المدرسة الوطنية الأرثوذكسية الشميساني
The National Orthodox School Shmaisani

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

Name: Answer key

Subject: Science
Unit 5: Interactions of matter
Worksheet 3: Dissolving

Date: / /

Class: **Grade 4 CP (All sections)**

Objective/s:

- **Classify substances into soluble and insoluble.**
- **Identify the parts of a solution.**

Soluble and Insoluble Substances

Part 1: Solubility

Required materials:

- Water	- Salt	- Sand	- Flour	- Jelly powder
- Four beakers	- Stirring rod	- Spatula (spoon)		

Procedure:

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

Observation:

Mixture	Observation	Soluble/ Insoluble
Mixture 1: Sand and water	- The sand does not dissolve in water. -The sand settled at the bottom of the beaker. - It formed a cloudy mixture.	Insoluble
Mixture 2: jelly powder and water	- The jelly powder dissolved in the water. - It formed a clear colored solution. - No solid settled at the bottom.	Soluble
Mixture 3: Salt and water	- It dissolved in water. - It will form a clear solution.	Soluble
Mixture 4: Flour and water	-Some of the particles settled down at the bottom of the beaker, some of the flour formed a cloudy mixture.	Insoluble

In the mixture of **salt and water,** what is the name given to:

- Mixture: ……Salt solution…….

- Salt: ……Solute……

- Water: ……Solvent……

Part 2: Separation of soluble /insoluble substances from water:

Objective of the Experiment:

Discover the way to separate soluble and insoluble substances from water.

- Required Materials:

Different mixtures: - Sand and water - Salt + water	
- Beakers	- Filter paper and filter funnel
- Flasks	- Bunsen burner

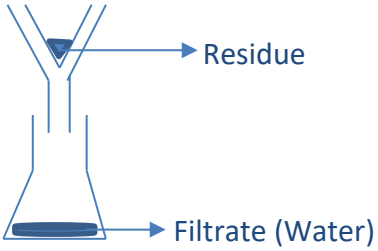
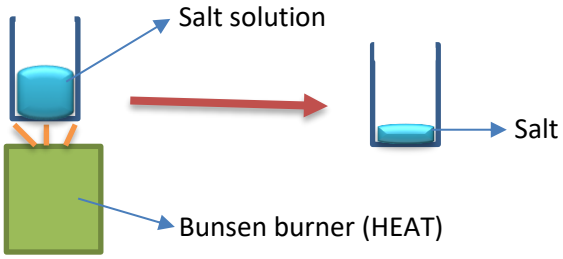
Procedure:

1. Prepare each of the above mixtures.

2. Select the appropriate method for separating each of the previous mixtures.

3. Separate the mixtures, and fill observations in the table.

Observation:

Mixture	Mixture Type	Method of separation (Write and draw)
Mixture 1: **Sand + water**	Insoluble (Solid + Water)	By Filtration:  - The sand is trapped at the filter paper, Water passes through the holes of the filter paper.
Mixture 2: **Salt + water**	Soluble (Solid + Water)	By Evaporation:  Water evaporates leaving the salt behind.

Conclusion:

-In order to separate a soluble substance from water we can:

Evaporates the water, the solute will be left behind.

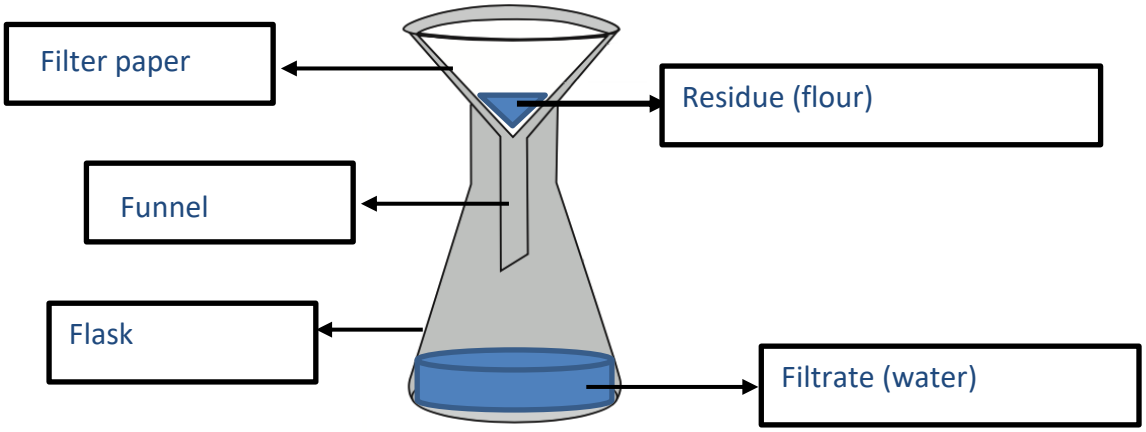
- In order to separate an insoluble substance from water we can:

Use filtration method. The solid will trap on the filter paper, the water will pass through the holes of the filter paper.

Question:

Sally mixes flour in a glass of water, she wants to separate the mixture and get back the flour.
She does this using the apparatus below.

a) Label below the following diagram**:**



b) What name is given to the above method?

Filtration.

C) Explain when is this method used?

This method is used when we want to separate insoluble substances in water.