

SCIENCE

ACTIVITY-1

NUTRITION IN PLANTS

Class: VII

Duration-30 minutes

Nature of activity: Individual

Learning Outcome: Students will be able to deduce that the food prepared by the plants is carbohydrate in nature.

What we have to do?

To test a leaf for starch.

What do we require?

A beaker, a leaf, a test tube, burner, dropper, iodine solution.

What do I need to know?

Iodine changes the colour to blue-black in the presence of starch.

Teacher's Activity: Teacher will arrange the materials for the individual and give instructions regarding the activity.

How will I proceed?

Student's Activity:

1. Place a beaker about three-fourth full of water on a stand and boil the water. Place the leaf in this water for about two minutes.
2. Take the leaf out and put it in a test tube with three-fourth alcohol. Place this test tube in very hot water for about ten minutes. As the alcohol warms up, it will remove the chlorophyll from the leaf and make it almost colourless.
3. After about ten minutes, remove the leaf and dip it in warm water briefly to soften the leaf.
4. Now, place the leaf on a white tile and add 3-4 drops of iodine solution.

What have you observed?

Test solution	Changes observed
Iodine	

What have you learned?

- The leaf manufactures food of _____ nature, which is verified by the blue black colouration of the leaf in the presence of iodine.

Extended learning worksheet

Answer the following questions:

1. The process of photosynthesis converts solar energy into:

- | | |
|----------------------|---------------------|
| (a) Kinetic energy | (c) Chemical energy |
| (b) Potential energy | (d) nuclear energy. |

2. On adding iodine solution to starch, it:

- | | |
|------------------------|-----------------|
| (a) Turns blue-black | (c) Turns green |
| (b) Remains colourless | (d) Turns red. |

3. The portion of the leaf that is not exposed to sunlight, will not make:

- | | |
|-------------|--------------|
| (a) Fats | (c) Proteins |
| (b) Glucose | (d) Starch |

4. Why do leaves become colourless after boiling in spirit?

5. What would happen if :

(a) a fresh green leaf of a plant receiving enough sunlight is treated with iodine solution?

(b) a fresh green leaf of a plant placed in dark for 2-3 days is treated with iodine solution?
