LESSON PLAN

Class: 8th *Subject:* Science *Topic:* Kidney malfunction and dialysis

Date: 22-04-26 *Duration:* 40 minutes

Class Strength: 50

Curriculum or & Book Name: S.T.B.B Jamshoro

1. Specific Learning Objectives:

Students will be able to:

- Explain kidney malfunction.
- Identify 2-3 causes of kidney malfunction.
- Describe how dialysis works as a treatment
- Compare the function of a healthy kidney with a malfunctioning kidney

2. Skills/Attitude: Observing skills, creative skills

3. Teaching Resources:

2 containers, 1 strainer, blood with sand (red paint water)

4. Classroom Management Rules & Strategy:

The teacher will announce three R rules ; resect,respond and raise hand

5. Procedure:

Initiation:

The teacher asks students "why do we use a strainer when we pour tea in the cup?" Students will respond according to their knowledge and experience. Now teacher shifts to topic's name. "As we use strainer to separate tea from waste, just like that our kidneys filter blood. But when it gets damaged it is unable to filter blood." *Announcement:* Kidney malfunction and dialysis.

Development: The teacher tells students that kidney malfunction happens when our kidneys get damaged. This can happen due to diabetes, hypertension or any infection. Connecting to real life, the teacher asks students you may hve heard news in your family related to kidney failures, mostly in elder people. An individual can live with one kidney, but when both kidneys fail, artificial methods are used (Dialysis).

Teacher demonstrates healthy and unhealthy kidneys using strainer.

- First the strainer filters blood (water + red paint) efficiently representing a healthy kidney.
- Then strainer is covered with tape and it doesn't filter representing an unhealthy kidney.

The teacher explains that dialysis machines work like a kidney. Blood enters the dialysis machine, and a semi-permeable membrane allows salts and urea (waste) to pass, but larger particles are not allowed to pass like blood cells and proteins.

Semi permeable membrane means: a layer that allows some things to pass but blocks other things.

Recap:

- The damage to kidneys can be caused by diabetes, hypertension or any infection.
- The dialysis machine works in the place of kidney.

Assessment: Write 3 causes of kidney damage + draw a kidney.

Homework:

Ask your parents if their parents or grandparents have suffered from hypertension, diabetes, and tell their hazards.

6. Board Summary

Topic: Kidney malfunction and Dialysis

When kidneys stop working properly and gets damaged.

Causes:

- hypertension

- Diabetes
- Infection
- works as our Kidneys.