other hand science has its own vocabulary and way of expression the knowledge while teaching improve the expression power of students.

CONCLUSION :-

In the end of we can conclude by saying that while Science acquainting the student with knowledge of facts it also well balanced useful citizens by and aesthetically thinking and working.

ACTVITY - 4

Collect information and degribe the contribution of anép one physician Scientist.

NAME : SRI CHANDRASEKHAR VENICA RAMAN.

BORN 7 November 1888
Thiruvanai koli, Tiruchanapalli, madras presidency, British India

DIED 21 November 1970 (aged 82)
BANgalore karnakataka India

NATIONALITY INDIA

FIELDS PHYSICS

INSTITITIONS: INDIAN FINANCE DEPARITMENT
UNIVERSITY OF culcutta
Banaras Hindu university

Doctoral :- G. N. Ramachandran

Students :- Vikram Ambalal Sarabhai

Known for :- RAMAN Effect

Notable :- Knighthood Bachelor (1929)

Award :- Hughes medal (1930)

Nobel prize in physics (1930)

Bharat Ratna (1954)

Lenin peace prize (1957)

Fellow of the Royal Society

Spouse :- Lokasundari Ammal (1907 - 1970)

Family :- Raman's father initially taught in a School in Thiruvanaikaval become a lecturer of physics.

EDUCATON :-

At an early age Raman moved to the city of Visakhapatnam and worked at St Aloysius Anglo Indian High School Raman passed his matriculation Examination at the age of all and he passed his F'A examinations with a scholar ship of the age of 13.

In 1902 Raman joined presidency college in madras where his Father was a lecturer in phys. in 1904 he passed his Bachelor of arts Examination State at Andrapradesh and later joined Presidency College in madras.

CAREER :-

In 1917 Raman resigned from his government service after he was appointed the first paid-out professor at Physics at the university of calcutta at the same time he continued doing research at the Indian Association for the Cultivation of science Calcutta where many students gathered around him at the IACS and the university of Calcutta

On 28 February 1928 Raman led Experiments at the IACS with Colaboration including K.S Krishnan on the scattering of light when the discovered what now!

by G. venkataraman it was instantly clear that this discovery was of huge value & gave further proof of the "Quantum nature of light" Raman had a complicated professional relation ship with E.S Emphras. who surprisingly did not share the award but is mentioned of prominently even in the nobel lecture.

PHOTO

Raman was succeed by "Debendra mohan Bose" at the palit professor in 1932 in 1933 Raman left IACS to join Indian institute of science in Banglore.

Achievements :-

During a voyage to europe in 1921 Raman noticed the blue colour of glaciers and he made studies See which explained the phenomenon.

Raman Employed monochromatic light from a mercury arc lamp which penetrated its spectrum he detected lines in the spectrum which he later called Raman lines.

ACTIVITY - 5

Q List out different Content a unit in physics / chemistry and write down the objective and specifications under Cognative domain associated with them.

Class : 8th Class

Conten : Metals and non metals

(PHYSICS)

CONTENT : 1 METALS

CONTENT : 2 NON-METALS

OBjectives and SPECIFICATIONS :-

CONTENT : 1 METALS

Knowledge :-

It involves the recall of specific and universal methods and proces it Explain

students complete details of the metals

APPEARANCE :-

In previous classes you learnt that the materials which have a bright surface and reflect light are called lustrous materials.

SONORITY :-

While Aryan was carrying a geometry box he slipped fell. He noticed that the box made a ringing sound. it was similar to the sound that of ringing bell.

Have you observed materials used to make school or bells in the temple like metal.

ANALYSIS :-

The break down of a communi-cation into its constituent elements or parts so that the relative hierchy of ideas is made clear and ideas expressed are made explict

students learn the properties of metal so that you are able to answer this question at the end of the chapter type of materials.

EVALUATION :-

Judgement about the metals and methods for given purpose. It includes internal. Evidence.

Synthesis :-

students putting together of metal elements and part so to form a whole. The includes production of communication of a plan abstract relation.

CONTENT-2 NON-Metals

KNOWLEDGE :-

It involves the recall of specific and universal and process it explain complete details of knowledge to the students and proun.

COMPREHENSION :-

If represent the lowest level of understanding the non metalee properties for the students.

IDENDIFICATION :-

Students identify the non material metals observe and identification of particular no metals.

APPEARANCE :-

Students observe the wooden bells and wooden pillow are not use in schools and also simply also simples