Subject: Science

Level: Standard 3

Strand: Form and Function

Topic: Separation of solute from solution

Key Points:

- **Solute**: The substance we can no longer see because it is dissolved.
- **Solvent**: The substance the solute is dissolved in.
- **Solution**: A homogenous or uniform mixture of the solute and solvent. There are no visible particles.
- **Soluble**: A substance which can be dissolved
- **Insoluble**: A substance which cannot be dissolved
- **Evaporation**: The change of a liquid to a gas. For example, water evaporates to form water vapour.

Activity

View the following videos, using the links (written in blue) below.

To play a video you will need to:

- keep your finger pressed on the Ctrl knob, at the bottom left of your key board.
- place the cursor (pointer) on the link until the "hand" comes up.
- click (left) on the link and the video will play.

Link for Video #1(Solutes, solvents and solutions):

https://www.youtube.com/watch?v=QNyQGTHa2hM

Link for Video #2(How water evaporates):

https://www.youtube.com/watch?v=iRLqAhaniyg

Link for Video #3(Mixtures and Solutions):

https://www.youtube.com/watch?v=DZtEGVNDudU

Look at the videos as many times as needed and answer the questions below:

Mary's sister showed her a clear liquid and dared her to prove that it contains sugar and is not plain water.

(i) Describe a procedure Mary can carry out to determine this.

STEP 1:_____

STEP 2:_____

STEP 3:_____

STEP 4:_____

(ii) Explain what happened to the water in the clear liquid.

_____

(iii) Complete TABLE 1below.

Terms	**Sugar Solution**
Solution	Sugar dissolved in water
Solvent	
Solute	

TABLE 1: Terms to describe a solution

Answer Key

(i)**STEP 1**: Place 1 tablespoon (5ml) of the clear liquid in a evaporating/ petri dish or shallow container.

STEP 2: Place container with liquid in warm place such as in the sun.

STEP 3: Observe until there is no more liquid in the container.

STEP 4: If there are white crystals in the container, then the liquid is not plain water and may contain sugar.

(ii) It evaporated or changed from a liquid to a gas (vapour)

(iii) **TABLE 1**: Terms to describe a solution

Terms	**Sugar Solution**
Solution	Sugar dissolved in water
Solvent	**Water**
Solute	**Sugar**

Acknowledgement

1. Link to video: https://www.youtube.com/watch?v=QNyQGTHa2hM

   Name of video: Solutes + solvents = solutions

   Reference: Stile Education (https://stileeducation.com)

2. Link to video: https://www.youtube.com/watch?v=iRLqAhaniyg

   Name of video: How Does Water Evaporate?

   Reference: PLUM LANDING on PBS KIDS

3. Link to video: https://www.youtube.com/watch?v=DZtEGVNDudU

   Name of video: Mixtures & Solutions - EQ 1 - Separating Mixtures & Solutions

   Reference: Rachel Bailey