

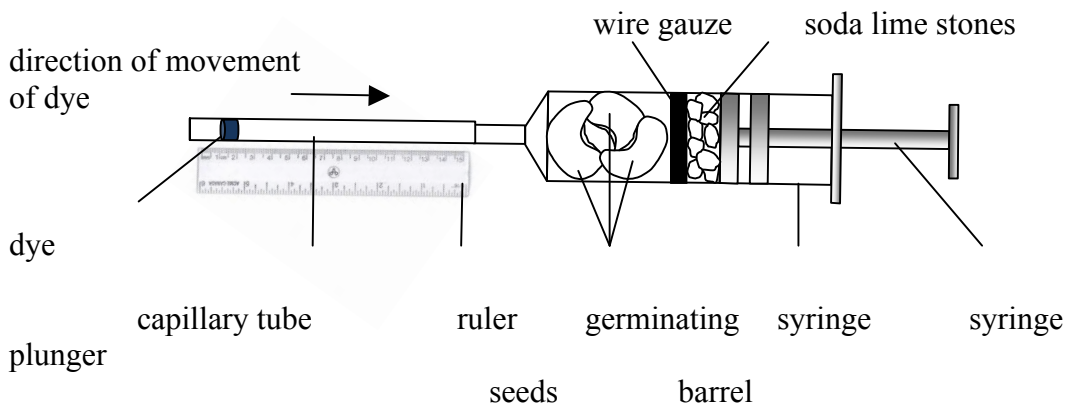
EXPERIMENT 10

Title: Respiration and oxygen uptake

Aim: To investigate the rate of oxygen uptake of germinating seeds using a simple respirometer.

Materials: Soda lime stones, dye, germinating bean seeds, wire gauze, dye, capillary tube, ruler

Apparatus:



Instructions

1. Place a few soda lime stones into the barrel of a syringe and cover with a disc of wire gauze. Label the syringe A. Soda lime absorbs carbon dioxide gas.
2. Add 3-4 germinating seeds into the barrel of the syringe. Insert the plunger of the syringe and allow the plunger to just touch the seeds. The seeds were surface sterilized before germination.
3. Attach 1mm diameter capillary tube to the end of the syringe.
4. Carefully dip the end of the capillary tube into the dye
5. Slowly and carefully pull up the drop of dye a short distance into the capillary tube by releasing the syringe plunger.
6. A ruler is placed alongside the capillary tube to measure the distance moved by the dye during the experiment
7. Record the starting position of the dye as the initial distance of the dye.
8. Record the distance the dye moves at 2 minute intervals for 10 minutes.
9. Repeat the experiment.
10. Calculate the average movement of the dye by combining the results from the two experiments.
11. Set up a control experiment. Set up the experiment in a syringe labelled B without adding soda lime stones
12. Record all results in a suitable table.

Results

1. Insert the data into the following table
2. Give the table a title that explains the data that is summarized therein

Time (mins)	Distance moved by dye Syringe A (mm)	Distance moved by dye Syringe B (mm)
0		
2		
4		
6		
8		
10		

Discussion: your discussion must include the following:

- Introduction (Background Knowledge):
- Interpretation of Results:
- Limitations of Experiment:

Conclusion