

ACTIVITY NO. -1-PHOTONS TO FOOD

Subject	Science
Class	VII
Chapter/Unit	Nutrition in plants
Topic	Photosynthesis
Time	30 minutes
Nature of Activity	Pair Work

What will I learn (Learning Outcome)?

To infer that sunlight is necessary for green plants to prepare their food.

Skills: Analyzing and Evaluating.

What I have to do?

To demonstrate that sunlight is necessary for photosynthesis.

What do I require?

- A well-watered potted green plant, two strips of black paper, small clips, Bunsen burner, test tube, beaker, petri-dish, water, alcohol and iodine solution.

What do I need to know?

Photosynthesis is a process by which plants make their own food in the presence of sunlight and carbon dioxide. The synthesized food is stored in the form of carbohydrates (glucose as well as starch). To check the presence of starch we can use Iodine as it changes the color to blue-black in the presence of starch.

➤ Teacher's Activity

Teacher will

1. explain the concept of photosynthesis and the raw materials required for it.
2. arrange the materials for the individual
3. make pairs and explain the role of each member of the pair.
4. give instructions regarding the activity.

How will I proceed?

➤ Student's Activity

1. Student A will fix the black paper strip on either side of the selected leaf of the de-starched plant with the help of clips.
2. Student B will keep the whole plant in bright sunlight for about 3-4 hours.
3. Student A will remove the strips of black papers from the experimental leaf and then take the leaf for starch test.
4. In the meanwhile student B will place a beaker, about three-fourth full of water on a stand and boil the water.
5. Student A will place the de-starched leaf in this water for about two minutes.
6. Student B will take the leaf out and put it in a test tube with three-fourth alcohol and then place this test tube in very hot water for about ten minutes. As the alcohol warms up.

7. After about ten minutes, student A will remove the leaf and dip it in warm water briefly to soften the leaf.

8. Then student B will place the leaf on a white tile and add 3-4 drops of iodine solution.

What have I observed?

Test solution	Color change on the covered part of the leaf	Color change on the uncovered part of the leaf
Iodine		

What have I learnt?

- The process of _____ occurs only in those parts of the leaf that are exposed to _____

What am I curious to learn?

- Let us conduct an experiment to show that carbon dioxide is necessary for the process of photosynthesis.

Let me evaluate myself

Q1. What are the two products formed during the process of photosynthesis?

Ans. _____.

Q2. How is the energy from sunlight trapped by a green plant?

Ans. _____.

Q3. How is carbon dioxide taken in by a green plant?

Ans. _____.

Q4. What happens to the excess glucose in plants?

Ans. _____.

Q5. Represent the process of photosynthesis with the help of a diagram.

Ans. _____.

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