ANDHRAKESARI COLLEGE OF EDUCATION

(Approved by NCTE, Affiliated to ACHARYA NAGRJUNA UNIVERSITY , GUNTUR)

Cheruvukommu Palem Road , ONGOLE – 523 272 , PRAKASAM Dist ., (A.P)

B.Ed Course : SEMESTER – 4

S 4 P – PEDOGOGY

SCHOOL INTERNSHIP RECORD

SUBJECT : PHYSICAL SCIENCE

PRACTICUM : ACTIVITIES / PROJECT / RECORD

Name of the student Teacher ----------

Roll No: ---------- Reg.No :----------

PEDAGOGIES: 1) ---------- 2) ----------

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Signature of the Headmaster / Headmistress (Seal)

Signature of the Lecturer-in-charge

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MACRO TEACHING LESSON - 1

Preliminary Information :

Name of the student Teacher :

Reg No :

Subject : physics

class : VIII

unit : II

Topic : plastics

Time : 45 min

School Time :

Date :

Name of the Supervisor

Previous knowledge : The Pupil will have the knowledge about the plastic materials

Reference books :-

(a) For Content :- VIII class physical Sciences NCERT Text book
VIII class physical sciences CBSE Text book

(b) For methodology : Methods of teaching physical Science - Neelkamal
Methods of teaching physical Science - masterminds

Teacher learning material :- plastic bottle, candle, matchbox,
Some plastic materials

Teaching method :- Inductive - deductive method

Teaching learning Points :- plastics and types of plastics

~~Major Intime~~ Major Instructional objectives :-

(3)

Terms :- plastics, polymer, synthetic fibres, monomers, linear chains, linear arrangement, cross - linked arrangement, Tupperware, thermoplastics, PVC, Polythene thermasetting plastics, Bakelite, Parkesine, Melamine, re-mouldable.

Facts :- Polymers are long chain molecules.

Principle :- The hardness of the plastic is based on the arrangenet of monomers.

Definitions :- The plastics which malded once cannot be softened by heating are called as Thermo setting plastics.

The plastics which will soften when heated and harden when called are called Thermoplastics.

① Knowledge :- The pupil acquires the knowledge of terms, facts, Principles, definitions of the lesson.

Specifications:-

Recall:- The pupil recalls the terms plastics, polymers, facts, definitions and Principles in the lesson. (1)

Recognition:- The pupil recognises the objects which are made of plastic.

(2) understanding:- The pupil understands the acquired knowledge of plastics.

Specifications:-

(1) Translates:- The pupil can translate the terms in his own words.
Eg:- He can translates types of plastics in his own words.

(2) Gives Examples:- The pupil can gives Examples for the plastic materials.
Eg:- He can tell Examples for plastic items as chairs bottles etc.

(3) Compares:- The pupil Compares Thermoplastics with thermosetting plastics.

(4) Sees Relationship:- The Pupil Can Sees relation between types of plastics with the arrangement of monomers.

(5) Compares:- The pupil Can Compares thermoplastics with thermosetting plastics.

(3) Explains:-

(6) Explains:- The pupil can Explains the properties of plastics in his own words.

(7) Differentiates:- The Pupil can differentiates plastics from other materials.

(8) Identifies:- The Pupil can identify the materials made of Bakellite and materials made of melamine.

(9) Verifies:- The Pupil can Verify the results when two types are heated.

(3) Application:- The Pupil can apply the acquired knowledge of plastic real life Situations.

Specifications:-

(1) Analysis:- The Pupil can analyses the Situation

Eg:- The Pupil can analyse reasons for why this plastic materials are widely using in our daily life.

(2) predicts:- The pupil can predict what happens when a plastic material is burnt.

(3) Established relation:- The Pupil can establish a relation between a linear arrangement of monomers and cross-linked arrangement of monomers

(4) Gives reasons:- The pupil can give reasons.

Eg:- The Pupil gives reasons why the thermosetting plastics are not remouldable.

(5) Judges:- The pupil can Judges the results.

Eg:- The Pupil can Judge the results in identifying thermoplastics and thermosetting plastics by flame test.

(iv) Skills:-

(1) observational Skill:- The Pupil can get the observational skill in identifying the plastics by flame test.

Specifications:-

(i) The Pupil cites the hardness of plastics.
(ii) The Pupil observes the types of plastics.
(iii) The Pupil observes the Concepts, definitions with clarity.

(2) Reporting Skill:- The Pupil develops the reporting skill.

Specifications:-

(i) The Pupil follows the clarity of language in the report.
(ii) The pupil selects the appropriate words in reporting.

(iii) The pupil simultaneously ... [illegible]

(iii) The pupil simplyfying the content of information in reporting.

(iv) The pupil develops accuracy in reporting.

(5) Interests!- The Pupil can get interest in knowing about physical Science.

Specifications!-

(i) The pupil undertakes projects in physical science.

(ii) The Pupil ask questions in scientific discussion

(iii) The pupil reads scientific lecture and biographies of prominent Scientists.

(iv) The Pupil Collects Specimens, photographes and biographies etc.

(v) The Pupil participates in science fairs, exhibitions, clubs etc.

(6) Appreciation!- The Pupil appreciates the Contribution of physical Science to human happiness.

Specific objectives!-

(i) The pupil acknowledges the Contribution of various physicist and chemists to human progress.

(ii) The pupil appreciates the history of development of physical Science

(iii) The Pupil realizes the importance of physics and chemistory.

(iv) The Pupil takes pleasure in understanding the progress made in physical science.

(v) The Pupil manifests a spirit of scientific inquiry.

(vi) The Pupil shows respect and admiration for scientists and their inventions.

(7) Scientific attitude :- The pupil can acquire Scientific attitude in learning physics.

Specifications :-

(i) The Pupil Perform records and interpet his experimental observation honestly.

(ii) The pupil is willing to Consider new ideas and discoveries.

(iii) The Pupil locates sequential development and growith of physics.

(iv) The Pupil is Prepared to reconsider his own judgement in the light of new evidence.

(v) The pupil pursues his activities with precision and Consistently by the failures.

(vi) The pupil Exhibits Self reliance, Self help and team spirit.

Introductory Activities

Content Analysis	Teacher's Activity	Pupil's Activity	Blackboard work
Testing Previous knowledge & motivation	* Good morning students * Tell me the objects we are seeing now in our class room? * which material is used in making chalk? * which is used in making duster? * which material is used in making chairs * What is a plastic? Do you know about plastic? * What is a polymer!	Good morning They tell benches, chairs, tables, duster Chalk powder, lime wood cotton plastic — Polymer is a Compound having identical molecules	 Polymer

	✡ what is meant by 'Poly and mer ✡ what is a Monomer? ✡ Do you know plastic is a Polymer?	Poly means 'many' and mer means 'unit' The unit of a Polymer	'Poly' 'mer' Monomer

(10)

Announcement of the topic:- Now we are going to learn about plastics, and its types, uses and disadvantages.

Developmental activities :-

Content Analysis	O/S	Teacher's Activity	Pupils Activity	T-M	B.B.W	Evaluation
Concept Plastic was created by 'Alexander parkes' in 1813 - 1890. To Prepare this material he heated nitrated Cotton which previously soaked in Sulphuric acid and made babsic salt and electric with oil and Camphor. The end product was an ivory-Coloured material that become distrected	K/recall K/recall K/recall	Tell me some names of objects which are made of plastic? Is plastic natural (or) artificial Product. That it is a man made product. * Do you know who created plastic? The plastic was created by Parkesine; who created the plastic? To prepare this material he heated nitrated Cotton.	Chairs, buckets, Comb ... Artificial product Yes No parker		Alexander parkes	who created the plastic?

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
						(12)
when subjected to heat This is named as 'Parkesine' At last it became the "plastic"	1/4 recall	which previously Soaked in Sulphuric acid. * what are the chemicals he used for making plastic? To make the material Soft and elastic he dipped the cotton in Camphor oil. Then the end product was an ivory coloured material.	Nitric acid & Sulphuric acid		Nitric acid Sulphuric acid	what are the chemicals used?
	1/4 recall	* what did he done to make the material soft and elastic?	he dipped in Camphor oil		Parkesine	
	1/4 recognises	* what is the Colour of the end product? At first this is named as Parkesine. In Course of time it became 'plastic'	Parkesine			
	1/4 recall	* what is the name of plastic at first?				

* Say Some Examples

Concept②:- plastics are available in different shapes and sizes. They have a wide variety of uses. Depending on the arrangement of monomers the plastics are of two types. They are ① Thermo plastics ② Thermo setting plastics.	0 / gives examples 1s / recognises 1s / recognises	* Say some examples for plastic? * Do they have same size and shape? So, we can say that the plastics are available in different shapes and sizes * Do you know types in plastics? Depending on the arrangement of monomers the plastics are of two types, ① Thermo plastics. ② Thermo setting plastics, * Do you setting plastics, * How do you bring milk? * which material is used in making the milk packets?	Chairs, Tables NO NO Yes In packets Polythene cover		Thermo Setting plastics	What are thermosetting plastics?

15

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
The plastics which moulded once Can't be softened by heating are called as Thermosetting plastics? Examples for this type are tupperware, Backalite, and melaine etc. The plastics which will soften when heated and harden when cooled. A thermo-plastic is a polymer that becomes in to a liquid when heated and freezes to a very glassy state when	1S / recall	* Polythene cover is made of which materials?	Plastic			12
		* How do you bring vegetables and stationary?	in Carry bags			Examples for thermo Setting plastics?
		* Do you know water tanks pipes?	Yes			
	1S / recognises	* which materials is these pipes & tanks?	plastic	poly-thene cover		
		* what is the material in the toys you play?	plastic		Thermo plastics	
		* which is the material in the water bottles?	plastic	water bottle		
		So, all these are plastic materials which are seeing in our daily life.				
	1S / recognises	* If you heat a wood-piece what happens.	It burns			
	A / predicts	* Is ash is formed after it burns?	Yes			
		* If you heat a plastic				

Cooled sufficiently are called Thermo-plastics.

Thermo setting plastics are not remouldable. Strong Coars-links are formed during the initial moulding process that gives the material a stable structure. They are more likely to be used in situation where thermal stability is required

Examples are Switch boards, Cooker handles Computers etc

A / gives reasons

A / predicts

Is / recall

Is / recall

* If you heat a plastic piece what happens?
* Is ash is formed after it burns?
* Do you know why ash is not formed?
* Ash is not formed because they Convert into a liquid.
* what happens when we heat a plastic object?
* Do you know what type of plastics are these?
* These are called Thermo-plastics
* Do you know the arrangement of polymers in a plastic?

The arrangement of Polymers are in linear chains like this.

It also burns

no

no

They tell in own words

No

linear chains

of polymer

what are thermoplastics

(Is)

Examples for these thermo-plastics?

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
	1s / recall	* In what way the polymers are arranged?	In linear chains			16
		* what are call this type of plastic?	Thermo plastics			
	1s / recall	* Do you know what is meant by thermo?	—			
		Thermo means heat that is the plastics which change their shape when we heat are called 'Thermo plastics'				
	1s / recall	* plastics which are ~~non~~ mouldable are called?	Thermo plastics	Switch		
		* Do you observe Switches in your house and in class room?	Yes			
	1s / observes	* which is the material in these?	plastic			
		* Do you know Computer?	Yes			
		* which material is that in the Computer.	plastic			
			Yes			

* which is the material

U
Compares

A
predicts

* which is the material in the land line phone?
* Do you observe pressure Cookers handle?
* which is the material is the handle?
* Does the plastics in these objects is same as that of thermoplastics?
* what is the difference blw them.
* Do you know what happens when these objects heat?
* Do they burn as the thermoplastics?

No, they will not burn as thermoplastics, when we heat these objects they cannot change their shape

plastic

Yes

plastic

No

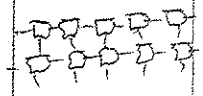
These looked harder than the thermo plastics.

No

Yes.

cooker handle

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
	A predicts	* Do you know why don't they mould?				(13)
		These are the other two types of plastics.				
		These plastics when moulded into a shape and allowed to cool down and remain in moulded from and will not change.				
	U Explains	* what happens whenwe heat them?				
	K recall	* what we call this type of plastic?	They will burn			
	A predicts	+ Does the thermosetting plastics are remouldable as thermoplastics?	Thermo Setting plastics			
	A gives reasons	+ Do you know why These are so strong to heat?	No No			

		In this type of plastics very Strong Cross-linked are formed during the initial moulding process that gives the material a stable structure.		 Cross linked arrangement of monomers
	K / recall	* Tell me some examples for this type of plastics?	They tell in own words	
		Bakelite is used for making handles of various Circuits Scratch board etc. Melanine is used making Computers Kitchenwaresk	No	
Concept ③ A Belgian scientist Dr. Leo Cendrink Backland was responsible for the invention of Backelite	K / recall	* Do you know who invented Bakelite? It was invented by Belgium Scientist Backland and he discovered it. Backland is considered as "Father of plastic Industry".		Dr. Leo Hendrick Backland

Content Analysis	O/S	Teacher's Activity	Pupils Activity	T.L.M	B.B.W	Evaluation
He was a chemist discovered the compound of Carbolic acid and Formaldehyde. when he tried to repeat it would not melt. He is considered as the father of the present plastic industry. To test Bakelite get a every hot pin from a flame then touch the pin to the item. If it is Bakelite it will not pentrate It may give	1/2 recall 1/2 recall	If we want to test a backlite when we touch the piece of backlite it will not penetrate and may give acid small or Purple marks. If the Pin penetrates it is not a genuine backlite it is called "Hot Pin test". * who is the father of Plastic Industry? * which is the test to test pure backalite? Let us test some of the plastic materials by heating them. I will heat some plastic materials and ask the students to Observe changes,	Back laeel Hot pin test	Showing heating of some plastic materials	Backlite "Hot pin test".	(20) who invented Backlite?

off the acid smell and it may leave a Purple burn mark If the pin penetrates or melts then it is not genuine Bakelite

Concept (U)

Plastic material will not Corrode Easily. Thats why they are used to store Various kinds of materials including the chemicals It is very light Strong durable, Cheaper mouldable into another shape

U / explain

A / Analyse

U / Explain

K / Recall

* Can you tell me where we use Backalite?
* Can you tell me why we prefer plastic?
plastic is very light, Strong durable and can be mouldable into different shapes and sizes,
* Do you know why we use plastic in making electrical wires, Pans, Screw driver handles?
plastics are poor Conductors of electricity.
* Do you tell me what are they?
polythene is a plastic
The polythene bags thrown aside are responsible for clogging of the

Say in own words

tell in own words

Say in own words

Screw driver

(21)

Why we Prefer the plastics.

Content Analysis	O/S	Teacher's Activity	Pupils Activity	T.L.M	B.B.W	Evaluation
Concept ⑥ Polythene is a plastic. The polythene bags thrown out are used for making carry bags. These are responsible for clogging drains. Cows eat these bags and will die due to indigestion. Supreme court banned the usage of polythene bags. It has said that polythene is danger than atom bomb.		drains cows and other animals can eat food in polythene covers and will causes seviour Effects. Supreme Court of India Said that polythene is danger than atom bomb. If we burn plastics it creates a lot of air pollution unless we examine a total ban on plastic bags, the next generation will be threatened with some thing more serious. Some Efforts are taking place to reduce the negative Consequences of plastics on the environment.			Supreme Court atom bomb	⑥ what are dis-advantages of plastics?

	A predicts A predicts	* what are the disadvantages of plastics? * what will you do to reduce the negative Consequences of plastics?	They tell in own words They tell in own words.			23

Summarisation: Today we have learnt about plastics, its types, uses & disadvantages.

Recaptulation:- (i) what are the Examples for two types of plastics?

(ii) Why we prefer plastics?

(iii) Can you identify the plastic materials which are made of melanine and Backalite?

(iv) what are the uses of plastic?

(v) what are the disadvantages of plastics?

Home Assignment: write about plastics, types of plastics uses and disadvantages of plastics.

MACRO TEACHING LESSON PLAN - II

Preliminary Information

Name of the student teacher :

Reg No :

Subject : Physics

Class : VIII

Name of the School :

Unit : IX

Topic : Earthquake

Time : 45 min

Date :

Name of the Supervisor :

Previous knowledge: The Pupil will have the knowledge about Earthquake

Reference books

(a) For Content: VIII class physical science NCERT text book
VIII class physical science CBSE text book

(b) For Methodology:- Methods of teaching physical Science - Neelkamal
Methods of teaching physical science - Master minds.

Teaching learning material: charts, photographs, pictures of Earthquake

Minimum Teaching aids:- Chalkpiece, duster, roller board, Pointer, charts

Teaching Method: Lecture - Domonstration method

Teaching Learning Points

(i) About Earthquake
(ii) Causes of Earthquake
(iii) prevention measures for the Earthquakes.

I Major instructional objectives:-

Terms:- coust, Earthquake, discharge, Earthplates, Seismograph, Seismoscope, trend, tsunami, Seismic zones, Rictarscale, magnitudes, Seismicchazard map, Fault zone.

Facts:- Earthquake is a natural phenomena which were not able to predict.

① Knowledge:- The pupil acquires the knowledge of facts, formicals, etc by lesson.

Specifications:-

① Recall:- The pupil recall the terms, facts, etc in the lesson

② Recognition:- The pupil can recognise the facts that Earthquakes occurs all over the world.

② understanding:- The pupil understands the Earthquakes.

Specifications:-

① Gives Examples:- The Pupil can gives examples of the areas like Kashmir, Western, Central Himalayas etc

② Compares:- The Pupil can Compare Earthquakes from other natural phenomena like lighting floods etc

(3) Differentiates!- The Pupil can differentiate btw a Sesimograph and a Sesimoscope.

(4) Explains!- The Pupil can Explain about Earthquakes in his own words. (27)

(5) Identifies!- The Pupil can identify the Seismic zone areas in the map.

(3) Application!- The Pupil can apply the knowledge in new situations

Eg!- He can protect himself by following the precautionary measures Earthquakes occur

Specifications!-

(1) Analyses!- The Pupil can analyses that the Earthquake is caused by the disturbance in the Earth Crust.

(2) Devices!- The Pupil can make the model devices of Sesimograph and Sesimoscope.

(3) Selects!- The Pupil select Sesimograph to measure the Sesimic waves caused by an Earthquake

(4) predicts!- The Pupil can predicts the symptoms of an Earthquake.

(5) Gives Reasons!- The Pupil can gives reasons why these Earthquakes occur.

(6) Establishes Reelations!- The Pupil can Establishes, relations...

Eg!- The Pupil can Establish relation between the Increase in magnitude and Increase in destructive energy.

(4) Skills:- The Pupil develops skills.

(1) observational Skill:- The Pupil develops observational skill.

Specifications:-

(i) The Pupil cites the areas where earthquakes frequently occur.

(ii) The Pupil observes the Error in the reading of Seismograph and Seismoscope.

(iii) The Pupil observes the concepts, definitions with clarity.

(2) Drawing Skill:- The Pupil develops the drawing skill.

Specifications:-

(i) The Pupil draws the diagrams neatly.

(ii) The Pupil locates the parts in the diagrams.

(iii) The Pupil can detects Errors in the diagrams.

(3) Reporting Skill:- The Pupil develops the reporting skill.

Specifications:-

(i) The Pupil follows the clarity of language in the report.

(ii) The Pupil selects appropriate words in reporting.

(iii) The Pupil simplifies the Content of information in reporting.

(iv) The Pupil develops accuracy in reporting.

I Introductory Activities:

Content Analysis	Teacher Activity	Student activity	B. B W
	Good morning students. How many planets are there in our Salar System? on which planets we are living? In which shape the Earth is? what are the natural calamities? what happens when there is a sudden staking of the Earth? Do you know what we call this type of destruction?	Good Morning 9 planets. on Earth 'Round Floods, tsunamis etc we all and the buildings will fell down Earthquake	29 Earthquake

Announcement of topic: Today we are going to be learn about Earthquakes.

III Developmental Activities:-

Content Analysis	O/S	Teacher's Activity	Pupil Activity	T.L.M	B.B.W	Evaluation
Concept - ①		An Earthquake is a sudden shaking on the trembling of the Earth lasting for a very short Period of time.				(30)
An Earthquake is a sudden shaking or trembling of the Earth lasting for a very short period of time. It is caused by a disturbance deep inside the Earth's crust. There is a myth that the Earth is balanced on the horn of a bull and when the bull shifts it to the other horn	K/ recall	* what is an Earthquake?	Tell in their own words	Earth quakes pictures	Earth-quake Earth's crust	what is an Earth quake.
	U/ predicts	* Do you know why these Earthquakes occur?	NO			
	U/ gives reasons	It is caused by a disturbance deep inside the Earth's crust. * what is the reason? There is a myth that the earth is balanced on the horn of a bull	Explain in own words			

on the horn of a bull

an Earthquake takes place. Earthquake occurs all over the time all the time They cause damage to the buildings, bridge dams, people etc. A major tsunami occured in the Indian ocean on 26 Dec 2004. Tremors are caused due to the disturbance deep down inside portion of the	K / recall	and when the bull shifts it to be after horn an Earthquake takes place.	Tell in their own words	photographs	Indian Ocean 26 Dec 2004	(31) What is the reason for the Earthquake?
	Scientific attitude	*what is the myth?	NO			
		* Do you believe myth?				
	C / predicts	* Do you know where Earthquakes occur?	no			
		Earthquakes occurs all over the Earth.	Earth and sea also			
	A / Estimates	* All over the Earth means?	To human buildings etc			
		* To which the Earth quake can cause damage?				
		* Do you know why floods and tsunamis occur?	NO			
	A / Cause & effect	The Earthquake can Causes floods and tsunamis	Due to Earthquake			
		* what is the reason?				
		A major tsunami occured in Indian ocean				

upper must layer of the Earth. This uppermast layer of the Earth is called crust. The outermost layer of the Earth is not in one piece. It is fragmented Each one is called a plate. when these plates burst Past on one another or a plate goes under another plate due to Callision, they Cause

U
predicts

K
recall

on 26 Dec 2004. A disturbance deep inside the Earth Causes the Earthquake.
+ Do you know what Could Cause a disturbance Inside the Earth? Showing the diagram? Tremors are Caused due to disturbance at deep down inside portion of uppermost layer of the Earth called crust.
+ on which layer tremors are caused?
The Earth is fragmented each one is called plate when these plates brust due to Callision they Cause disturbance in Earth's crust

NO

on crust

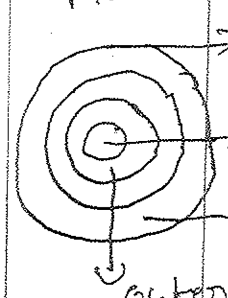
by callision of plates

∩

F

D

plate



Callision of the plates

Which is the upper most layer of the Earth?

+ when earthquakes occur?

disturbance in the Earths Crust. The places at boundaries of plates are called Sesimic (or) Fault Zones. In India they are Kashmir Western and Central Himalayas, Rajastan etc. Concept ② Description of a Sesimo scope. and a Sesimo graph. The Sesiscope is an Instrument that measures	U / predicts	* Why Earthquakes occur? * Do you know the places where Earthquakes are more likely to occur? The boundaries of the plates are considered as Earthquake (or) Sesimic (or) Fault Zones. In India they are Kashmir, western and central himalayas and some area south India? * what are Sesimic Zones? * Do you know how we can predict an Earthquake? Sesimologysts used two devices to measure an Earthquake Sesimoscope and Sesimograph. * what is Sesimoscope? Sesimoscope measures the time of occurance of	NO Kashmir, western Central himalayas etc NO To measure an Earthquake	T -1	Sesimic Zones Fault Zones Sesimo-scope	Which are the Sesimic Zones in India? What is a Sesimoscope?
	K / recall					
	U / predicts					
	K / recall					

The occurance of an Earth quake Sesimoscope is an simple device which can be used without any technological background. The tremors produce the waves on the surface of the Earth. These are called Sesimic waves. These are recorded by Sesimograph. The instrument has a Vibrating rod and a pen is attached

1k recall

1k recall

1k recall

1k recall

U Estimate

* what are two devices?
* what are Sesimographs and Sesimoscopes?
* which is used to measure the occurence of an Earthquake
The intensity of an Earthquake is expressed in terms of magnitude on Rictar scale higher than 7 on the Rictor Scale
* By which we can measure the intensity of an Earthquake?
* Can we predict Earthquakes
Tremors on the Earth can also be caused when a Volcano erruptes or a meteor hits the Earth. The tremors produce waves and these are called Sesimic waves.
* what are Sesimic waves
These waves are recorded by Sesimograph

Sesimograph & Sesimoscope

Sesimograph to measure Sesimic waves

Sesimascope

on Rictorscale

NO

The waves produced by tremors.

Sesimik waves

Sesimic graph

(3y)

what is a Sesimograph?

which waves are produced by the tremars?

		by Sesimograph.	tremors.			
and it records the Sesimic waves which moves under it.	5 / Applicat	* How we record waves? Sesimograph is an instrumet which has a vibrating rod or apendulum, which starts vibrating when tremers occurs. A pen is attatched. The pen records the Sesimic waves on the Paper which moves under it.	by Sesimograph			(3)
Concept (3) protection against the Earthquake. Buildings	U / Explain	* By which waves are recorded	By Sesimograph			
in the Sesimic Zones should be designed so that they can	U / recall	An increase of 2 in magnitude means 1000 tims are more destructive energy.				What are the Precautionary measures for Earth quakes.
with stand major tremor Consult,	U / predict	* what happens when the magnitude increases &	destruction is 1000 times			
qualified architects and the structural	U / predict	* Do you know what are the precautions? Buildings in the Sesimic Zones should be designed so that	no They tell in their own			

Engineers: In high Sesimic areas mud is better than bricks for Construction stay away from heavy houses, trees etc.	they can with stand major tremors. Consult qualified architects and Engineers mud is better than bricks. stay away from heavy objects, trees, buildings, takes better under a table till the shaking stops. * what you have to do?	They tell in own words.			

IV - Culminatory activity :- Today we have learnt about Earthquakes causes and precautionary measures for Earthquakes.

V - Recaptulation :- (i) what is an Earthquake?
(ii) what are the fault zones.
(iii) How we measure magnitude of an Earthquake
(iv) what are the precautions for Earthquake
(v) How do we protect from Earthquake.

Home Assignment : Explain briefly Earthquake.

MACRO TEACHING LESSON PLAN – III

Preliminary Information:

Name of the Student Teacher :

Reg No :

Subject : physical Science

Class : IX

unit : VIII

Topic : Archimede's principle

Time : 45 min

Name of the school :

Date :

Name of the Supervisor :

Previous knowledge :- The Pupil will have the knowledge about that the water flows out when an heavy object is dropped in a container.

(29)

Reference books :- IX class Sciences NCERT text book

(a) For Content :- IX class physical Sciences CBSE text book.

(b) For Methodology :- Methods of teaching physical Science - Neel kamal
Methods of teaching physical Science - mastermind.

Teaching learning materials :- Spring balance, Stone, graduated beaker Vessel, water measuring Jar.

Minimum teaching aids :- Chalkpiece, duster, roller board, Pointer, charts.

Teaching Method :- Inductive - Deductive method.

Teaching learning Points :- Archimedes Principle

Major Instructional objectives:-

Concept:- The apparent loss of weight of the immersed body is Equal to the weight of the water displaced by that body.

Definitions:- Archimedes principle

① Terms:- Spring balance, graduated beaker, apparent loss of weight, water displaced, force of buyoyancy, Archimedes.

Facts:- Immersed objects appears to lose weight Gravitational force Exerts on Every object.

Principles:- The apparent loss of weight of the immersed stone is Equal to the water displaced by the stone. i.e Equal to the force of buyoyancy by water.

② Knowledge:- The Pupil acquires knowledge about Archimedes principle

Specifications:-

① Recall:- The Pupil recalls the knowledge of Concept & principle of Archimede

② Recognises:- The Pupil recognises the knowledge of Archimedes principle, principle of Spring balance

(2) understanding:- The Pupil acquires knowledge and understands the acquired knowledge.

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specifications:-

(1) Translates:- The Pupil can translate the force of buoyancy in his own words.

(2) Gives Examples:- The pupil can gives Examples.

Eg:- He can do the same Experiment by using another objects like wood, Iron etc.

(3) Sees Relation:- The Pupil can sees relation blw loss of weight of the object to the weight of water displaced by the stone

(4) Compares:- The Pupil can Compare force of buoyancy with force of gravity.

(5) Differentiates:- The Pupil can differentiate the forces of buoyancy & gravity.

(6) Explains:- The Pupil can Explain the principle in his own words.

(7) Interprects:- The Pupil can interprects the diagrams to prove the principle

(8) Identifies:- The Pupil can identify the principle in new situation.

(9) Verifies:- The pupil can Verify the principle by doing the Experiment.

(3) Application:- The Pupil can apply the knowledge in new situations.

Specifications

(1) Give reasons:- The Pupil can gives reasons for the over flow of water.

(2) Devices:- The Pupil can make the devices like beaker Spring balance, etc.

(3) predicts:- The Pupil can predicts when a stone is Suspended on an overflow vessel.

(4) Draws Conclusion:- The Pupil can draws Conclusion after the Experiment is Complete.

(5) Judges:- The Pupil can judge whether the principle is proved (or) not.

(4) Skills:- The Pupil develops Skills.

observational skill:- The Pupil develops the observational Skill.

Specifications:-

(i) The Pupil cites the principle in real like situations.

(ii) The Pupil observes the Error in the Experiment.

(iii) The Pupil observes the Concepts, definitions with clarity.

(5) manipulating Skill:- The Pupil develops the manipulating skill.

Specifications:-

(i) The Pupil checks apparatus and equipment regarding their working condition.
(ii) The Pupil sets up the apparatus in planned manner.
(iii) The Pupil records relevant recordings accurately and systematically.

(3) Drawing Skill:- The Pupil develops drawing skill.

(42)

Specifications:-

(i) The Pupil draws neat sketches and diagrams to scale.
(ii) The Pupil records and presents data in tables, charts, graphs etc
(iii) The Pupil labels parts of a diagram accurately.

(4) Reporting Skill:- The pupil develops reporting skill.

Specifications:-

(i) The Pupil follows the clarity of language in the report.
(ii) The Pupil selects the appropriate words in reportings
(iii) The Pupil simplifies the content of information in reporting.
(iv) The Pupil develops accuracy in reportings

Introductory Activities:

Content Analysis	Teacher Activity	Pupil Activity	B. B. W
Testing Previous knowledge & motivation	Good morning children * Do you bath daily? * ~~Then~~ which tell water to bath? * If you tell water in the bucket after it Completely full what happens? * If you drop a mug filled with water in that bucket what happens, * why the water flows out? * If you drop an wooden piece on that water what happens? * why it floats on water? * If you drop a same weight of wood and stone in water and happens? * Do you know why?	Good morning Man. Yes. in bucket. the water flows out. then also the water flows out. the mug is weight The wood floats. because it is less weight the stone sinks, the wood floats NO.	

	Because the densities of wood and stone are different. * Do you know density? * Do you know the weight of the water flows out from the bucket! * Do you know there is a relation b/w the weight of the object to the weight of the water flown out from the bucket! * The relation is known by the principle called "Archimedes principle". * Do you know about Archimedes principle	mass / volume NO NO NO	(44) "Archimedes principle.

Announcement of the topic: Today we are going to discuss about "Archimedes principle".

Developmental Activities

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
Concept - ①		✱ Do you know about Archimedes?				4/7
About Archimedes was a Greek scientist. At that time the King had a crown made of Gold. The King however suspected that the crown made was not of pure gold and asked Archimedes to Verify this Archimedes had to solve the problem without damaging the Crown. So, he could not melt it down into a	K / Scientific attitude	Archimedes was a Greek scientist.	NO		Archi-medes	Who was Archimedes
	K / recall	✱ which country belongs to? ✱ At that time the King had a crown made of Gold. The King however Suspected that the Crown was not Pure. He asked Archimedes to Verify the Crown.	Greek		Greek	
	K / recall	✱ which is to be Verified by Archimedes? He had to solve the problem with out damaging or melting the crown while taking a bath he noticed that the level of water in the	The Kings Crown		Crown	How he solved the

regularly shaped body in order to calculate its density while taking a bath, he noticed that the level of the water in the tub rose as he got in and realized that this Effect could be used to determine the Volume of the crown. The Submerged crown would displace an amount of the water Equal to its own Volume. By dividing the mass of the crown could be obtained. This	K/recall	tub rose as he got in. he thought that this Effect would be used to determine the Volume of the crown. The submerged crown would displace water Equal to its Volume. * what did he thought, he By dividing the mass of the crown by the Volume of water displaced the density of crown. Could be obtained. + By which the density of the cocun is obtained This density would be lower than that of gold it cheaper and less dense metals had been added. * which has to be equal to	They tell in their own words	what is density?
	Or K/recall		By dividing mass by Volume of crown	
	V/Compare		density	

be obtained. Thus metals had been added.

density would be lower than that of gold it cheaper and less dense metals had been added. He dipped the crown and the same density Gold to the simple balance in water So that the purity of crown is determined. If the crown is less dense then the gold bar is definitely passes a larger Volume that experience a larger upward buoyancy. force causing the balance to tilt

* which has to be equal to the gold & crown?

Archimedes then took to the streets nacked, so exited by his discovery that the forgotten to dress, crying Eureka (I have found it) Let us conduct an exp to prove this principle For Conducting this experiment we are using these apparatus They are Spring balance, Stone Vessel, graduated beaker, water. Now suspend a stone from a spring balance. Now note the readings on the spring balance.

* what we have done up to now?

U / Explain

A / Selects

Tell in own words

Spring balance

Spring balance
Vessel.
graduated beaker
Stone
water
Thread

diagram showing the Experiment

47

What are the apparatus for the Experiment

to wards the gold bar.	Is recall	* which gives the weight of the stone?	Overflown vessel			
Concept - ②		Take a vessel which is	measuring Jar			
To Prove the Archimedes principle.	Is recall	fully filled with water. which Contain a beak * which contains beak? * which beaker is to be kept at the beak? Now				
Suspend a stone from a spring balance Note the reading on the spring balance. The reading gives the weight of the stone. Take as overflow vessel with water and place a graduated beaker below the beak.	A predicts	immerse the in the water. Note the readings on the spring bal and measure the volume of water that	The water flows out.			
	C Explains	overflows from the graduated beaker. * what happens when the stone is immersed?	measuring Jar.			By which we can measure the weight of the stone?
Now immerse the stone in the water.	A selects	* In which water flown out is collected? The reading of the Spring bal gives the weight of the immersed stone.	by spring balance measurement.			
		* The beaker reading				

Note the reading on the spring balance and measure the volume of water that overflows into the graduated beaker. The reading of the spring balance gives the weight of the immersed stone and the beaker reading gives the volume of water displaced by the stone.

U / identifies

U / differed

U / Compares

R / recall

+ The beaker reading gives the water displaced by the stone.

+ By which we can measure the water displaced?

+ what is the difference of weighs before exp and after experiment? The apparent loss of weight of the immersed stone is Equal to the weight of the water displaced by stone,

+ whose weighs are Equal?

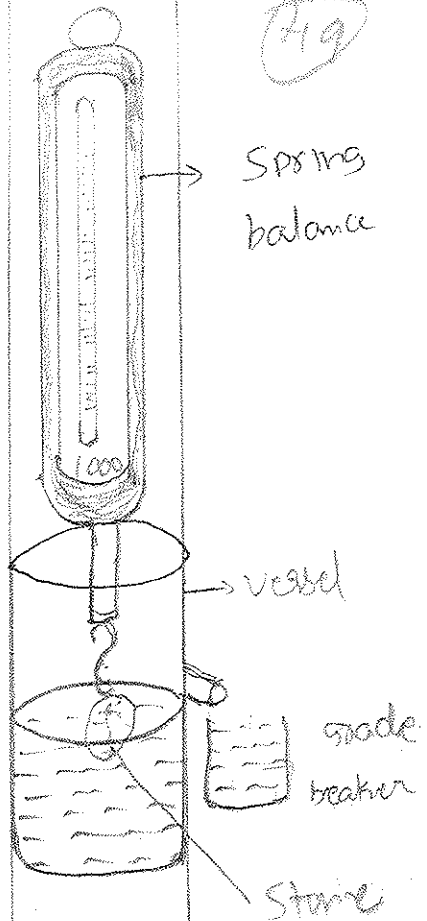
This is Equal to the force of buoyancy exerted by the water.

+ what is Archimedes principle?

by measuring the water in the measuring Jar.

weight of stone, water displaced.

The weight of the body immersed in fluid is equal to



whose weights are Equal

The apparent loss of weight of the immersed stone is Equal to the weight of water displaced by the stone i.e Equal to force of buyoyancy Exerted by the water. Archimedes principle state that when a body is immersed in a fluid. it experienced an upward force of buyo- yancy Equal to the weight of fluid displ- aced by the immersed portion of body.	S observation S observation S observer C Explains Pr recall	+ which is Suspended to the spring balance? + when we have to record the readings in the spring balance? + what happens when the stone is immersed in the Vessel? + Now, what do you observed in this experiment? + what we Call this Principle.	the weight of the fluid displaced a stone before and after the stone is immersed. The water over flows. The Volume of water flown in to the beaker is Equal to weight of the stone. Archimedes Principle.

when we have to take readings in the spring balance?

what is Archimedes principle?

Culminatory activity: Today we have learnt about the principle 'Archemedes principle'.

Recaptulation:

(i) what is Archimedes principle?

(ii) what is the relation b/w the weight of the object with the water flown out?

(iii) Can you do the same Experiment with an another object?

(iv) How Archimedes measure the purity of crown?

Home Assignment: Explain briefly about Archimedes principle with an Experiment.

MACRO TEACHING LESSON PLAN - IV

(5)

Preliminary Information

Name of the student teacher :

Reg No :

Subject : Physical Science

class : IX

unit : IV

Topic : Suspensions and Colloids

Name of the School :

Time : 45 min

Date :

Name of the Supervisor :

Previous knowledge :- The Pupil will have the knowledge about Solutions.

(5)

Reference books

(a) For content :- IX class physical sciences NCERT text book
IX class physical sciences CBSE text book.

(b) For Methodology :- Methods of teaching physical science – Neelkamal
Methods of teaching physical Science - Masterminds

Teaching learning materials :- Testtube, chalk powder, soil, water, oil Suspensions chart, colloids chart, Tyndall effect chart.

Minimum teaching aids :- Chalkpiece, duster, wallboard, pointer charts.

Teaching Method :- Lecture - Demonstration method.

Teaching learning Points :- Suspensions, colloids, Tyndall Effect.

Major instructional objectives:-

Terms:- Heterogenous, Homogenous, Suspensions, Emultions, Colloids, Colloidal solutions, dispersephase, dispersionphase, tyndall Effect.

Facts:- Some liquids and Solids are not Soluble in water.

Principles:- Suspensions and colloids are formed only by heterogenous Solutions.

Definitions:- Suspensions, Emulsions, Tyndall effect.

① Knowledge:- The Pupil acquires the knowledge of facts terms, principles Etc.

② Specifications:-

① Recall:- The Pupil acquires the knowledge about the lesson.

② Recognition:- The Pupil recognises Solids and liquids which are not soluble in water.

③ understands:- The Pupil understands the knowledge about Suspensions & Colloids.

Specifications:-

① Give Examples:- The Pupil gives Examples like oil floats on water.

(2) Compares:- The Pupil can Compare Suspensions with Colloids.

(3) Differentiates:- The Pupil can differentiates Suspensions with Emulsions.

(4) Explains:- The Pupil can Explain Suspension & colloids in his own words.

(5) Identifies:- The Pupil can identify Suspensions and Colloids.

(6) Application:- The Pupil can apply the knowledge of Suspensions and Colloids in his real life situations.

Specifications:-

(1) classification:- The Pupil can Classify Suspensions and Colloids.

(2) Analyses:- The Pupil can analyse the formation of Suspensions and Colloids.

(3) predicts:- The Pupil can predict what happens when a drop of kerosene is dropped water

(4) Establishes relations:- The Pupil can Establishes relation b/w Suspensions and Emulsions.

(5) Gives reasons:- The Pupil can gives reasons for why different types of Colloidal solutions are possible depending upon the physical states.

(5) Draws Conclusion:- The Pupil can draws Conclusion that Suspensions are heterogeneous mixtures.

(6) Estimates:- The Pupil Can Estimates the results.

Skills:- The Pupil can develop skills.

(1) observational Skill:- The Pupil develops the observational skill.

Specifications:- (i) The Pupil cites Suspensions & colloids in reallife Situations.

(ii) The Pupil observes the Errors in the preparation of Suspensions.

(iii) The Pupil observes the Concepts, definitions with clarity.

(2) Drawing Skill:- The Pupil develops drawing skill.

Specifications:- (i) The pupil can use the instruments in Proper way.

(ii) The pupil can use the instruments in different ways.

(iii) The pupil can follow precautions in using the instruments.

(3) Reporting Skill:- The Pupil develops reporting skill.

Specifications:- (i) The pupil follows the clarity of language in the report.

(ii) The Pupil selects the appropriate words in reporting.

(iii) The Pupil develops accuracy in reporting.

Introductory Activities

Content Analysis	Teacher activity	Pupils activity	B.B.W
Testing Previous Knowledge and motivation	Good morning students * Do you drink milk every day? * Do you drink lemon water? * How you prepare lemon water? * How we prepare sugar solution? * Any one of these can make the lemon juice alone? * Can only sugar (or) water make the sugar solution? * why? * Does these are homogenous (or) heterogenious mixtures? * Now we are going to discuss about Suspensions and Colloids.	Good morning yes. yes. by lemon juice Sugar, water, by Sugarwater etc no no we have to mix all these to make Solution homogenous	Suspensions & colloids.

Introducing the topic:- Now we are going to learn about Suspensions & Colloids.

Developmental activities

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
Concept-①						
Take some chalk powder in a test tube take a few drops of milk another test tube. Add water to these samples and with a glass rod. we find that the particles of chalk dont dissolve but remained Suspended throughout the volume of the water. So the mixture we got is	K/recall	* Tell me some mixtures like these?	Tell in own words.			what are mixtures?
	A/predicts	* Do you know Confirmly about these mixtures are homogenous?	ho		homog-enous	
	K/recall	* Do you know heterogenous? let us see what are heter-ogenous mixtures.	Tell in Ownwords.			
	U/identifies	* If you add chalk Powder to water? what happens?	The chalk powder settles down		hetero-genious	what are heterogenious mixtures?
	U/identifies	* If you add milk to water what happens?	They mix well			
		* In these two which	Chalk powder			

			Chalk Powder			
heterogenious mixture. Because the solute particles didn't dissolve and the particles are visible to racked Eye Such heterogenous mixtures are called "Suspensions" Suspensions are heterogenious mixtures of a Solid and a liquid in which Solids do not dissolve. In the mixtures of oil and water these are Special kinds of Suspensions are called "Emulstions". These mixtures Consists of two liquids that don't mix and settle into layers.	U identities U identities U explains A gives reasons	is hetesogenous & which is homogenous? Now these two mixtures are taken in two test tubes and direct a beam of laser light on the test tube * Does we observe the light in the liquid? * If you filter these mixtures did you find any residue on filter Papers? So, the mixtures don't dissolve but remain Suspended are called heterogenous solutions mixtures. * why these are	milk solution Yes Yes		9	what are homogenous mixtures?
					heterogenous solutions (or) heterogenous mixtures.	

Concept ②

In milk due to smaller size of milk particles it appears to be heterogenous but it is a heterogenous mixture. These particles easily scatter a beam of visible light such mixtures are called a colloidal solutions. These are blw a solution and a suspension. They are called colloidal dispersions. Colloidal solutions consists of at least two phases They are disperse phase

K/recall

U/illustrate

K/recall

U/illustrate

S/observe

heterogenous mixtures?

This type of heterogenous mixtures are called "Suspensions.

* which are Suspensions?
* Tell me some other examples like this? Now take oil or kerosine and drop it on water) what do you observe?
* This type of special kinds of Suspensions are called "Emulsions"?
* what are Emulsions?
* Tell me some examples for these Emulsions
* Do you observe the Gough "Syrup"?

tell in own words

tell in own words.

Sail and water

The oil floats on water

They tell in own words.

Yes

Suspensions chart	Suspensions	what are Suspensions?
oil	Emulsions	which are Emulsions?

* dispersion medium
Disperse phase is present in small proportion and the dispersion phase in which colloidal particles are dispersed. These two phases are in the form of solid, liquid or a gas. Thus different types of colloidal solutions are possible depending upon the physical state of the two phases.

U predicts

U identifies

K recall

* why do you shak it before use?
because the thick liquid is settled at down

* The particles in the milk mixture are uniformly spread throughout the mixture. Due to smaller size of milk particles it appears to be the homogenous. But it is heterogenous.

* Does these particles scatters light?
Yes

These particles easily scattera beam of visible light. Such mixtures are called as "colloids"

* what are colloids?
Tell in own words.

These mixtures passes the characteristics

Colloids
Colloidal Solutions

Colloids Chart

What are Colloids?

What are Colloidial Solutions?

tering of a beam of light is called "Tyndall" effect. Named after the Scientist who discovered it. we may observe this effect in our day to day life when a fine beam of light enters a room through a small hole or slit. we can also observe this phenomenon while walking on a road having a lot of trees on both sides when the sunlight

Ks recall

U gives examples

This scattering of beam of light is called Tyndall Effect.

* what is tyndall Effect?

This is the name of the Scientist we can observe this effect in our ~~day~~ day to day life. when a beam of light Enters a room through a small hole or slit we causee tyndall effect.

* Tell me other Example for tyndall effect?

we can also observe this while walking on a road having a lot of trees on both sides when the sunlight through branches and leaves. when sunlight

Scattering of beam of light

Kitchen room

Tyndall Effect chart.

Tyndall Effect

Colloid

(62)

what is tyndall Effect?

Passes through branches and leaves we can see the path of the dust particles. when the sunlight passes through forest. we can also observe the tyndall effect

A predict

Passes through forest, mist contains tiny droplets of water which act as particles of colloid. yes

Ice cream is a colloid?

Ice creame is made by churning a mixture of milk sugar & flavours, This mixture is slowly chilled to form ice cream.

* what are the difference b/w Suspension and colloids?

U differents

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what are the examples for - tyndall effect?

Summarisation:- Today we have learnt about Suspensions and colloids.

Recapitulation:- (i) what are suspensions and colloids?

(ii) what are the Example for suspensions?

(iii) what are the examples for colloids?

(iv) where do you observe tyndall effect?

(v) what are the differences between Suspensions & colloids!

Home Assignment :- Explain briefly about colloids and Suspensions with Examples..

MACRO TEACHING LESSON PLAN - V

Preliminary information:

Name of the student-Teacher :

Reg No :

Subject : Physical science

class : IX

Unit : VI

Topic : Atomic models

Time : 45 min

Date :

Name of the school :

Name of the Supervisor :

Previous knowledge:- The Pupil will have the knowledge about atoms.

Reference books:-

(a) For Content :- IX class physical sciences NCERT Text book
IX class physical sciences CBSE text book

(b) For Methodology:- Methods of teaching physical science - Neelkamal
Methods of teaching physical science - Masterminds

Teaching learning material :- watermelon, fruit, Charts

Minimum teaching aids:- Chalkpiece, duster, rollerboard, charts, Pointer

Teaching method :- Lecture - Demonstration method.

Teaching learning Points:- J.J. Thomson's Atomic model. Rutherford's alpha particles Scattering Experiment.

Major instructional objectives!-

Terms!- Atom, Atomic model, plum pudding model, positive charge, electrons, negative charges, watermelon, Alpha particles, gold foil, protons, neutrons, Vaccume Chamber, deflections, reflections, nucleus, orbit, acceleration, stable, Sub-atomic particles.

Facts!- The planets revalve around the sun in well destined orbits.

Principles!- The watermelon fruit is the Example for the Rutherford model of atomic structure and the planetary model for Rutherfords atomic structure.

① knowledge!- The Pupil acquires the knowledge of facts, formulas, principles etc.

Specifications!-

① Recall!- The Pupil recalls the acquired knowledge about the lesson.

② Recognition!- The Pupil can recognises the knowledge about the lesson.

③ understand!- The Pupil can understands the atomic models of Rutherford atomic structure.

Specifications:-

(1) Translates:- The Pupil can translates the acquired knowledge in his own words.

(2) Gives Examples:- The Pupil can gives Examples for plumpudding and for Thomson's atomic model.

(3) Sees Relationship:- The Pupil can see the relation blw Rutherfoods model and Thomsons model.

(4) Differentiates:- The Pupil can differentiates the Thomsons model from Rutherfords model.

(5) Explains:- The Pupil can explain about the models in his own words.

(6) Classifies:- The Pupil can classifies the electrons, protons and neutrons basing on their charges.

(7) Interprects:- The Pupil can interprects the diagrams of Thomson's model & Rutherfood model of atomic structure.

(8) Identifies:- The Pupil can identify the electrons, protons and neutrons in both the models.

(3) Application:- The Pupil can apply the knowledge in real situations.

Specifications:-

(1) Analyses:- The Pupil can analyses the situation.

Eg:- The Pupil can analyses that the positive charge is spread throughout the atom and electrons are distributed in the Thomsons model.

(2) Devices:- The Pupil can make the devices like watermelon in Rutherford model.

(3) Establishes relation:- The Pupil can establishes relation b/w Thomson and Rutherford model.

(4) Gives reasons:- The Pupil can gives reasons for why alpha particles consists of two protons and two neutrons.

(5) predicts:- The Pupil can predict the flash of light when an alpha particle strike a detector.

Skills:- The Pupil can develops the skills.

Observational skill:- The Pupil can get observational skill.

Specifications:-

(i) The Pupil observes the Errors in the Experiments.
(ii) The Pupil observes the Concepts, definitions with clarity.

(2) Drawing skill:- The Pupil can develop the drawing skill.

Specifications:-

(i) The Pupil can use the instruments in proper way.
(ii) The Pupil can use the instruments in different methods.
(iii) The Pupil can follow precautions in using the Instruments.

(3) Reporting Skill:- The Pupil can develop reporting skill

Specifications:-

(i) The Pupil follows the clarity of language in the report.
(ii) The Pupil selects the appropriate words in reporting.
(iii) The Pupil simplifies the Content of Information in reporting.
(iv) The Pupil develops accuracy In reporting.

Introductory activities-

Content Analysis	Teacher Activity	Pupil Activity	B.B.W
	Good Morning Students.	Good morning ma'am	
	* Any body of you see thermocoal sheets?	Yes	
	* Now look at this thermocoal sheet (showing thermocoal sheets)	it is in small balls	
	* If we cut into small pieces what we observe	It is in very small particles.	
	* If we again smash into pieces like this what we see?	They are very very small.	
	* If we again cut them what we see?		
	* we use that this whole sheet and formed by these small particles.		
	* In this way all the particles combine		

	* In this way all the particles combine to form all the objects Solids, liquids gases also, These small particles are invisible to our nacked eye. Do you know what we call them!	NO	J. J. Thomson and Rutherfords atomic model
	* They are called as Atoms.	NO	
	* Do you know how atoms are arranged in a substance or matter! The arrangement of atoms in a matter are said by different scientists. Now we learnt about two atomic models.		

Announcement of the topic:- Now we are going to learn about two atomic models by J.J. Thomson model of atom and Rutherford alphaarays Scattering Experiment.

Content Analysis	OLS	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
Concept ① J. J. Thomson atomic model. This atomic model was proposed by J.J. Thomson in 1898. This model was Commonly Called "plum pudding model".		J. J. Thomsons atomic model was proposed by J.J. Thomson in 1989. This model was Commonly Called "plum-pudding model" fruit of plum pudding?				who proposed Thomsons model?
		* What is the name of model?			J. J Thomson	
	1s recall	* what is the other name for this model?	J. J. Thomson			
An atom is Considered as a sphere of uniform positive charge and electrons are Embedded in to it.	1s recall	* who proposed this?	plum pudding model			
	1s recall	According to this an atom is Considered to be a sphere of uniform positive charges and electrons are Embedded into it,	J. J. Thomson		plum-pudding model	what is the other name for this model?
The total mass of atom is Considered to		The Total mass of the atom				

be an uniformely distributed through out the atom

The negative and the positive charges are supposed to balance out and the atom as a whole is electrically neutral. The example that represents Thomsons atomic model is watermelon. The positive charge is spread through out the atom like the red part of fruit

is considered to be uniformly distributed throughout the atom + which is uniformly distributed through out the atom?

The negative and positive charges are supposed to balance out the atom as electrically neutral. + which balances the atom?

The examples that represents Thomsons atomic model is the watermelon fruit. The positive charge is spread throughout the atom. like the red part of watermelon. The black

Total mass

Positive and negative charges

water melon fruit

which is uniformly distributed throughout the atom?

which is the example fruit?

Content Analysis	O/S	Teachers Activity	Pupil Activity	T.L.M	B.B.W	Evaluation
The black seeds distributed throughout the red part represents electrons. Thomson model was modified by his student Ernest "Rutherford" which were not in favour of Thomson's model.		distributed throughout the atom like red part of fruit. * which represents +ve charge? * which represents electrons?				(5/4)
	U / identities	Rutherford a student of J.J. Thomson gave a matter model that is alpha particles Scattering Experiment. * what is the name of the model?	red part of Watermelon fruit black seeds	Chart		who proposed alpha rays particles scattering Experiment?
Concept ② Ernest Rutherford was a Scientist born in Newzealand	R / recall	*Ernest Rutherford was a Scientist born in Newzealand in 1909. He did some Experiments using gold foil and alpha particles. * To which county Rutherford belongs to?	Rutherford's alpha particles scattering Experiment		Rutherford alpha rays scattering Experiment	
He did some						

he did some experiments using gold foil and alpha-particles. Alpha particles Consists of two protons and two neutrons bound together. Since they don't have any electrons they are positively Charged with two units of charge There is a source of fast moving alpha particles

I / Scientific attitude

belongs to?

* what did he used in the experiment?

Alpha particles Consists of two protons and two neutrons bound together

Ig / recall

* How many protons and neutrons bound together?

Since they don't have any electrons they are positively charged with two units of charge.

Ig / recall

* How many electrons are there?

The experimental setup was shown in this chart showing Chart.

fast moving particles which have a Considerable amount of Energy.

New Zealand

Gold foil and Alpha Particles

Two protons and two neutrons

no electrons.

New Zealand

F1

what did he used in his experiment.

Content Analysis	OLS	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
						76
which have a considerable amount of energy. The stream of alpha particles is directed towards a very thin gold foil. The alpha particle Emitter or source and the gold, foil which was placed inside a detector are arranged in such a way that the detector would show a flash of light when an	U/identities	The stream of alpha particles is directed towards a very thin gold foil. * which are directed to gold foil? * The alpha particle Emitter or source and the gold foil which was placed inside a detector are arranged in such a way that the detector would show a flash of light when alpha particles	Alpha particles	Chart	Alpha particles	which are directed to gold foil?
	U/identities	struck it. The entire arrangement was kept in Vaccume chamber.	The detector		detector	
	U/identities	* which shows flash of light? * The arrangement is kept in which chamber	Vaccum chamber		Vaccume chamber	

alpha particle through it. The entire arrangement is kept in a vaccume chamber when the alpha particles hit the foil. Rutherford Expected that they all would be deflected only a little bit by positive charge spread evenly throughout the gold atoms. He did not except to see large deflections. But it was found that most of the alpha

translates

translates

Explains

Rutherford expected that they all would be deflected only a little bit by the +ve charge spread throughout the gold atoms. He did not expect large deflections.

* what did he expected?
* what did he not expected?

* But it was found that most of the alpha particles passed straight through the atoms without any deflections only very few particles were deflected through large angles and very very small no. of particles right back

* what happend in this experiment?

Thomsons model was assumed that the +ve charge was uniformly distributed through atom and

lower no. of deflections large deflections.

tell in own words.

what happ- end in his Experiment?

Content analysis	O/S	Teacher's Activity	Pupils Activity	T.L.M	B.B.W	Evaluation
particles were deflected through a large angle and a very very small number of particles were reflected right back. Rutherford conducted from the alpha particles scattering experiment that (i) Most of the space inside the atom is empty because most of the alpha particles passed through the	P4 / recall V / Explain	it was expected all the alpha particles would be deflected. Since the alpha particles are very big, the deflection was expected through small angles. But the Rutherford found that most of particles passed through the gold foil like stones thrown to fence of big gaps * what were the Rutherford assumptions? Rutherford concluded that (i) Most of the space inside the atom is empty because most of the alpha particles passes through the gold foil were deflected to a large extent. * why most of the space inside the atom is empty?	all alpha particles would be deflected) alpha particles were deflected to a large extent			78 what were the assumptions of Rutherford?

gold foil were deflected to a large extent.

(ii) A very small fraction of alpha particles that were deflected right back indicated that they had met a very large positive charge and mass which repelled the charge on the alpha particle. So, all the positive charge must be concentrated in a very small space with in the atom.

U explains

U identifies

K recall

I scientific attitude

(ii) A very small fraction of alpha particles that were deflected right back indicated that they had met a very large positive charge and mass which repelled the charge of the alpha particle. So all the +ve charge must be concentrated in a very small space with in atom.

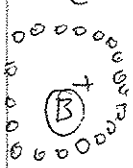
* why alpha particles were deflected?
* which is concentrated atom?

On the basis of his experiment Rutherford put forward the "nuclear model of an atom" which had following features,

* what is the name of this model?
* who proposed this model?

they had met a positive charge.

nuclear model of an atom. Rutherford.



nuclear model of atom

Why it is called nuclear model?

Rutherford put forward nuclear model of an atom. (i) Positively charged material is nucleus.

(ii) N Charged electrons revolve around the nucleus in well defined orbits. It is mentioned to as the planetary model because the motion of the electrons around the nucleus resembles the motion of the planets around the sun.

(iii) The size of nucleus

1½ recall

(i) All the Positively charged material in an atom formed a small dense centre called the nucleus of the atom.

The electrons were not a part of nucleus.

*which is called nucleus?

(ii) He also proposed that the negatively charged electrons revolve around the nucleus in well-defined orbits.

U identifies

*which are revolving around the nucleus?

1½ recall

* Around which negative charges revolves?

* In which electrons revolves?

U identifies

This model resembles the planetary model because motion of electrons around the nucleus around the Sun.

all the positive charged material.

negatively charged electrons.

around nucleus.

In - well - defined orbits.

To which model the Rutherfords model is mentioned?

is Very Small as Compared to the Size of the atom.	U / gives examples U / Compares	(iii) The Size of the nucleus is very Small Compared to Size of atom. * To which model his model resembles? * which is small Compared to Size of atom?	Plantary model. Size of nucleus.		Planetary model	

Culminating activities: Today we have learnt about J. J. Thomsons atomic model and Rutherford Alpharay scattering experiment.

Recaptulation:
(i) what are the two atomic models?
(ii) Differences b/w the two models?
(iii) Thomsons model is Compared to which fruit?
(iv) Rutherfords model is Compared to which model?
(v) why atoms are natural?

Home Assignment: Explain briefly about J. J. Thomson model and Rutherford model.

Black Teaching Lesson plan - 1

Preliminary Information

Name of the student Teacher :
Regd No :
Subject : physical science
class : VIII
unit : I
Topic : Types of Forces
Time : 45 m
Date :
Name of the School :

Name of the Superior :
Reference books : VIII NCERT Text book
Teaching learning material : Tooth paste, Ice cubes, Eraser, Coin, book
Teaching method : Inductive - Deductive method
Teaching Points : Types of forces (Contact forces).

Instructional objectives

① Knowledge :- The pupil acquires knowledge about force and contact forces.

Specifications :

① Recalls :- The Pupil recall the terms force, muscular force, frictional force, Normal force and Tension
② Recognises :- The Pupil recognises the knowledge of Contact forces.
③ understanding :- The Pupil develops the knowledge of Contact forces.

Specifications:

(i) Explains:- The Pupil explains the knowledge of contact forces.

(ii) Compares & rectifies Errors:- The Pupil can compares and rectifies the Errors between the different types of forces.
Eg:- They will compare between the four types of forces.

(iii) Discriminates:- The Pupil can discriminate between types of forces.
Eg:- They will discoiminate between muscular force and force of friction.

(iv) Identifies:- The Pupil can identify which force is acting.

(v) Gives examples:- The Pupil can gives examples for various forces.

(3) Application:- The Pupil applies the knowledge and understanding real life situations

Specifications:-

(1) Analyses:- The Pupil can analyses the situation which force is acting.

(2) Gives reasons:- The Pupil can give reasons for the gravitational force.

(3) Establishes relations:- The Pupil can Establish relation b/w gravitational force and Normal force.

(4) predicts:- The Pupil can predicts what happens when there is no frictional or gravitational force.

(5) Form hypothesis:- Framing of hypothesis by observing different aspects.

(4) Skill:- The Pupil develops skills.

(1) observational skill:- The Pupil develops the observational skill.

(i) He can observe the changes in muscles in muscular force.

(ii) The Pupil can observe the motion of objects on an inclined plane.

(iii) The Pupil can observe the direction of friction on the object.

(iv) The Pupil can observe the motion of ball on different surfaces.

(2) Drawing skill:- The Pupil develops the drawing skill.

(i) The Pupil can use the instruments properly.

(ii) The Pupil can use the instruments in different methods.

(iii) The Pupil can follow precautions in using the instruments.

(3) Reporting skill:- The Pupil can develop reporting skill.

(i) The Pupil follows the clarity of language in the report.

(ii) The Pupil selects the appropriate words in reporting.

(iii) The Pupil simplifies the Content of Information in reporting.

(iv) The Pupil develops accuracy in reporting.

Introductory activities:

Content Analysis	Teacher's Activity	Pupil Activity	B.B.W
Testing Previous knowledge & motivation.	* Good Morning students! * what is your name! * (showing the bag) did you lift this bag! * Did you feel any difficult in lifting it? * Did you lift this book? * Did you feel any difficulty in lifting this? * why? * What did you apply in lifting the bag? * Yes, some force has to be apply to lift the heavy bodies' * Did you Knoow?	Good Morning mam Sudha Yes Yes Yes It is light in weight Some force NO	Force

Announcement of the topic:- Today we are going to learn about Force.

Developmental Activities

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
		✡ what we call force?	They tell in own words			26
		✡ Say Some examples on which we apply push or pull	They tell in own words.			what is a Force.
	U / identifies	✡ If you pull that door what will you apply?	Force applies on door.			
		✡ Did you brush daily your teeth?	Yes			
		✡ with which you brush your teeth?	Paste			
		✡ without pressing the Paste did the Paste Comes out?	NO			
	A / predicts	✡ what did you apply to come the paste out?	force			

U / Identifies	☆ Do you know which type of force acting on it?	no				
	☆ you are pressing your paste with what?	with hands				
	☆ with hands so that you are applying your muscles.	Yes	Paste tube	Muscular force	What is a muscular force.	
U / gives examples	☆ So the force acting on the paste by using our muscles is called muscular force	Muscular force				
	☆ what is called?	They will tell in own words.				
U / identifies	☆ Say some examples for the muscular force?	The ball will stops after some time.				
	☆ If you throw a ball on floor what happens after some time?					

The force of resistance to the motion seems to be more on the rough surfaces than on the smooth surfaces. The rolling ball moves farther on a smooth marble floor than on a rough sandy surface. The direction of force is always opposite to the direction of motion relative to the surface.

A predicts

A predicts

* If same ball is dropped on a rough surface what happens?
* If we place a coin Eraser and an ice cube on an inclined plane what will fall down first?
* why?
A If you are walking on wet mud, what happen
* why?
* Do you know why we don't fall on road?
* There is friction b/w the slippers and the road.

The ball stops quickly.

the ice-cube

The ice cube slides easily.

we will fall down.

we slips in mud.

we didn't slip on the road

no.

ice cube eraser coin

⑤ Normal Force:

The direction which is perpendicular to the plane of a surface is called normal. The force that a solid surface exerts on any object in the normal direction is called "normal force" The normal force is acting opp and equal in magnitude that the force acting results zero which is Equilibrium.

A predicts

* So we cannot talks down
* The force of friction acting on us.
* what we call this as Frinctional force.
* what is this?
* Now I am placing the book on a bench? does the book falls down?
* If we suddenly remove the table what happens?
* why?
* yes the force which is acting on the book supports the book is called "normal force"

Force of friction

a book

no

The book falls down.

Because there is no table or support for the book.

Book table

Forced friction

Normal force

what is force of friction.

what is a Normal force.

Tension

The force which exerts a force which supports an object against gravity by pulling it upward is called 'tension'. Tension is a Contact force. when we try to stretch a rope on a string the tightness of rope or string is called 'tension'.

K recalls

A predicts

U translates

Now look at this.

- what is this?

Now tie a stone to this string.

- what forces are acting on it
- what will happens when the string is broken?
- which force is acting down ward?
- Did you know the force which is acting on the string
- This force is called Tension.
- what is a force?
- Types of forces?
- which are are call muscular force?
- which dose Call force friction?

a string

gravitational force

the stone will fall down

Gravitational force

No

action of push or pull &

types

force we use our muscles.

Resistance to the movement on another body.

Tension

what is Tension

Block Teaching lesson plan - 2

Preliminary Information:

Name of the student teacher :

Regd No :

Subject : Physical Science

class : VIII

unit : I

Topic : Limiting force of a string

Time : 45 min

Date :

School Name :

Name of the Supervisor :

Reference Books : VIII NCERT Text book

Teaching learning material : Spring balance, String weights

Teaching method : Inductive - Deductive method.

Instructional objectives:

(1) Knowledge :- The Pupil acquires the knowledge of facts; formulas, Principles Etc.

Specification:

(1) Recall :- The pupil recall the acquired knowledge about the lesson

(2) Recognition :- The Pupil can recognise the knowledge about the lesson

(3) understanding :- The Pupil can understand the limiting force in the string.

Specification:

Sees relationship :- The Pupil can sees relation between contact and field forces.

Explains:- The Pupil can explains about the limiting force of a string.

Identifies:- The Pupil can identify the changes in the spring balances.

detect Errors:- The Pupil can detect the Errors in the Spring balance.

Verifies:- The Pupil can verify the working of the spring balance.

Application:- The Pupil applies the acquired knowledge and understanding in the real life situations.

Specifications:-

(1) Analyses:- The Pupil can analyses the situations which force is acting.

(2) Gives reasons:- The Pupil can gives reasons for the breakage of string.

(3) Predicts:- The pupil can predicts what happens when there is heavy weight on the spring.

(4) Framing hypothesis:- Framing of hypothesis is by observing different aspects.

Skill:- The Pupil develops skill.

(1) observational Skill:- The Pupil develops the observational skill.

He can observe the changes in the spring balance
He can observe the changes in the weights in the spring balance
He can observe the readings in the Spring balance.

(2) Drawing skill:- The Pupil develops drawing skill.

(2) Drawing skill:- The Pupil develops drawing skill.
The Pupil can use the instruments properly
The Pupil can use the instruments in different methods.
The Pupil can follow precautions in using the instruments.

(3) Reporting skill:- The Pupil can develop the reporting skill.
The Pupil simplifies the content of information in reporting.
The Pupil develops accuracy in reporting.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
Concept:- To find the limiting force that can be beared by a string. Materials used:- Spring balance, weights, light strings, weight hanger.		Good morning students * what we have learnt yesterday? * Do you understand these types of forces? * what are they? * now we are going to discuss about the	about types of forces Yes, madam They will tell.			

Procedure:- Arrange the System as shown in the diagram. Put some small weights. like 50gm on the weight hanger and note the readings of the Spring balance. Now add some more weights to the hanger and not the readings of spring balance. Do the same till the Spring is broken. Note the reading of the bal when the String is broken Seperate the whole System from the cieling and tie the string to weight hanger and how should pull

topic the limiting force of a string. The materials used for this are spring balance, weights. light Strings. weight hanger.

☆ what are the materials are used

☆ Now are arranging the system as this..

Now I will put some small weight like 50gm on the weigh hanger.

☆ How much is the weight?

☆ Now note the readings

Spring balance, weight light Strings. weight hanger.

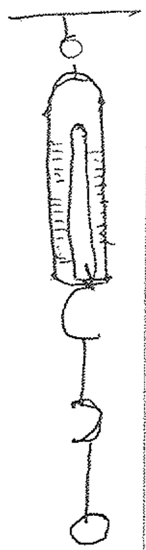
50 gm

Observed

Spring balance, weights, light strings

Spring balance weight light String at hanger.

How much weights is added at first

and how slowly pull up the whole System on the hanger. Note the readings. Do the same when you bring it.	✓ / identifies	☆ Now note the readings in the spring balance ☆ Do you know the weight shown by the spring balance? ☆ How much is the weight? ☆ Now I am adding some more weights to the weight hanger. ☆ How much we can add? ☆ Now add 100 gms ☆ weight in the spring balance is? ☆ Now we add some more weights. at last when 1000 gm is added the then the string brokes up	Yes, mam 50 gms 100 gms 100 gms	weight hanger		At which weight the string is broken

	See this the string is broken.	
U identifies	* At what weight the string is breaked?	at 1000 gm weight
	* Now separate the system from the sleling and tie the string to the weigh hanger.	Yes, mam
	* Now, Slowly pull the string slowly when there is 50 gm weight.	Yes, mam
S observe	* Now note the reading	the reading in the spring balance
	* Note the readings above pull without hands	decreases when it is pulled up &
	* Is the string when broken when the	increases when move down
A predicts	whole system is pulled quickly up?	no, it will not break

Is the string broken when the whole system is pulled Andwards up?

Block Teaching lesson plan-3

Preliminary Information

Name of the student-Teacher :

Regd No :

Subject : physical Science

Class : VIII

Unit : I

Topic : Magnetic force

Time : 45 mi

Date :

Name of the school :

Name of the Supervisor :

Reference Books : VIII NCERT T.B

Teaching learning materials : Tub, water, needl

Teaching method : lecture-

Demonstration method.

Instructional objectives :-

① Knowledge :- The Pupil acquires the knowledge of facts, formulas, principles etc.

Specifications :-

① Recall :- The Pupil recall the acquired knowledge about the magnetic force.

② Recognition :- The Pupil recognises the magnetic force of attraction by the acquired knowledge of the lesson.

understanding:- The Pupil can understands about the magnetic force.

Specifications:-

(1) Gives examples:- The Pupil can gives examples where magnets are used.

(2) Causes Effect:- The Pupil can gives reason why the needle acts as a magnet.

(3) Compares:- The Pupil can Compares the magnets with non-magnets.

(4) Explains:- The Pupil can explain about the magnetic force.

(5) Identities:- The Pupil can identifies that like poles repel and unlike poles attract.

Application:-

Specifications:-

Analyses:- The Pupil can analyses the situation.

Devices:- The Pupil can make the needle to act as a magnet.

Gives reasons:- The Pupil can gives reasons for the attraction and repulsion of poles.

Predicts:- The Pupil can predicts when the opposite poles of a magnet pulnear to each other.

Skill:- The Pupil can develops the skill.

Specifications:-

Observational Skill:-

Specifications:-

The Pupil observes the Errors in the Experiment.
The Pupil observes the Concepts, definitions with clarity.

Manipulating Skill:-

Specifications:-

The Pupil can use the instruments in a Proper way.
The Pupil can use the instruments in different methods.
The Pupil can follow precautions in using the instruments.

Reporting Skill:-

Specifications:-

The Pupil follows the clarity of language in the report.
The pupil selects the appropriate words in reporting.
The Pupil simplifies the Content of information in reporting.
The Pupil develops accuracy in reporting.

Content Analysis	O/S	Teacher's Activity	Pupils Activity	TLM	BBW	Evaluation
Concept: Observing the magnetic force. To Conduct this activity take a sewing needle. Rub it with a bar magnet several times always moving the magnet in the same direction. You may find that the needle always dets likea magnet with the help of a magnetic Compass you can identify the north and south poles of the needle. Pin a red Coloured fish ball to south pole and	1/5 recall	Good Morning Students * what we have learnt Yesterday? Now we are going to learn about magnetic force * Do you know about magnet? * what is the main property of magnet. * Do you know whena needle is rubbed in one direction with the magnet then it also acts as a magnet. If we rub the sewing needle with the magnet several times	limiting force of a string Yes, mam to attract iron no	water Tub magnetic Compass		100 What is the main property of a magnet?

ball to south pole and

magnet several times

a hide ball to north pole of the needle. Then drop it in a tub of water. it floats.

make another needle in the same way. Float both of them side by side facing such that like ends,

Now, place the needles in such a way that unlike ends face each other. Now observe that the push or pull each other. like poles of two magnets repel each other

V
identities

then it will also acts as a magnet.

☆ Do you know how we can detect the poles of a magnet?

☆ with the magnetic compass we can see the poles south & north poles of the magnet.

Now take a sewing needle and it is rubbed with magnet then it will also act as magnet

☆ does it act as a magnet?

☆ Now we have to find the poles of the needle

☆ How do we find?

No

Yes, man

with the magnetic compass

two needles

S N
N S

Foal balls red white

(10)

You can observe the red End to one needle and white End of another needle attract each other and Ends with the same colour repel. we know that the like poles repel each other and unlike poles attract each other. This action of Push or pull results due to magnetic Force. A magnet can attract or repel another magnet with out Contact with that magnet.

15 recall

U identifies

Now one End of the pole is pinned with a red foam ball and the other with a white foam ball. Let us pinned Colour to south pole and white Colour with North pole.

* To which the foam ball are pinned?

To the north and south poles

Now take another needle and ~~dropped~~ it is also made in the same process.

Now these two needles are dropped in a tub of water.

* did they float on water too sink?

The needles float on water

Now place the two poles in same direction so that two ends are sick by

which is the property we observed in this activity?

Same direction so that

	two pals are side by side each other	
under predicts	☆ Do you know what happens?	They repel each other
	☆ why?	like pales repel each other
	☆ when two opp pales are placed what happens?	The opp pales attract each other
U identifies	☆ which is the magnetic property you observed in this?	like pales repel and unlike pales attract each other
	☆ Is there any contact in these force?	no
U identifies	☆ So it comes under which force?	Field Force
	☆ Do you know this type of pull or push in this activity is? This action of push or pull is due to "magnetic force".	no

(12)

What is magnetic force

Eswck Teaching Lesson plan - 4

Preliminary Information

Name of the Student Teacher :

Regd No :

Subject : physical science

Class : VIII

Unit : I

Topic : Electro static force

Time : 45 min

Date :

Name of the Supervisor :

Reference Books : VIII class NCERT Text book

Teaching method : Inductive - Deductive method

Teaching learning materials : Balloon, Paperpieces, Salt Pepper.

School Name :

Introductory Activities :

Introductory Activities:

(1) Knowledge:- The Pupil can acquire the knowledge about electrostatic force

Specifications:

Recall:- The Pupil recalls the knowledge acquired in the lesson.

Recognition:- The Pupil can recognise the knowledge about the lesson.

(2) Understanding:- The Pupil can understand the electrostatic force.

Specifications:

Gives Examples:- The Pupil can gives Examples for the electrostatic force.

Sees relation:- The Pupil can sees the relation blw magnetic force and electrostatic force

Differentiates:- The Pupil can differentiates electrostatic force from other forces

Explains:- The Pupil can explains about electrostatic force in his own words.

Identifies:- The Pupil can identify the electrostatic force in real situations.

(3) Application:- The Pupil can apply the acquired knowledge in real situations

Specifications:

(1) Analyses:- The Pupil can analyses the situation that electrostatic force is not a contact force and it is a force at a distance.

Gives reasons:- The Pupil can gives reasons for the occurance of electrostatic force.

Predicts:- The Pupil can predict what happens when Peper and salt is placed near the ballon.

Skill:- The Pupil can develops the skills.

① observational Skills:- The Pupil can get observational skill.

② Specifications:-

The Pupil can observe the force in the ballon to attract Paper Pieces.
The Pupil can observe the attraction of charged body on another charged & uncharged.
The Pupil can observe the bits of Paper pulled towards the ballon.

③ Reporting skill:- The Pupil develops reporting skill.

Specifications:-

The Pupil selects the appropriate words in reporting
The Pupil simplifies the content of information in reporting.
The Pupil develops accuracy in reporting.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation

Content Analysis	o/s	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
Concept: Electro static force observing electrostatic forces. Take a balloon inflate it and tie up the open end now cut a paper into small pieces and place them on the floor. Rub the balloon with a paper and bring the balloon near the pieces of papers. we observe the bits of paper pulled towards the balloon. But if we use salt or pepper	1s recall	Good Morning Students * what we have learnt yesterday? * what is a magnetic force? * Today know we are going to learn about Electrostatic force. * Do you know what is an electrostatic force Now we can observe the electrostatic force by this activity	magnetic force The action of push or pull by the magnet is called the magnetic force. No, mam			107

we cannot observe this attraction when the balloon is rubbed with a paper it acquires an electrostatic charge on its surface. The balloon is now said to be a charged body. when it is brought near the bits of paper, the piece acquire opp charge and will raise and cling to the balloon. The force exerted by a charged body on another charged

Now take this balloon. Suitable the balloon and I am typing the end of the balloon.

A what is this?

R Now cut another paper into pieces.

A Now observe what I am doing, I am rubbing the balloon with this paper.

A Now I will took this balloon near these paper pieces.

A Do you know what happens?

rubbing the balloon

a Paper

Yes, mam

no

Balloon Paper Paper pieces

or uncharged body is known as electro-static force.

This force comes to play even when the bodies are not in contact. It is an example of a force at a distance.

S
observes

U
identities

and showing the students that the paper pieces are pulled towards the balloon.

* what do you observe?

* Do you know why these are attracted?

* If we rub the balloon with salt and pepper did they attract.

* See did they attract or not

* Salt, Pepper does not pulled towards the balloon. But the

The paper pieces are attracted to the balloon.

No, mam

no

Yes, mam

Salt

Pepper

109

Paper pieces are pulled towards the balloon. when the balloon is rubbed with a paper, it acquires an electro- static charge on its surface.

Electro Static force

K/recall

* which charge is formed on its surface? — Electrostatic

* Does the ballon now is charged or not? — Charged

When it is brought near the Paper pieces the pieces acquires the opp charge and will raise and cling to balloon.

U/identify

* Why they cling to the balloon — opposite charges attract each other

Thus from this we

	Ks / recall	Thus from this we can say that the force exerted by a charged body on another charged or uncharged body is known as electrostatic force. * what is an electro-static force?	They will tell in own words.		Electro Static force	111
	Ks / recall.	This force comes into play even when the bodies are not in contact. So it is an example for which type of forces? Yes. the electrostatic force is the force at a distance	Force at a distance			

Block Teaching lesson plan-5

Preliminary Introduction

Name of the Student-Teacher :

Regd No :

Subject : physical science

Class : VIII

Unit : I

Topic : Gravitational force

Date :

Name of the Supervisor :

Reference Books : VIII NCERT Text book

Teaching method : Inductive - Deductive method

Teaching leaving materials : Pen, ball.

Name of the school :

Instructional objectives:

Instructional objectives:-

(1) Knowledge:- The Pupil acquires knowledge about gravitational force.

Specifications:-

Recalls:- The Pupil recalls the knowledge about gravitational force.

Recognition:- The Pupil can recognise the terms, facts in the topic.

(2) understanding:-

Specifications:-

Gives examples:- The Pupil can gives examples for gravitational force.

Compares:- The pupil compares gravitational force with the other forces.

Discriminates:- The Pupil can discriminate blw gravitational force and normal force.

Identifies:- The Pupil can identify the gravitational force on any object.

Explains:- The Pupil can explain the gravitational force in his own words.

(3)

(3) Application:- The Pupil applies the knowledge and understanding in real situations.

Specifications:- The Pu

Analyses:- The Pupil can analyses the gravitational force.

Gives Reasons:- The Pupil can gives reasons for the gravitational force.

Establishes Relations:- The Pupil can Establish relation between gravitational force and the normal force acting on an object.

predicts:- The Pupil can predicts what happens without the Gravitational force.

Framing Hypothesis:- Framing of hypothesis by observing different aspects.

(3) Skill:- The Pupil develops skills.

(1) observational skill:-

The Pupil can observe the gravitational force in real Situations

The Pupil can observe the gravitational force on any object.

(4) Interest:-

④ Interest:

The Pupil can gets interest in studying the physical Science.
The Pupil can read the autobiographics of scientists like Newton.

⑤ Scientific attitude:

The Pupil can get Scientific attitude.
The Pupil can identify the Errors.
The Pupil can question himself and he can also takes the ideas of others.

The Pupil appreciates the role of science in different aspects.
The Pupil can prepare the models and feel happy.
The Pupil can face the problems with confidence.
The Pupil can't leave any work in incomplete the always maintain perfectness.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
Concept:- Gravitational force. If the pen slips off from our hands it falls down to the floor If we keep the same pen on a tables, it doesn't fall down. we said that the table supports the pen it would fall down untill. It is supported by another Object like the floor. If an object is thrown upwards there exists a force which pulls it down towards	K/recall K/recall undo/identify U/identify A/	Good morning Students * what we have learnt yesterday? * what is an electro static force? Today we are going to learn about the topic Gravitational force * Do you know what is Gravitational attraction * Why does a stone thrown up into the sky come back and fell on the Earth? * Why do rivers flow down to the sea? * Is there any force pulling the objects towards Earth?	electrostatic force Tell in own words Yes, tell in own words due to Earths gravitation. The rivers flows from higher level to lower. level	pen book ball	Gravitational force	1) What is gravitational attraction? 2) Is there

it down towards the Earth because of this it falls down to the ground. we call this force as Gravitational force. Every object on the Earth or close to Earth will experience a gravitational pull The force of gravity is not just done due to attraction of the Earth. It is a force of attraction that exists btw any two bodies everywhere in the universe.

A predict

* Is there any force pulling the objects towards Earth?

Yes, If an object is thrown upwards, there exists a force which pulls it down towards the Earth. because of this it falls down to the ground. Do you know what we call this force?

* we call this force as Gravitational force From this we can say that every object on the Earth or close to the Earth will experience

level aread

Yes

NO

(4)

Is there any force pulling the objects towards the Earth?

As the Earth is so massive and huge all the other objects close to the Earth are attracted or pulled towards it. when you sit in your classroom. there will be a gravitational force among you and other students and a similar force exists blw you and the black board. You cannot observe the gravitational force that exists between you and your teacher or

a gravitational pull.

This force of gravity is not just due to the attraction of the Earth.

* Do you know force of attraction exists between any two bodies?

The force of attraction that exists between any two bodies every where in the universe.

I said that there exists force of attraction blw any two bodies every where in the universe so that there should be attraction blw the two persons

* So you agree with this?

* why we are not pulled

NO

Why

Why we

12

between you and		# Do you agree with this?	why			
your teacher or between you and the black board because it is very small when compared to the gravitation force exerted by the earth on these objects.	U identify	# why we are not pulled towards the earth? Do you know? As the earth is so massive and huge, all the other objects close to the earth are attracted or pulled towards it. But we cannot experience this attraction between us and the other objects because the force of attraction b/w us is very small when compared to the gravitational force exerted by the earth on these objects. # what is the reason	No mam They will tell in own words		Ty	why we are not pulling towards the earth. what is the reason

Summarisation:- Today we have learnt about Gravitational force.

(i) what is Gravitational attraction?

(ii) Is there any force pulling the objects towards the Earth?

(iii) why we are not pulling towards the Earth?

(iv) what is the reason for this.

Home Assignment

Write a few sentences that you know about Gravitational force

Block Teaching Lesson plan-6

Preliminary Introduction

Name of the Student-Teahor :

Regd no :

Subject : physical science

class : VIII

unit : I

Topic : Concept of field, magnetic field.

Date :

Name of the Supervisoor :

Name of the School :

Reference Books : VIII class NCERT Text book

Teaching Method : Inductive - Deductive method

Teaching learning materials : Magnets.

Name of the Students : 30.

Instructional objectives:- The pupil recalls the terms magnets, magnetic force etc.

Specifications:

Recalls:- The Pupil can recall the acquired knowledge in the lesson.

Recognition:- The pupil can recognises the acquired knowledge about the lesson.

② understanding:- The Pupil can understand about the magnetic field.

Specifications:-

① Gives Examples:- The Pupil can gives Examples where we can observe the magnetic field of attraction.

② Compares:- The Pupil can Compares the magnetic field with gravitational force.

③ Discriminitates:- The Pupil can discriminate between force at a distance and field forces.

④ Identifies:- The Pupil can identity the magnetic field in real situation

⑤ Explains:- The Pupil Can Explains about magnetic field in his own words.

③ Application:- The Pupil can apply the acquired knowledge in his real life.

(3) Application:- The Pupil can apply the acquired knowledge in his real life.

Specifications:-

Analyses:- The Pupil can analyses the magnetic field.

Gives reasons:- The Pupil can gives reason for the setting of iron fillings around the magnet.

predicts:- The Pupil can predicts what happens when we sprinkle iron powder near the magnet.

Framing Hypothesis:- Framing of hypothesis by observing different aspects. The Pupil develops different skills.

(1) Observation Skill:-

The Pupil can observe the magnetic field around the bar magnet.

The Pupil can observe the arrangement of iron particles around the magnet.

The Pupil observes that the strength of field increases, greater the density of lines, the stronger the forces in that part of the field.

Manipulating skill:-

The Pupil can use the magnets in a proper manner.
The Pupil can use the magnets in different methods.
The Pupil can follow precautions in using the magnets.

The Pupil can gets interest in studying the physical Science.
The Pupil can read the autobiographies of Scientists who discovered the magnetic field.
The Pupil can gets Interest in preparing different models with the magnets.

Scientific attitude:-

The Pupil can get Scientific attitude.
The Pupil can question himself and also takes ideas of others.

Appreciation:-

The Pupil appreciates the role of science in different aspects.
The Pupil can force the problems with confidence
The Pupil cannot leave any work Incomplete. He always maintain Perfectness.

Content Analysis	o/s	Teacher's Activity	Pupils Activity	T.L.M	B.B.W	Evaluation
Concept, Concept attributes		Good morning students				

... cannot leave any work incomplete. He always maintain perfectness.

Content Analysis	O/S	Teachers Activity	Pupils Activity	T.L.M	B.B.W	Evaluation
Concept: Concept of field. The force which acts b/w two bodies, when the bodies are not directly touching each other is called force at a distance. We can explain the forces at a distance by using the concept of field.	1A recall	Good morning students. ✱ what we have learnt yesterday. ✱ what is Gravitational force. Now we know that the earth attracts the objects towards it. we call this as gravitational attraction. In the same way do you know the magnets have attraction?	about gravitational force. They tell in own words	Bar magnet		10
Visualizing magnetic field.	1A recall	✱ what the magnets can attract?	Yes, mam			
Take a bar magnet and place it on a table. place a thick	1A recall	✱ So what we can say the magnet also have attraction power like	iron			

white Paper over it. On the Paper Sprinkle fine Powder of iron as shown. Tab the table or the Paper gently with Pen/Pencil Now rotate the magnet in different directions and do the same. we can see that in a small space around the magnet iron fillings set themselves in a Pattern because they are affected by the magnetic force of the field created by the bar magnet. This

recognise

recognise

recall

observe

the Earth. You know Earth is a huge magnet.

* Does the magnet exhibits its attraction when the other body is in Contact to it?

* So it Comes under what type of forces?

Yes But the magnet has some field. Do you know the field? The area upto which the attraction is present is called its field.

* what is a magnetic field?

* Do we observe the magnetic field around it?

we can observe this

NO

Force at a distance

no

They tell in own words

no

Paper Iron Particles

Magnet

N. field

magnetic force of lines

magnetic field

What is a magnetic field.

field created by the bar magnet. This pattern represents the magnetic field. The space around the magnet where its influence can be detected is called the magnetic field. Thus field is a region in which a force can be experienced by another object placed at any point in that region

A body creates a field and another body experience the force

5 observe

we can observe this when there is an object near it.

Now we observe the magnetic field without any activity.

observe carefully.

* what is this?
* what are these marks?
* now I am placing this on this table.

now place a white paper sheet on this magnet covering the magnet.

* Did you magnet now?

So we have covered the magnet

* now what are these? (showing iron particles)

a bar magnet

indicates, north and south poles of magnet.

no

Iron particles.

by the field when it is placed in that field

A magnetic field surrounds a magnet an electric field surrounds electric charges and a gravitational field surrounds the masses.

The strength of a field in a particular region can be represented by field lines. The greater the density of lines the stronger the forces in that part of the field.

S / observe

Is / recall

I will sprinkle them on the sheet.

☆ observe carefully what we observe!

Now I am doing this by rotating the magnet to another direction.

☆ In another direction also what we observe!

☆ Do you know what this pattern represents?

we call this as magnetic field.

The space around the magnets where its influence can be detected. is called the magnetic field.

☆ what we call this?

A body creates a field

They are arranged in a pattern.

They are arranged in lines around the magnet.

no

magnetic field

U

Identifies

A body creates a field and another body experiences the force by the field when it is placed in that field. what we call the field around the magnet? In the same way we call the electric field around electric charge.

NO

Do you know Strength where the field is strong and where it is weak? The greater the density of lines the stronger the forces in that part of the field.

Then there is less density the force is less.

where the force is higher or less

A where it is less?

Summarisation: Today we have learnt about magnetic field.

Recapitulation:

a) what are the properties of a magnet?

b) what we call the field around the magnet?

c) what is relation b/w density of lines and the force on it?

Write a few sentences that you know about magnetic field.

Block Teaching Lesson plan-7

Name of the Student-Teacher :

Regd no :

Subject : Physical Science

class : VIII

unit : I

Topic : Net force

Date :

Name of the Supervisor :

Reference Books : VIII NCERT Text Book

Teaching method : Lecture method

Teaching learning materials : Book, Table

Name of the School :

Instructional objectives: The Pupil can acquire the knowledge about the net force.

Specifications:

① Recall: The Pupil can recall that the net force is zero when two opp forces acting on it.

② Recognition: The Pupil can recognise the net force acting on an object.

③ understanding: The Pupil can understand about the net force acting on an object.

Specifications:

Gives Examples: The Pupil can gives Examples where the net force is acting.

Compares: The Pupil Compares the net force with the normal and gravitational force.

Gives reasons: The Pupil can gives reasons why the net force is zero on an object.

predicts: The Pupil can predicts the net force acting on an object.

④ Application: The Pupil can apply the acquired knowledge in his real life Situations.

Specifications:

Analyses: The Pupil can analyses the situation of net force on an object.

Framing Hypothesis: Framing of hypothesis by observing different aspects.

⑤ Skill: The Pupil can develops skills.

(4) Skill:- The Pupil can develops skills.

(1) Observational skill:-

The Pupil can observe whether the body is in rest or in acceleration for net force

The pupil can observe the forces acting on an object.

Interest:-

The pupil gets interest in studying the physical Science.

The Pupil can read the autobiographics of scientists.

The Pupil can gets interest in identifying the net force

Scientific attitude:-

The pupil can get scientific attitude.

The pupil can question himself and also takes ideas of others.

Appreciation:-

The Pupil appreciates the role of science in different aspects.

The Pupil can face problems with Confidence

The Pupil cannot leave any work incomplete. He always maintain perfectness.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
Concept: Net Force In reality many forces can act simultaneously on a body For example there exist two forces on an object placed on a horizontal floor one is gravitational force and other is normal force. we donot observe any change in the state of rest of any object. In this two forces acting on the object are Equal and opp in direction So, there is no change in state Technically we say that the net force on this object is zero.	K/recall	Good morning students. * what we have learnt yesterday? * what is a magnitude field? * what is gravitational force? * we have already learnt about normal force? which is a normal force. * so it is opp and equal to the gravitational force. * Did they are equal? * If we place a book on the table which are the forces acting on the book? * Do we observe any change in the state of the book? * what we have to do to move the book?	about magnetic field. They tell in own words. The force of attraction by the Earth. The force that supports and opp to the gravitation Yes Gravitational force normal force yes force to be applied	Book		13 which forces acting on the book
If this object is kept in a lift which is accelerating	S/new	* So another force has to be applied.	because the		17	Why the

object is zero.			force to be applied			
If this object is kept in a lift which is accelerating the net force acting on the object is zero. because the object is in the non-uniform motion. when two forces act on a body as in the above case, one of the force should be greater than the other to set the body in motion. The strength of a force is usually represented by its magnitude. The direction of a force is as important as its magnitude. we represent the magnitude and direction of force using 'arrows' (→)	S observe U observe K recall	* So another force has to be applied. * Do you know why the net force is zero? Yes, also the two forces acting on it are equal and opp to each other. Hence there is no change in its state. * Do you know what is the net force when the same book is placed in a lift which is accelerating ? So, the book is in non-uniform motion so the net force is not zero because the book is in non-uniform motion. * Do you know what are the two important factors for force) * How we represent the magnitude and direction	because the book is at rest no no with arrows	Table	(by) magnitude direction	why the net force is zero. Does the net force is zero for non-uniform object ?

Summarisation: Today we have learnt about Net force.

Recaptulation: what are the two forces acting on an object?
Did the two forces acting on an object are equal?
what are the two important factors for force.

write a few Sentences that you know about net force.

~~MACRO~~ ~~lesson~~ Block Teaching Lesson plan-8

Preliminary Information

Name of the Student-Teacher :
Regd No :
Subject : physical Science
Class : VIII
Unit : I
Topic : Effect of force acting on a table
Date :
Name of the Supervisor :
Reference books : VIII NCERT T.B
Teaching Method : Lecture - Demonstration method
Teaching learning method : Table
Name of the school :

Instructional objectives:

... about the effect of force.

Instructional objectives:

(1) Knowledge:- The Pupil can acquire the knowledge about the effect of force acting on a table.

Specifications:

(1) Recall:- The Pupil recalls the net force, magnitude and direction.

(2) Recognition:- The Pupil recognises the acquired knowledge about the topic.

(3) understanding:- The Pupil can understand about the effect of net force acting on a table.

Specifications:

Gives examples:- The Pupil can gives examples where the net force is zero.

Compares:- The Pupil can compare gravitational force and normal force in net force

Identifies:- The Pupil can identifies the magnitude and direction of force

Explain:- The pupil can explains about the net force

Understanding:- The Pupil can apply the acquired knowledge in real life situations.

Specifications:

Analyses:- The Pupil can analyses the situation.

Gives reasons:- The Pupil can gives reasons why the net force acting on the table is zero.

predicts:- The Pupil can predicts what is the net force when one force greater than other.

(4) Skill:- The Pupil can get skill.

observation skill:-

The Pupil can observe the net force acting on the table

The Pupil can observe the magnitude and direction of force.

The Pupil can observe that the net force is to be added when one force is higher than other.

Interest:- The Pupil can get interest in studying the physical Science.

(5) Appreciation:-

The Pupil appreciates the role of science in different aspects

The Pupil can force the problem with confidence

The Pupil can get leave any works incomplete.

(6) Scientific attitude:- The Pupil can get scientific attitude

The Pipil can question himself and also takes ideas of others.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	BW	Evaluation
		Good morning Students				

The pupil can question himself and also takes ideas of others

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
Concept: Effects of net force acting on a table All the forces have both magnitude and direction. while adding forces, the directions of forces have to be taken into account. when forces have to be taken into account when forces act on a body along a striaght line and they are in the same direction. the net force is taken as the sum	K/recall K/recall S/observe U/explain A/identify	Good morning students ☆ what we have learnt yesterday? ☆ what is a net force? Now Today we will learnt about of the effect of net force acting on a table. ☆ see what is this? Two boys of you come here? one of you push the table ok. come another one you both push the table ☆ Now did it move? Why ☆ when it is easier to move the table? So, the total force applied by both of you made it easy to move the table.	about effect of net force on a book Tell in own words a table Yes, man It is very heavy man. Yes, man Yes man When we both Push the Table	Table	Effect of net force	What is Effect of net force

1/9

of all forces acting on the body. To add forces sign conventions must be used. $\xrightarrow[F_1]{}$ $\xleftarrow[F_2]{}$

The force F_1 directed towards right could be taken as positive and the force F_2 acting towards left could be taken as negative. Let the forces F_1 and F_2 act on the table in opp directions. $F_1 > F_2$

Then the net force

$F_{net} = F_1 + (-F_2)$

$= F_1 - F_2$

when the forces on a body are in opposite

A give reasons

Now you both stand in the opp sides of the table and Push

* Does it moves?
* why?
* If one of you applied force higher than the another what happens?

A predict

How do we know the net force acting on the table do you know? Forces have both magnitude and direction While adding the forces, The directions of forces have to be taken into account when the forces are acting along the same direction then the it is taken as the sum of all forces acting on the body.

no, mam

we are moving in the oppasite direction with Equal force.

The table moves

No, mam

why the table didnt move?

what is the net force when the

$= F_1 - F_2$ then the it is taken as the net

when the forces on a body are in opposite directions the net force is Equal to the difference between the two forces. The Object at rest moves in the direction of the net force acting on it.

sum of all forces acting on the body.

If one boys force F_1 is directed towards right taken as +ve and others boys force is taken as -ve.

Let they can be F_1 & F_2 if one boys force F_1 is greater than F_2 Force by another boy, then the net force $F_1 > F_2$

$F_{net} = F_1 + (-F_2) = F_1 - F_2$

when the force in opp direction the net force is taken as difference b/w the two forces.

F_1

F_2

$F_1 > F_2$

F_{net}

$=$

$F_1 + (F_2)$

$= F_1 + F_2$

force when the forces are in same direction

What is the net force when the forces are in opposite direction

Summarisation:- Today we have learnt about net force effect acting on a table.

(i) what is net force.

(ii) what is the net force when the two forces are in opposite directions.

(iii) what is the net force when the two forces are in same directions.

Assignment:- Write a few sentences that you know about net force acting on a table.

Block Teaching Lesson plan-9

Preliminary Information

Name of the student Teacher :

Regd no :

Subject : Physical science

Class : VIII

Unit : I

Topic : Effects of stretched rubber bands on fingers.

Date :

Name of the Supervisor :

Reference books : VIII class NCERT Text book

Teaching method : Lecture Demonstration method

Teaching learning material : Rubber bands.

Name of the school :

Knowledge: The pupil can acquire the knowledge about effects of stretched bands.

Knowledge:- The Pupil can acquire the knowledge about effects of stretched bands on fingers.

(143)

Specifications:-

① Recall:- The Pupil can recall the terms net force and the units of net force.

② Recognition:- The Pupil recognises the units of force from other units.

③ understanding:- The Pupil understands the acquired knowledge by the topic.

Specifications:-

① Gives examples:- The Pupil can gives examples for the net force for 3 (or) 4 rubber bands.

② Compares:- The Pupil can compares the net force for one rubberband with the more rubberbands.

③ Identifies:- The Pupil can identities the change in the net force by increasing rubberband

④ Explains:- The Pupil can explains in his own words.

⑤ Application:- The Pupil can apply the acquired knowledge in his real Situations.

Specifications:-

Analyses:- The Pupil can analyses the Situation

Gives reasons:- The Pupil can gives reasons for the increase of net force with increase in the no. of rubber band

④ Skill:- The Pupil can develops skills.

The Pupil can observe the Effect of force by one rubberband and the Effect with the increase in the rubberbands.

Interest:-

The Pupil can gets interest in Studying physical Science.

⑤ Appreciation:-

The Pupil can appreciates the role of Science in different aspects.

The Pupil can face the problem with Confidence.

The Pupil cannot leave any work incomplete.

⑥ Scientific attitude:-

The Pupil can get Scientific attitude

The Pupil can question himself and also takes ideas of others

Content Analysis	o/s	Teacher's Activity	Pupil's activity	T.L.M	B.B.W	Evaluation
Force is a push or pull		Good morning students				

Content Analysis	O/S	Teacher's Activity	Pupil's activity	T.L.M	B.B.W	Evaluation
Concept: Effects of stretched rubber bands on fingers. The force exerted by one rubber band is F units and the force exerted by the second rubber band is F units. Then the net force of two rubber bands can be expressed as		Good morning students * what we have learnt yesterday? * we have learnt about the Effect of net force on the table in the last class. Today we will discuss about the Effects of stretched rubber bands on fingers. * what is this? * Gopi come here? * Take this rubber band and stretch it with your both hands fingers.	Effect of net force on a table a rubber band Yes, mam Yes, mam		Effects of Stretched rubber bands on fingers.	(4)

$F_{net} = F + F = 2F$ units

The unit of force in S.I System is Newton (N)

	* Did you feel any difficulty in stretching one rubber band?	No, man
S / Observes	Now take this another rubber band and it is to be stretched along the first one.	Ok, man
	* Did you feel any difficulty?	no, man
	Now take another two (or) 3 and do the same.	little difficulty
U / Compares	Did you feel difficult.	no
	Did you apply same force in stretching one and four rubber bands?	The force is increasing with the no. of rubber bands.
	* what do you observed?	
	* Do you tell me the net force on the fingers?	no, man

What do you observe when you increase the no. of rubber bands.

F are Consider the force

net force on the fingers)

	Products	If we Consider the force Exerted by one rubber band is F and then also the force Exerted by the second rubber band is F and the third rubber band is F then the net force of three rubber band is $F_{net} = F+F+F = 3F$ units * what we say from this? In S.I System the unit of force is Newton(N). * what is unit of force	The net force is the sum of all the independent forces Newton (N).		$F_{net} = F+F+F$ $= 3F$ units Newton (N)	(4) what is the net force when three rubber bands are around your fingers? What is the unit of force.

Summarisation:- Today we have learnt about effects of stretched rubber bands on figures.

(i) did you apply the same force in stretching one rubberband and three bands?
(ii) what is the net force when you put three rubber bands around your fingers?
(iii) what is the unit of force in S.I system.

Assignment:- Calculate the net force when you have 8 rubberbands around your fingers.

Block - Teaching Lesson plan-10

Preliminary Information:-

Name of the Student Teacher :

Regd No :

Subject : Physical Science

class : VIII

unit : I

Topic : calculation of net force from free body diagram.

Date :

Name of the Supervisor :

Reference books : VIII class NCERT T.B

Teaching method : lecture method

Teaching learning method :

Name of the school :

Instructional objectives:-

Finding net force from free body diagrams

Instructional objectives:-

Knowledge:- The Pupil acquires the knowledge of net force from free body diagrams.

Specifications:-

(1) Recalls:- The Pupil can recall the terms like net force acting on an object.

(2) Recognition:- The Pupil can recognises the net force acting on an object.

(3) understanding:- The Pupil can understand the acquired knowledge about the topic.

Specifications:-

Gives examples:- The can gives examples for net force acting on an object.

Compares:- The Pupil can Compares the net force ~~from free body~~ in same and opposite direction.

Differentiates:- The Pupil can differentiates between Contact and field force.

Explains:- The Pupil can Explain the net force from body diagram in his own words.

Identifies:- The Pupil can identifies which for the forces acting on FBD.

(3) Application:- The Pupil can apply the acquired knowledge in real life Situations

Specifications:-

Classification:- The Pupil can classify the different Effects of forces on different objects.

Analyses:- The pupil can analyses the given situation.

Predicts:- The Pupil can predicts what are the forces acting on an object.

Draws Conclusion:- The Pupil can draws Conclusion for the net force along the x-axis and the force along y-direction.

Estimates:- The Pupil can estimates the net force.
The pupil can develop the skill.

(1) Observational skill:- The pupil can develops the skill by observing what are the forces acting on FBD. The Pupil observes which are opposite and same in direction.

(2) Reporting skill:- The pupil simplifies the content of Information in reporting.
The pupil develops accuracy in reporting.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
Concept calculation of net		Good morning students				

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	TLM	B.B.W	Evaluation
Concept: Calculation of net force from free body diagram The diagram showing all the forces acting on an object at a particular instant is called "Free Body diagram" It is denoted as FBD Example:- when a car is moving with a non-uniform speed along a road. The acting on it are taken as the force applied by the engine on the horizontal and the	K/ recall K/ recall K/ recall	Good Morning students * what we have learnt yesterday? * How we get net force? * Today we are going to learn about free body diagram. * Do you know what is a Free body diagram? The diagram showing all the forces acting on an object at a particular instant is called Free body diagram. * which shows this diagram? This Free body diagram is denoted with 'FBD'. * what is the Symbol? Now let us take an Example of a car moving with a	about the Effect of stretched rubber bands around fingures. by adding no of rubber bands forces. NO all the forces acting on an object FBD			What is a free body diagram?

frictional force applied by road are taken on x-axis. The normal forces N_1 and N_2 and the gravitational force $(F_g) = w$ are taken on y-axis. The net force along x-direction is $F_{net}(x) = F - f$

Net along y-direction

$F_{net}\ y = N_1 + N_2 - w$

K/ recall

non-uniform speed along a road.

* what are the forces acting on it?

U/ identity

The forces acting on the car are

(i) Gravitational force

(ii) Frictional force where the friction is b/w the car tyres and road.

(iii) The supporting force normal force by the two tyres of the car tyres of the car.

Let the normal forces are N_1 & N_2

Let Gravitational force be w.

Frictional force is (f) and force applied by engine (F) we calculate net force.

U/ identity

what is net force along x-axis?

* why it is $F - f$?

what is net force along Y-axis

$F_{net} = F - f$

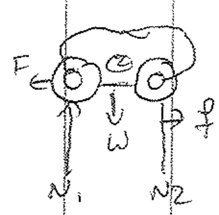
$F_{net} = N_1 + N_2 - w$.

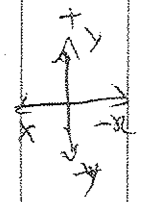
They will tell in own words.

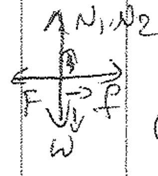
$F - f$

we have to take the difference b/w the forces in the same line and opposite to each other

$N_1 + N_2 - w$







what are the forces acting on it.

What is the net force acting along x-axis.

What is the net force along Y-axis.

Summarisation:- Today we have learnt about Free body diagram.

$F_{net} = F - f$ $\quad N_1 + N_2 - W$

$F_{net} = N_1 + N_2 - W$ $\quad N_1 + N_2 - W$

Summarisation:- Today we have learnt about Free body diagram.

Recapitulation:- (i) what is a Free body diagram (ii) what are the forces acting on a car. (iii) what is the net force along x-axis (iv) what is the net force along y-axis.

Home Assignment:- what is the net force of a F.B.D having a car moving with a non uniform speed along a road.

Block Teaching lesson plan - II

Preliminary Information

Name of the student Teacher :

Regd No :

Subject : physical science

Class : VIII

Unit : I

Topic : Effect force on direction & State of the body

Date :

Name of the Supervisor :

Reference Books : VIII class NCERT Text book

Teaching method : Lecture method

Teaching learning material : Picture

Name of School :

① knowledge:- The Pupil acquires the knowledge about the Effect of force on the direction of motion and State of the body.

Specifications :-

① Recalls:- The Pupil recalls the terms, net force, State of rest, if the net force is in the direction of motion then the Speed increases.

② Recognises:- The Pupil recognises that the net force acts in the same and also in opposite directions.

③ understanding:- The Pupil can understand about force on the direction of motion and the state of the body.

Specifications :-

Gives Examples:- The Pupil gives Examples where the state of motion of an object changes due to application of force.

Compares:- The Pupil can Compare the body when it is in rest and when it changes its State due to force.

Differentiates:- The Pupil can differentiate b/w force acting on an object in the same direction and the force acting on an object in the opposite direction.

Explains:- The Pupil Can Explain the changes in the motion in his own words.

Identifies:- The Pupil Can identities the direction of motion of an object moving with Constant speed

③ Application:- The Pupil can apply the acquired knowledge about the topic

Specifications:

(3) Application:- The Pupil can apply the acquired knowledge about the topic.

Specifications:

Analyses:- The Pupil can predicts what happens when the ball is kicked. Continously.

predicts:- The Pupil can predicts what happens when the ball is kicked.

Establishes relation:- The Pupil can establish the relation b/w the force applied and change in the state of the body.

Gives reasons:- The Pupil can gives reasons for the change in the state of the body.

Draws Conclusion:- The Pupil can draws conclusions that the objects speeds upon slows down when we exert force on it.

The Pupil can develops the skills.

Observational Skill:-

The Pupil can observe the motion and direction of the ball when it is kicked.

The Pupil can observe that the speed increases when we increase force several times.

The Pupil observes that the object speeds up or slows down when we exerts force on it.

(5) Interest:- The Pupil can get interest in knowing about physical Science.

Specifications:

The Pupil asks questions in scientific discussion

The Pupil reads scientific lectures and of prominent scientists

The pupil collects specimen, photographs and biographics etc.

The pupil participate in Science fairs, exhibitions, clubs etc.

⑥ Appreciation: The pupil appreciates the contribution of physical science to human happiness.

Specifications:-

The Pupil appreciates the history of development of physical Science.

The Pupil takes pleasure in understanding the progress made in physical science.

The Pupil manifests a spirit of scientific inquiry.

⑦ Scientific Attitude:- The Pupil can acquire scientific attitude in learning physics.

Specifications:-

The Pupil is willing to consider new ideas and discoveries.

The Pupil locates sequential development and growth of physics.

The Pupil pursues his activities with precision and consistently by failures

The Pupil exhibits self reliance, self help and team spirit.

Content Analysis	O/S	Teachers Activity	Pupils Activity	TLM	B.B.W	Evaluation
[illegible]		Good Morning Students				

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
Concept: The Effect of force on the direction of motion and state of the body. place a foot-ball on the ground. The ball will remain in a state of rest unless some one kicks the ball. kick the ball again in the same direction. place your hand (or) leg against the ball. we can move the ball from its position of rest by applying a force on it. we can stop the moving ball and	K / recall	Good morning Students * what we have learnt yesterday? * what is the net force acting along x-axis.	net force from free body.			(5)
	U / identifies	* If we throw a ball then it is in which state?	$F = F - f$			
	U / identifies	* Did the ball have certain direction? * In which direction does it goes?	it is in motion. Yes.			
	A / predicts	So, now we are going to learn about the Effect of force on the direction and state of the body. * Get up Gopi. Do you play foot ball? * Before you kick the foot ball which is the state of ball?	In which direction the ball is thrown Yes, ma'm	ball	ball	In which direction it goes.

bring it back to rest by catching it. You might have seen children playing with a rubber tyre by pushing it with a stick. They push the tyre again and again with the stick to increase its speed. With every push they are applying a little more force on the moving tyre in the direction of motion. Hence the speed of the tyre increases continously. If the net

A predicts

U identify

A predict

A predict

* when you kick the ball what happens?
* Now when you kick the same ball again in the same direction what happens?
* If you place your hand and leg against the ball what happened?
* what is the state at this position?

So we are applying force to move the ball from rest and also we can stop the ball to rest by catching it.

* can you give examples for this?

another example is we have a to use some more force to move a toy ball which is in rest.

* Do you play with a rubber

it is at rest

it moves toward

again it moves faster.

it will stops

it is at rest.

Throwing and catching cricket ball.

when you kick what happens?

Ur

Give some examples for throwing and catching

of the tyre increases		so are you moved [illegible] is in rest?	ball			Catching
Continously. If the net force acts in the direction of motion the Speed of an object moving with Constant Speed also increases. If the net force acts in a direction opp to the motion then it neither slows down the object or bring it to a stop.	A / analysis	Do you play with a rubber tyre Sindhu! How you push the tyre? & You path the tyre with stick only one time. & why the speed of the tyre increases? & Do you apply a little more force on moving the tyre! So the Speed of the tyre increases Continuously? If the net force acting in the direction of motion the speed of an object moving with Constant Speed also increases, If the net force acting in a direction opp to the motion. then the either slows down the object it to a stop.	Yes, mam with stick no, several times we are pushing the force Yes, mam.			If the net force is in the direction with is the Constant Speed.

Summarisation:- Today we have learnt about the effect of force on the direction of motion and state of the body.

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Recapitulation:-

(i) Give some examples where the state of motion of an object changes due to changes due to the application of force.

(ii) Give an example where the object speeds up or slows down when we exert a force on it?

(iii) what is the net force when the force acts in the direction of motion

(iv) what is the net force when the force acts in the direction opposite to motion.

Home Assignment:-

Write a few sentences about the effect of force on the direction state of the body.

Block Teaching lesson plan-12

(16)

Preliminary Information

Name of the student Teacher :

Regd No :

Subject : physical science

Class : VIII

Unit : I

Topic : Effect of net force on direction of moving object.

Name of the Supervisor :

Reference Books : VIII NCERT text book

Teaching Method : Lecture - Demonstration method

Teaching learning material : Carram board.

Name of School :

Instructional objectives:-

(1) Knowledge:- The Pupil acquires the knowledge about the Effects of net force on direction of moving object.

Specifications:-

(1) Recall:- The Pupil can recall the net force acting on an object, state of motion of an object.

(2) Recognition:- The Pupil can recognise the change of state of motion of an object.

(3) Understanding:- The Pupil acquired the knowledge will be understand by the students.

Specifications:-

Gives Examples:- The Pupil can gives examples for the change of state of an object by applying force.

Compares:- The Pupil can compares the change of direction and magnitude

Identifies:- The Pupil can identifies the changes in the direction of coin and also striker.

Explains:- The Pupil can explain the change in the direction of an object by Effect of force.

Application:- The Pupil can apply the acquired knowledge in real life situation.

Application:- The Pupil can apply the acquired knowledge in real life situation.

Specifications:-

Analyses:- The Pupil can analyse why the direction changes by the effect of force.

predicts:- The Pupil can predicts what happens when he strikes a coin

Give reasons:- The Pupil can gives reasons for the change of direction of an object.

(4) Skill:- The Pupil can acquires skills.

observational Skill:-

The Pupil develops the skill in striking the carrons and observes the changes in the direction of the coin and the strikes

Reporting Skill:-

The Pupil simplifies the content of information in reporting.

The Pupil develops accuracy in reporting.

(5) Interest:-

Specifications:-

The Pupil develops interest in reading scientific lecture and autobiographies of Scientists.

The pupil ask questions in scientific discussion

The pupil undertakes projects in physical science.

⑥ Appreciation:-

Specifications:-

The Pupil acknowledges the Contribution of Various physists to human Progress.

The Pupil appreciates the history of development of physical Science

The Pupil manifests a spirit of scientific inquiry.

The Pupil shows respect and administration for Scientists and their inventions.

⑦ Scientific Attitude :-

The Pupil can acquire scientific attitude in learning physics.

Specifications :-

The Pupil is willing to Consider new ideas and discoveries

The Pupil is prepared to reconsider his own judgement in the light of new evidence.

The Pupil pursues his activities with persion and Constitently by the failures.

The Pupil exhibits Self reliance, Self help and team Spirit.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation

Content Analysis	C/S	Teacher's Activity	Pupils Activity	T.L.M	B.B.W	Evaluation
Concept: Effects of net force on direction of moving object. A net force stops a moving object or makes a stationary object move and also changes the speed and direction of a moving object A force can change the state of motion of an object Thus	K/ recall K/ recognise	Good morning students * what we have learnt yesterday! * what is the net force when the force acts in the direction of motion? * Do you know can the force changes the direction of object? The net force acting on an object effects the direction of the object. I will explain this with this game, what is this? * Do you know how to play this? * Now Strike the Coin.	about of Effect of force on motion of and state of the body. The speed of an object increases no Carrom board Yes, man ok, man no, The Coin changes is direction by stricking it.			1/5

the force change the state of motion	S observe	* Did the coin move in the same direction at all times? what do you observe?	no	Carrom board		what do you observe from this. (16)
	S observe	Did the striker is moving in the same direction at which we strike? * what do you observe? * what do you observe from this?	The striker also changes its direction. There is a change in the direction when we apply force.			
	U explain	From this we can say that the net force acting on an object stops moving object or makes a stationary object move and also changes the speed and direction of a moving object. A force can change the state of motion of a moving object. * which is changed by force?	the state of motion of an object	Striker	A force can change the state of motion of an object.	which is changed by force.

Summarisation: Today we have learnt about Effects of net force on

Summarisation: Today we have learnt about Effects of net force on the direction of moving object.

Recaptulation: (i) what are the two that changes their direction in the Carrom board game?

(ii) which stops a moving object..

(iii) which makes a stationery object to move?

(iv) which can be changed by force.

Home Assignment: write a few Sentences about the change in the direction of a moving object with an Example.

From this we can say that the net force acting on an object stops moving object or makes a stationary object move and also changes the speed and direction of a moving object

A force can change the state of motion of an object

* which is changed by the force

the state of motion of an object.

A force can change the state of motion of an object.

which is changed by force

Summarisation:- Today we have learnt about effects of net force

Summarisation:- Today we have learnt about effects of net force on the direction of moving object.

16

Recaptulation:-

(1) what are the two that changes their direction in the Cooroom board game?

(i) which stops a moving object?

(ii) which makes a stationery object to move?

(iv) which can be changed by force.

Home Assignment:- Write a few sentences about the change in the direction of a moving object with an Example.

Block Teaching lesson plan - 5

Preliminary Information

Name of the student Teacher :

Regd No :

Subject : Physical Science

class : VIII

unit : I

Topic : Effect of force on shape of an object.

Date :

Name of the Supervisor :

Reference Books : VIII class NCERT Text book

Teaching method : Lecture - Demonstration Method

Teaching learning material : rubberband, bottle, glass, Paper, Sponge

Name of the School :

Instructional objectives :-

Instructional objectives:-

① Knowledge:- The Pupil can acquire the knowledge about the lesson

Specifications:-

① Recall:- The Pupil can recall the Effect of force on shape of an object.

② Recognition:- The Pupil can recognise the objects, which change their shape by applying force on them.

② understanding:- The Pupil can understand the acquired knowledge about lesson

Specifications:-

Translate:- The Pupil can translate the terms in his own words.

Gives Examples:- The Pupil can gives examples for the objects which change their on applying force on it.

Compares:- The Pupil Can Compare the Effect of force on direction with Effect of force on the shape of the object.

Sees Relations:- The Pupil can see the relation between the effect of force and the change is temporary or permanent.

Explains:- The Pupil can explain how the objects change their shapes by applying force on it.

Differentiates:- The Pupil can differentiate the changes in the shape whether it is a permanent or Temporary change

Identifies:- The Pupil can recognises the objects which change their shape on applying force on them.

(3) Application:- The Pupil can apply the acquired knowledge in real life situations.

Specifications:-

Analyses:- The Pupil can analyses the situation

Predicts:- The Pupil can predicts what happens when we apply force on the object

Gives reasons:- The Pupil can gives reasons for why the objects are changing shape.

Predicts:- The Pupil can predicts what happens when we apply force on the object.

Gives reasons:- The Pupil can gives reasons for why the objects are changing shape.

Skills:- The Pupil can develops the skills.

① Observational Skill:-

(i) The pupil can get the observational skill by observing the objects which change their shape on applying force.

(ii) The Pupil can observe whether the change in the shape temporary or permanent.

(iii) The Pupil can observe the shapes of an object before and after force is applied.

② Reporting Skill:-

Specifications:-

(i) The Pupil follows the clarity of language in the report

(ii) The Pupil selects the appropriate words in reporting

(iii) The Pupil develops accuracy in reporting.

⑤ Interest:-

Specifications:-

(i) The Pupil can gets internet in undertaking Projects In physical science.
(ii) The pupil asks questions in Scientific discussions
(iii) The Pupil reads Scientific lecture and biographies of prominent Scientists.

⑥ Appreciation:-

Specifications:-

① The Pupil realize the importance of physics.
② The Pupil manifests a spirit of Scientific inquiery.
③ The Pupil shows respect and administration for Scientists ad their Inventions.

⑦ Scientific Attitude:-

Specifications:-

① The Pupil is willing to Consider new ideas and discoveries.
② The Pupil is prepared to reconsider his own judgement in light of new evidence.
③ The Pupil exhibits Self reliance, Self help and team Spirit.

Content Analysis	O/S	Teacher's Activity	Pupils Activity	TLM	B.B.W	Evaluation
Concept		Good morning students				

LO (3) The Pupil exhibits self reliance, self help and team spirit

Content Analysis	O/S	Teacher's Activity	Pupils Activity	TLM	B.B.W	Evaluation
Concept How the change in the shape of an object changes with the force	1/4 recall	Good morning students + What we have learnt yesterday?	Effect of force on the of an object direction.			177
The force not only changes the state of motion of an object but	1/4 recall	+ What are the two changes in the direction of the striker also	Change in the direction and change in the direction of the striker also.			
can also change the shape of an object. It may change the shape temporarily or permanently, based on the nature.		+ Besides in the direction of an object the force can ~~change~~ the shape of an object. Now take this rubber ~~Yes, mam~~ band and stretch it Did the shape of the rubberband changed. When you stretched it? Now release it. Do it come back	Yes, mam Yes, mam ok, Yes.	rubber band		Does it come back to original position?

of the object and the force applied on it.		to its original position So we can say that the change in the shape of this rubber band is temporary.	Ok, man	
	S/ obser	Now take this bottle and crush it. * Does it come back to its original shape?	no	
	A/ analyser	So, in this the change is permanent Now squeeze this sponge. * Did you apply force to squeeze this? what is the shape at first before you squeeze the sponge?	Ok, man yes Rectangular shape	What is the shape before and after you squeeze
	S/ obser	* Does it remain in the shape when you	no	

5 Observation	Does it remain in the shape when you squeeze it? What happend when you release it? So it is in which change shape? I will ask some of the objects when we apply force on them tell me whether they change their shape temparorily (or) Permanent (i) Tearing Paper (ii) making chapathi (iii) Breaking class. (iv) Streching a Spring.	No It Come back to normal shape. Temporary change Permanant change Permanant change Permanant change Temporary change	glass Spring		Is Stretching a spring a permanant (or) temporary change?

Summarisation:- Today we have learnt about the Effect of force on the shape of an object.

Recaptulation:-

(i) What are the examples of objects which change their shape temporarily.

(ii) What are the objects which change their shape permanently.

(iii) Based on which factors the change in shape may be temporary or permanent.

Home Assignment:- What are the examples of objects which change their shape on applying force on them.

Block Teaching Lesson plan-14

Preliminary Information:

Name of the student Teacher :

Regd no :

Subject : physical science

Class : VIII

unit : I

Topic : change in Effect of force without of Contact.

Name of the Supervisor :

Reference Books : VIII NCERT Text books

Teaching method : Lecture - Demonstration method

Teaching learning material : Pencil, Palm

Name of the school :

Instructional objectives:-

① Knowledge:- The Pupil can acquire the knowledge that the force acting is perpendicular to the surface area.

Specifications:-

① Recall:- The Pupil recalls the terms, like area, pressure and Effect of force area of Contact.

② Recognises:- The Pupil can recognises that Pressure = Force/area.

② Understanding:- The Pupil can understands the acquired knowledge.

Specifications:-

① Translate:- The Pupil can translate the terms in his own words.

Gives example:- The Pupil can gives Examples where the area of Contact is more and where the area of Contact is less.

Compares:- The Pupil Compares the Effect of force with the area of Contact.

Sees Relations:- The Pupil Can see the relation b/w the Pressure force and area of object.

Explains:- The Pupil explains why the Effect of force increases with an increase in the area of Contact.

Differentiates:- The Pupil can differentiate the Effect of force on different

Differentiates:- The Pupil can differentiate the Effect of force on different shapes with different area of Contacts with the object.

Identifies:- The Pupil can identify where the area of Contact is less and where the area of Contact is more.

(3) Application:- The Pupil apply the acquired knowledge in his real life Situations.

Specifications:-

Analyses:- The Pupil can analyses the Situation

Predicts:- The Pupil can predicts the pressure on the object

Give reasons:- The Pupil can gives reason for why force increases a decrease basing on the area of Contact.

Skills:- The Pupil can develop the skill.

Observational Skill:-

(i) The Pupil can observe whether the force is acting more or less.

(ii) The Pupil can observe whether the area of Contact is low or high.

(iii) The Pupil can observe that the Effect of force depends on the area of Contact on which the force is acting.

⑥ Appreciation:-

Specifications:-

The Pupil realizes the importance of physics.

The Pupil manifests a spirit of Scientific enquiry.

The Pupil shows respect and admiration for scientists and their inventions.

⑦ Scientific attitude:-

Specifications:-

(i) The Pupil is willing to Consider new ideas and discoveries.

(ii) The Pupil is prepared to reconsider his own judgement in the light of new evidence.

(iii) The pupil pursues his activities with precision and Constitently by the failures.

(iv) The Pupil exhibits self reliance, self help and team spirit.

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.O.M	B.B.W	Evaluation
		Good morning students				

Content Analysis	O/S	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
Concept: Change in the Effect of force with area of Contact. The Effect of force depends on the area of Contact on which the force is acting. When there is a decrease in the area of Contact of the force or load then the Effect of force increases and Vice Versa.	K / recall	Good Morning students * what we have learnt yesterday. * what is the change in the shape of a sponge when we squeeze it.? * Get up you Gopi what is this ? Give me your hand * Now, Put this Pencil on your palm on its rounded End. * Now Push it on the otherside.	about the Effect of force on the shape of an object. temporary change a pencil Yes, mam Yes, mam Yes, mam	Pencil		10

The force acting perpendicularly on a unit area of a surface is called pressure

pressure = $\frac{\text{Force}}{\text{area}}$

A unit of pressure is Newton/meter^2 or N/m2

A difference

A predicts

* Do you have any pain?

Now turn the pencil to the sharp end and push it again before you done.

* Now do you have any pain.
* Do you find any differences between these two?
* Do you know porters?
* why they place tala-Paga on their heads when they have to carry heavy loads? do you know?

No

Yes

Tell in own words.

Yes,

no.

Talapaga

Do you find any differences b/w these two?

~~why the carry types are boarder~~

Where is your school bag?

the bag is heavy so that the

Where is your school bag?

See the straps.

Why these are having broad straps?

the bag is heavy so that the weight can be managed by these straps.

In these both cases when you push pencil on your palm is the area of contact with the palm is high is which end?

The area of contact is high with broad end of the pencil

* Do you saw lorries carrying heavy loads?

Yes, ma'am

* Do you observed their tyres? are they broader or thin tyres?

broader tyres.

* Why they are having broader tyres.

Why the lorry tyres are broader?

So, the area of contact of the tyres with the road should be more to reduce the force (load) from the easy pulling of the heavy load.

By these examples there is a relation b/w two what are they?

Yes, the force depends on the area of contact on which the force is acting when there is a decrease in area of contact the force increases and vice versa.

The force acting perpendicularly on a unit area of a surface

because the lorry is having heavy load.

force depends on area of contact.

		perpendicularly on a unit area of a surface is called pressure. Pressure = Force/area unit of pressure is newton/mt^2 (or) N/m^2 what is pressure? unit of pressure?	Force/Area N/m^2		Pressure = Force/Area Pressure N/mt^2	What is pressure?

Summarisation:- Today we have learnt about the Effect of force with the area of Contact.

Recaptulation:-

(I) what is the relation blw the area of Contact and the force acting on it.

(II) what is the definition of pressure.

(III) what is pressure.

(IV) what is the unit of pressure.

Home Assignment:- Write some examples where the force increases (or) decrease in an area of Contact of an object.

Block Teaching Lesson plan - 15

Preliminary Information:-

Name of the Student Teacher :

Regd No :

Subject : Physical Science

class : VIII

unit : I

Topic : Identifying Effects of force

Name of the Supervisor :

Reference books : VIII class NCERT Text book

Teaching method : Lecture - Demonstration method

Teaching learning material : Lime Powder, Sand, two bricks, trays.

Name of the school :

Instructional objectives

Instructional objectives

① Knowledge:- The Pupil can get knowledge about the effects of force.

Specifications:-

① Recall:- The Pupil can recalls the relation blw pressure force and area.

② Recognition:- The Pupil can recognises where the pressure exerted by the brick is more and where it is less.

② understanding:- The Pupil can understand the acquired knowledge about the effects of force.

Specifications:-

① Translates:- The Pupil can translates the terms in his own words. He can translate pressure, force and Area in his own words.

② Gives examples:- The Pupil can gives examples where there is high pressure with the smaller surface area.

(i) Compares:- The Pupil can Compares the pressure in small Surface area and large Surface area.

(ii) Explain:- The Pupil can explains the effects of force in his own words.

(iii) Identifies:- The Pupil can identify where the pressure is small and where the pressure is high.

(iv) Application:- The Pupil can apply the acquired knowledge in his real life Situations.

(1) Analyses:- The Pupil can analyses the situation.

(2) predicts:- The Pupil can predict that where the Surface area of contact is high then the pressure on that object is low.

(3) Establishes Relation:- The Pupil Can Establishes the relation b/w Pressure area and Force acting on a body.

(4) Gives Reasons:- The pupil can gives reasons where and why the pressure is high or low on an object.

(v) Skills:- The Pupil can gets Skills.

(4) Skills:- The Pupil can gets Skills.

Observational skill:-

The Pupil can get the observational skill by observing the Pressure and force acting on an object.

The Pupil cites where the Pressure in high or low.

The People observes the Concepts, definitions with clarity.

(5) Internet:- The Pupil can get internet in knowing about physical science.

Specifications:-

(i) The Pupil understands projects in physical science

(ii) The Pupil ask questions in Scientific discussion.

(iii) The Pupil reads scientific lectures and autobiographies of Prominent Situations.

(iv) The Pupil Collects Specimens, photographs and biographies etc

(v) The Pupil participates in science fairs, exhibitions etc

Content Analysis	c/s	Teacher's Activity	Pupil's Activity	T.L.M	B.B.W	Evaluation
Surface area on which force acting is larger, hence the pressure exerted by the brick is less A sharp side of knife has a smaller contact area. Therefore for the same amount of force applied on it the sharp side of knife exerts more pressure than the blunt side and hence cut more easily	S / observes	Now I am placing sand in these trays. Let the names of these trays are tray(a) and tray (b). Now place lime powder on this sand and to have to till the trays. place the two bricks in these trays (a) and (b) horizontally. * what do you observe? * Remove the bricks from trays and observe the depth of bricks what extent they sink * what do you observe?	The bricks sinks to some extent. The two bricks depths are ~~more~~ same.	Sand two trays		what is powered in the trays. What do you observe
For a given force,	S	As the weights of the two bricks are same				

and hence cut more easily		observe	
For a given force, if the surface area is smaller, the Pressure will be greater. If you use a larger area, You are spreading out the force and the pressure becomes Smaller.	S / observes U / identify A / gives reasons	as the weights of the two bricks are same the depth will be same. Now place the brick in tray (a) in vertical position. after 2 min observe the depth of the brick. * what do you observed when the brick is in vertical position. * which trays brick is in more Contact with the sand and lime powder? * Do you know why?	The depth is higher than the brick in tray (b). brick in tray (b) because the exerted by the brick in tray (a) is more than in tray (b)

U finds relation	* what is the relation blw the area of Contact and force)	The force is high with low surface area and vice versa.
	* So, what do you observed from this?	The force acting on the brick in 7thay ca) is high.
S observes	Yes, if the surface area is smaller, the pressure will be greater.	so its depth is high. Surface area is less.
	* If you want to Cut a fruit did you use a sharp End or blunt End.	with sharp End.
	* why?	the blunt and did not cuts the fruit sharply as the sharp End.
	Yes, in this also the area of Contact with	

Yes, in this also the area of contact with the fruit is less with the sharp end so that the pressure is high and fruits cuts easily.

In this brick activity, the contact area on which force is acting is smaller hence, the pressure exerted by the brick is more.

The contact area or the surface area on which force acting is larger, hence the pressure, exerted by the brick is less.

less contact area more pressure on it.

which force is acting is larger

Summarisation:- Today we have learnt about how we identify the Effects of force.

Recaptulation:-

(i) what is the relation between the pressure, force and area?

(ii) why there is a difference in the depths of the bricks?

(iii) why we use sharp side of a knife than a blunt side?

(iv) For a given force which is smaller and which will be greater?

Home Assignment:-

write any two examples for the changes in the direction, shape are of Contact of an object with the Effect of force on them.