



# Geotropism

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## **Necessary materials and tools:**

plastic cup, soil, water, mustard-seed

## **Description of experiment:**

Germinate mustard seeds in a small pot or a plastic cup, and tilt it with the seedling in it into horizontal position!

## **Observation:**

After a week the horizontal seedling is bending and growing upwards, and if we remove the soil carefully from the roots, we will see that they were growing downwards.

## **Explanation:**

*Geotropism:* oriented growth due to the force of gravity.

*Reason* is that in addition to light, gravity also influences the transport of auxin. In a horizontal position both roots' and buds' bottom side will be richer in auxin. Since the auxin sensitivity of the bud and the root is different, the high auxin level on the lower side of the stem leads to faster, while in the root a slower growth. Because of this the bud shows negative, and the root shows positive geotropism.