5 Step Lesson Design for Science

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General objectives of Science Teaching:

1. To develop spirit of inquiry among students.

2. To enable learners think critically.

3. To enable them to understand method of science.

(Note: Mention the general objectives on the first page of lesson plan book. No need to mention them with each lesson.)

Date:
Class: 7th
Subject: Science
Topic: Parts of Plant

Entry behaviour:

Students are expected to identify plants and its parts.

Learning outcomes: SWBAT

- Identify and describe the basic parts of plants.
- Describe these different parts and differentiate between them.

Learning resources:

- Charts depicting parts of plant, chart with types of root, or actual specimen of different types of roots.

OPENING: (Introduction or Launch)

Draw a picture of a plant on the board or show some types of plants depicting plant parts. Be sure to include roots, a stem, a flower, and leaves in your drawing. You can use actual plant as well.

Ask your students to tell you what you've just drawn or shown to them. Once someone answers *plant*, ask your students whether or not anyone can tell the different parts of a plant. If the students will answer the names of parts of the plant ask them to define them. Ask them whether they know functions of these parts.

I DO (Modelling/Explain):

In this phase the teacher will take up "root" part of the plant having with him all the learning resources like pictures of root types which could include actual specimen. Furthermore the teacher can use Black/white board to draw as well as required according to the situation. The teacher will explain the "root" part in the following manner, so that learners are able to understand by way of actual specimens and charts.

ROOTS		
Definition	Types	Functions
Root is the underground part of the plant It originates from radical. It is positively geotropic i.e goes into the ground. The roots are non green.	There are mainly two types of roots 1. Tap roots 2. Adventitious Roots Tap Root: It goes deep into the ground. The main root is called primary root and the branches which originate from it are called secondary, Tertiary roots. Examples: Apple Tree, Walnut Tree etc Adventitious Roots: These are also called as fibrous roots. These are the bunch of roots originating from the base of the plant. These roots do not go deep into the ground. Examples: Grasses, Maize, Vegetable etc. Storage Roots : Those modified roots in which food materials are stored. Examples: Carrot, Radish etc	1. It gives support to the plants. 2. It helps into absorption of water and nutrients from the soil.

Note: If the teacher feels that the content cannot be transacted (root and stem together) then the teacher may take one type of roots (Tap roots with examples) in "I Do" let students take up 2nd type of root (like adventitious roots with examples) in "We Do". In this lesson plan "root" has been taken in "I do" and "stem" taken by students in "we do".

We Do: (EXPLORE)

In the guided practice or we do the students will be distributed into different groups and will be asked to define the stem in the same manner as the roots are described. In this phase the teacher will act as facilitator and will help the students to learn and facilitate them wherever needed. The resources in the form of pictures, actual learning aids and text will be used in this step.

STEM		
Definition	Types	Functions
Stem is the aboveground part of the plant It originates from plumule. It is positively phototropic i.e it faces towards sunlight. Mostly stems are both green and non green.	There are mainly two types of stems. 1. Strong Stems. 2. Weak stems. 3. Reduced Stems 1. Strong Stems: These stems are strong and woody and are mostly present in trees. These stems are mostly non green. Examples: Apple Tree, Walnut Tree etc 2. Weak Stems: These stems are weak and mostly need support to grow. These are mostly green in colour. Examples: Grasses, Vegetable etc. 3.Reduced Stems: These stems are reduced to disc like structures and from there the leaves originate. Examples: Carrot, Radish etc	1. It gives support to the plants. 2. It helps in the transport of water and nutrients.

You Do: (Independent practice/Summarise)

- Invite some students to present what they did in the guided practice briefly. In this phase ask the students to either present in group to differentiate between root and stem of the plants. Or they may do it individually on their own notebooks.

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Closing:-

1. What are the types of root?
2. What are the functions of root?
3. Enumerate the types of stem and functions.

At the end of session the teacher tells students to practice types and functions of root and stem at home.