

Chlorophyll Fluorescence

Instructions: An activity exploring light absorption in plants and fluorescence.

Chlorophyll Fluorescence Instructions

Introduction

Chlorophyll in plant leaves absorb red light and pass the energy on to other parts of the plant, hence leaves look green. But if there is nowhere for the energy to go, it gets released as light again. This is called fluorescence. In this experiment you get to see chlorophyll fluorescing!

Equipment per person/pair/group

- A few leaves of spinach
- test tube or boiling tube
- test tube rack
- acetone or nail varnish remover
- pestle and mortar
- Torch or lamp
- Dark room/corner
- Filter paper and funnel

Method

1. Put a few leaves of spinach into the pestle and mortar and grind them.
2. Add 10-15ml of acetone and mix.
3. Fold the filter paper into a cone shape and put it into the funnel.
4. Place the funnel over the test tube
5. Pour the ground spinach into the filter paper to filter off the solid. The test tube should now have a green liquid in it.
6. Take the test tube to a darkened room or corner and shine the lamp or torch at it. The liquid should no longer look green. What colour is it?

Disposal

- The liquid can be poured down the sink and the filter paper and solid can be thrown in the bin.
- Wash everything with water at the sink.

