

# AQA Biology GCSE

## RP 08: Plant responses

### Practical notes

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



## Plant responses

### Aim

Investigate the effect of light or gravity on the growth of newly germinated seedlings.

### Equipment

- White mustard seeds
- Petri dishes
- Cotton wool
- Ruler
- Water
- Window with exposure to light
- Dark cupboard

### Method

1. Pour a fixed volume of water into 3 petri dishes and add cotton wool.
2. Place 10 seeds in each petri dish.
3. Place the petri dishes in a warm location eg. incubator, not to be disturbed.
4. Allow time for the seeds to germinate. If necessary, add more water to the petri dishes (same volume for each dish).
5. If not all the seeds have germinated into seedlings, remove any excess ones so that the petri dishes have the same number of seedlings.
6. Place one petri dish in full sunlight by a window. Place a second petri dish in partial sunlight. Place a third petri dish in darkness in a cupboard.
7. Use a ruler to measure the height of each seedling every day for at least a week. Record in a table as seen below.
8. Find the mean height of the seedlings each day.
9. Plot a graph of 'mean height of seedling' against 'day'.<sup>1</sup>

Environmental conditions: full sunlight, partial sunlight, darkness

Day	Height of seedling in full sunlight in mm								
	1	2	3	4	5	6	7	8	Mean
1									

### Sources of Error

Seedlings in the same petri dish may not receive the same exposure to sunlight.

Sample size for each environmental condition may be too small.

Temperature may be another factor that affects the growth of the seedlings in addition to light exposure.

### Risk assessment

Seeds may be a biohazard. Wash your hands after handling seeds.

<sup>1</sup> [AQA Practical Handbook](#)

