

The Primary Stage of Grades (4-5)
School Year 2022 - 2023

Name: Key _____
matter

Unit (5): Properties of
Worksheet (1)- Lab report

Date: / /

Grade 5 CP (All sections)

Objective:

- Discover properties of materials in the laboratory including: mass, electrical conductivity, thermal conductivity, solubility and magnetism.
- Observe different lab tools and know their uses.

Part 1: Mass

What is mass?

...**Mass is the amount of matter in an object.**

Does air have mass?

Prediction:**Yes/ No**

In order to test your prediction, work in groups.

1. Use a balance to measure the mass of an empty balloon.
2. Blow the balloon and measure its mass again. Do you observe any difference in the balance reading?
3. Record your findings.

Mass of the empty balloon**2.80 g**.....

Mass of the filled balloon**2.93 g**.....

Mass of the air inside the balloon ...**0.13 g (these numbers may vary from one section to another)**

Conclusion: ...**Air has mass**

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Part 2: Electrical Conductivity

- Required Materials:

Different Objects:			
Plastic comb		chalk	brass button
Glass marble		iron nail	wax crayon
golden ring	Salt water	aluminum baking tray	Graphite
A bulb		Cells	
Wires		Switch	
A bulb holder			

Procedure:

- 1. Construct a simple electric circuit.**
- 2. Add each object to the circuit.**
- 3. Observe what happens, record your observation in table 1.**

Observation:

Object or substance	If I put this object or substance in an electric circuit will the bulb light up? Yes/No	Is the object a conductor or an insulator?
plastic comb	No	Electrical Insulator
glass marble	No	Electrical Insulator
salt water	Yes	Electrical Conductor
chalk	No	Electrical Insulator
brass button	Yes	Electrical Conductor
iron nail	Yes	Electrical Conductor
wax crayon	No	Electrical Insulator
graphite	Yes	Electrical Conductor
aluminium baking tray	Yes	Electrical Conductor
Gold	Yes	Electrical Conductor

Table 1

Conclusion:

Materials are classified into electrical conductors or electrical insulators.

- Electrical conductors: ...

Electrical conductors are materials that allow electricity to pass through.

All metals are electrical conductors, in addition to graphite (that is a non-metal)

- Electrical insulators:

... Electrical insulators are materials that do not allow electricity to pass through.

Examples: wood, plastic, rubber and glass.

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Part 3: Solubility

- Required Materials:

Substances:			
- Sand	- Sugar	- Rice	- Copper Sulfate
- Jelly powder	- Salt	- flour	- Iron filings
- Clay	- Sawdust	- Chalk	
- Beakers		- Stirring rod	
- Spatula		- Water	

Procedure:

1. Pour 100 ml of water into each beaker.
2. Add one spatula of solid into each beaker and stir.
3. Observe what happens, record your observation in table 1.

Observation:

A soluble substance dissolves completely to make a clear solution.

An insoluble substance does not dissolve.

1. a. Which substances are soluble in water?

... **Salt, Sugar, Jelly powder, Copper sulfate.**

- b. How did you notice this?

They formed a clear solution when added to water with no solid settled at the bottom.

- c. In the mixture of salt and water, what is the name given to:

- Salt: ... **Solute** - Water: ... **Solvent**.....

- Mixture: ... **Solution**

2. Which substances are insoluble in water?

Sawdust, Sand, Chalk, Iron filings, Rice, Clay, Flour.....

Part 4: Is it Magnetic?

In groups, discover which materials from the following are magnetic and which are non-magnetic by approaching a magnet into each material.

Aluminum Steel iron plastic rubber
Glass cobalt nickel wax silver

Magnetic Materials	Non- magnetic Materials
Steel iron cobalt nickel	Aluminum plastic rubber Glass wax silver

Remember: All metals are electrical conductors but not all metals are magnetic.

