

Biology Topic B11: Triple only

1. Plant hormones (TRIPLE ONLY)

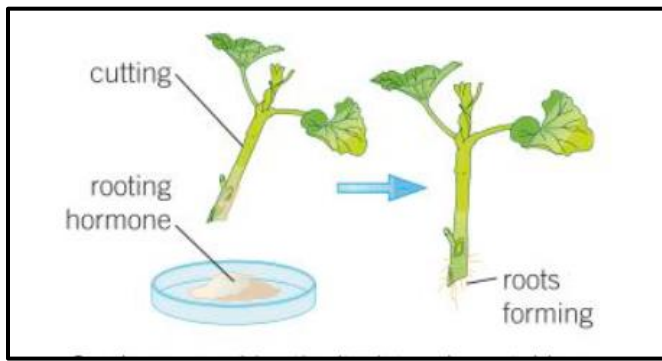
| | |
|----------------------------------|---|
| Phototropism | The shoot of a plant growing towards light. The root growing away from light |
| Gravitropism (geotropism) | The shoot of a plant growing up and the roots growing down |
| Auxin | Group of plant hormones which make cells in shoots grow more and cells in roots grow less. Used as rooting powder and weedkiller. |

4. How tropisms work

| | |
|---------------------|--|
| Phototropism | <ol style="list-style-type: none"> 1. Shaded side contains more auxin 2. So grows faster 3. Plant leans towards light |
| Gravitropism | <ol style="list-style-type: none"> 1. Bottom of shoot has more auxin 2. So grows slower 3. Roots bends downwards |

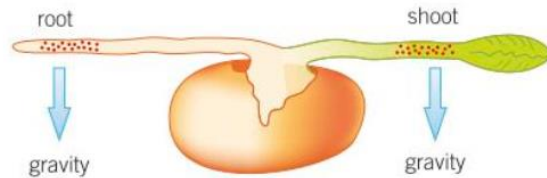
2. Other plant hormones (TRIPLE HT ONLY)

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|---------------------|---|
| Gibberellins | Start seed germination. Used to promote fruit development and flowering |
| Ethene | Cell division and ripening fruit |

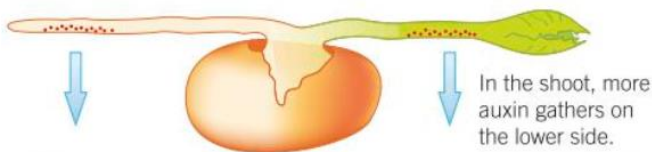


Gravitropism in shoots and roots.
The uneven distribution of auxin causes unequal growth rates.

1 A normal young bean plant is laid on its side in the dark. Auxin is equally spread through the tissues.



2 In the root, more auxin gathers on the lower side.



3 The root grows *more* on the side with *least* auxin, making it bend and grow down towards the force of gravity. When it has grown down, the auxin becomes evenly spread again.

