

Leaves and photosynthesis

Is light needed for photosynthesis? – Instruction Sheet

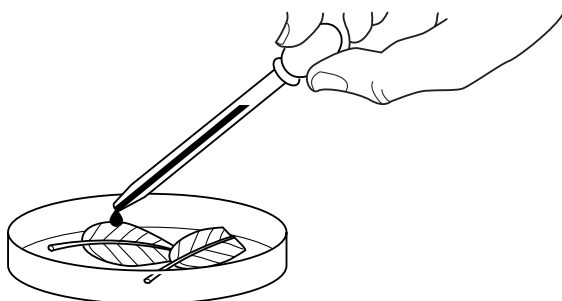
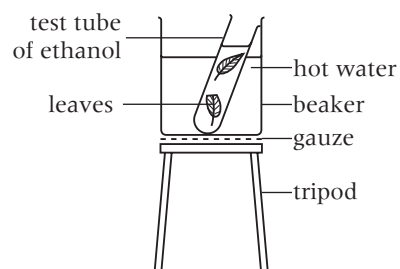
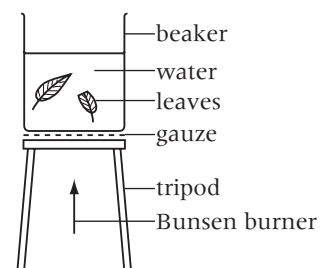
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Apparatus

- Leaves for testing – one that has been in the light and one that has been in the dark
- Iodine solution
- Bunsen burner
- Large beaker
- Heatproof mat
- Forceps
- Pipette
- Ethanol
- Gauze
- Test tube holder
- Petri dish
- Scissors
- Tripod
- Boiling tube
- Eye protection

Method

- 1 Take two leaves, one which has been in the light and one which has been in the dark. Cut the end off the one that has been in the dark, so you can remember which is which.
- 2 Place both leaves in a beaker of boiling water for one minute.
- 3 Turn off the Bunsen burner. *Wait until you are told to continue.*
- 4 Half fill a boiling tube with ethanol. Place the two leaves in it using forceps. Place the test tube in the beaker of hot water and leave it for five minutes.
- 5 Take the leaves out of the test tube and wash them with tap water.
- 6 Place the leaves on a Petri dish and add 5 drops of iodine solution to each leaf. If a blue-black colour appears, then there is starch in the leaf. Starch is only made in a leaf when photosynthesis has happened.



- Ethanol catches fire very easily. Do not put it anywhere near a lighted Bunsen burner.
- Take care with the Bunsen burner, the beaker and the water. They get very hot.
- Take care when boiling water. Wear eye protection.