

4. NO and NO - NO
 If it dissolves completely.

5. Give two ex. which substances dissolve in water.
 Milk and Juk

6. When a substance dissolves in water what is formed?
 Solution

7. Sugar + water → Solution
 Sugar act as Solute
 Water act as Solvent

8. This mixture is known as Homogeneous Mixture because it has no visible boundaries of separation between

SPECIALLY

SPECIALLY

Various components:
 Homogeneous Mixture

9. Water can dissolve many substances in it, due to this special property of water called UNIVERSAL SOLVENTS.

10. Water is an universal solvent due to the polarity of each water molecule. The hydrogen side of each water (H₂O) molecule carries a slight positive electric charge, while oxygen side carries a slight negative electric charge.

POLARITY OF WATER MOLECULE.

SPECIALLY

OBSERVATION TABLE

S.NO	COMPONENTS	RATING SCALE				
		VERY GOOD	POOR	BELOW AVG	AVER AGE	Great
1.	Relevance of examples	0	1	2	3	4
2.	SIMPLICITY of examples	0	1	2	3	4
3.	Interesting aspects of examples	0	1	2	3	4
4.	Appropriateness of media	0	1	2	3	4
5.	Appropriateness of Approach	0	1	2	3	4

UNDERSTANDING

1. Students can understand easily, analytical present
2. Students can understand properly and equations of these.

SKILLS

1. Students required skills to define and define question systematically.
2. We provide an opportunity to develop scientific skills among them.

APPROACH

1. Students are able to know about metals and non-metals in daily life. They can use it in proper place in daily use.

TEACHING AIDS

Chalk, duster, chart, pointer etc.

FORMER KNOWLEDGE TESTING

1. Name some metals.
2. Name some non-metals.
3. What properties do you think of while recognizing elements as metals or non-metals?

ANNOUNCEMENT OF THE TOPIC

So well students today we will study about metals and non-metals.

PRESENTATION

SWEEPERS
HAMMER

PURSE - TEACHER
SCISSORS

PURSE
SCISSORS

BLACK -
BOARD

Physical
properties
of matter.

* Metals in their pure state have a shining surface. This property is called **METALLIC LUSTRE**.

* Metals are generally hard. The hardness varies from metal to metal.

* Some metals can be beaten into thin sheets. This property is called **MALLEABILITY**.

* The ability of metals to be drawn into thin wires is called **DUCTILITY**.

* Metals are good conductors of heat.

* Metals have high melting point.

METALLIC
LUSTRE

MALLEABILITY

MEGA/SIMULATED SEMPL

Subject PHYSICAL SCIENCE AGE 13-14 yrs
Topic METALS AND NON-METALS Duration of Period 30 MINS

CONTENT ANALYSIS

METALS AND NON-METALS

GENERAL OBJECTIVES:-

1. To develop students' interest in physical science.
2. To develop practical proficiency among students.
3. To develop power of mutual understanding among students.
4. To develop power of thinking, reasoning and creativity in students.

SPECIFIC ANALYSIS

After studying knowledge:-

1. Students will be able to know about Metals and non-metals.
2. Students will be able to differentiate between metals and non-metals.

- b
- d. Silver
 - e. Sulphur.

2. Tell me 2 physical properties of metal.

HOME WORK

1. Give reasons.
 - a. Gold and silver are used for making jewellery.
 - b. Base of cooking utensils is coated with copper.
 - c. Silver is used for making contact parts in electrical switches.

REFERENCE

Topic to be taken from NCERT (VIIth class)

Question	Answer
Which metal is available in the form of wires? Which are most malleable metals?	Copper Gold + Silver
Physical Properties of non-metals	Non-metals are brittle. Malleable not ductile. They are bad conductors of heat and electricity except for graphite. Graphite conducts electricity.
Chemical Properties of Metal	<ul style="list-style-type: none"> All metals combine with O_2 to form metallic oxide. Most metallic oxides are basic in nature. When metal reacts with H_2O produces H_2 and heat.
Chemical Properties of Non-metals	<ul style="list-style-type: none"> Oxides of non-metals are acidic in nature. $S + O_2 \rightarrow SO_2$ $SO_2 + H_2O \rightarrow H_2SO_3$ Non-metals react with acid products.

Uses of Metals	Uses of Non-Metals
<ul style="list-style-type: none"> $S + 4HNO_3 \rightarrow SO_2 + 4NO_2 + 2H_2O$ Mg is used in fire work and making alloys. Cu is used in wires and cables. Lead used in making acid battery. Al foil, which are made up of Al. 	<ul style="list-style-type: none"> Nitrogen used in making fertilizers, sulphur in matches, hydrogen used as fuel. Oxygen used for breathing purpose.

EVALUATION

Question

1. Identify the most malleable, ductile and brittle substance out of the following:

- a. Sodium
- b. Aluminium
- c. Gold

Uses of Metals

1. Note students able to use different concepts.
2. Note able to distinguish between different types of motion.
3. Note able to use different concepts.

SKILLS

1. Students acquire skills for use of motion.
2. Students able to observe and solve problem carefully.

APPLICATIONS

Enable students such that they are able to solve the problem by use of scientific knowledge.

TEACHING AIDS

chalk, dusts, pointer, slat etc.

PREVIOUS KNOWLEDGE TESTING

1. Showing a clock in hand, and asking is it in rest or motion.
2. When I throw this clock, why it moves?
3. What is the difference between rest and motion?



rotating blades of helicopter.

OSCILLATORY MOTION

ROTARY MOTION

Types

① Linear Motion
When a body moves as a whole from one place to another. Its motion is said to be translatory motion.

eg. A car moving on a road from one place to another.

② Oscillatory Motion :-

A to and fro motion of a body about mean position is called oscillatory motion.

eg. Pendulum, swing etc.

③ Rotatory Motion :- Motion is said to be rotatory if different points on the body move along concentric circles with different speeds.

eg. Rotatory motion of a top.

Question

What shows both translatory and rotatory motion.

Wheel machine

Subject Matter
1) Rest
2) Motion
(a) Linear
(b) Oscillatory
(c) Rotatory

Student's
HAIR

Parent - Teacher's
Activity

Parent
Activity

Parent -
BOARD
WORK

Rest

A body is said to be at rest if it doesn't change its position with respect to its surroundings objects.

eg. Student sitting on the bench.

lie, bench.

Motion

A body is said to be in motion if it changes its position with respect to its surrounding objects.

eg. Body can be at rest and in motion at the same time.

car moving on road.

TEACHING LESSON SAMPLE

Page Teacher's Roll No. _____ Name _____
Class VII Date _____
Subject PHYSICAL SCIENCE AGE 12-14 yrs
Topic MOTION Duration of Period 35-40

GENERAL OBJECTIVES

1. To develop students interest in science.
2. To develop mutual understanding among the students.
3. To develop scientific attitude and observation of students.

SPECIFIC OBJECTIVE

1. Students able to know about motion.
2. Students able to know about facts, laws, concepts of motion.

UNDERSTANDING

1. Students will be able to determine and solve problems with understanding and confidence.

MICRO SEMPIE

Pupil Teacher's Roll No.

Class

Subject PHYSICAL SCIENCE

AGE 12-14

Topic WATER IS AN UNIVERSAL

Duration of Period

6

SOLVENTS.

PUPIL TEACHER

PUPIL

COM-
PO-
NENS

ACTIVITY

ACTIVITY

COMPOUNDS

RELEVANCY

1. Showing a glass of water and asking what is this?

WATER

2. What is the state of water?

LIQUID
STATE

3. Now adding sugar into water. Does it dissolve?

YES

RELEVANCY

EVALUATION

1. Name any 2 types of Motion.
2. Give 2 examples of linear and rotatory motion.

HOME WORK

1. What do you understand by Rest and Motion?
2. Explain different types of Motion?
3. Which thing shows both rotatory and translatory motion?