INTEGRATED SCIENCE PAPER 2

Task 1 (15 mks)

1. You will be provided with the following resources to test for the presence of starch in a leaf.

Learning resources

- A fresh leaf from a plant that has been exposed to sunlight for 5 hours.
- Source of heat
- Beaker
- Boiling tube
- A pair of forceps
- Water
- White tile
- Methylated spirit
- Iodine solution
- Wire gauze
- A dropper
- Tripod stand

Procedure

1. Pour water in a beaker halfway full and heat.
2. Use a pair of forceps to dip the fresh leaf in boiling water for about 5 minutes.
3. Use a pair of forceps to remove the leaf from the boiling water and then dip the leaf into methylated spirit in a boiling tube.
4. Put the boiling tube that has the leaf in the boiling water for about 6 minutes.
5. Remove the leaf from methylated spirit. Hold it between your fingers and feel the texture.
6. Rinse the leaf using warm water.
7. Place the leaf on a white tile.
8. Apply three drops of iodine solution on the surface of the leaf using a dropper. Record your observations.

Questions

1. Why is it important to use a leaf which has been exposed to sunlight for at least 5 hours? (1 mk)

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2. Why is the leaf dipped in boiling water for 5 minutes? (1 mk)

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3. What is observed when the leaf is dipped into the boiling water? (1 mk)

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4. Why should the leaf be dipped into methylated spirit? (1 mk)

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5. What observation are made when the leaf is dipped into methylated spirit? (2 mks)

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