

A Level Plant Responses Key Words

Key Word	Definition
Tropism	Plants response to a directional stimulus. Plants respond to the stimulus by regulating their growth
Abiotic stress	Anything non-living that is harmful to the plant e.g. cold conditions, drought
Herbivory	When plants are eaten by animals e.g. insects, grazing animals
Alkaloids	Chemicals the plant can produce in response to herbivory, the alkaloid will be toxic to the animal (insect)
Tannins	Bitter tasting chemicals, plants produce these to deter herbivores from eating them
Pheromones	Signalling chemical that produces a response in other organisms
Mimosa pudica	The leaf folds up in response to being touched. This might protect the plant against herbivory as it may scare the animal or it may knock off small insects when it folds quickly
Phototropism	The growth of a plant in response to light
Geotropism	The growth of a plant in response to gravity
Hydrotropism	The growth of a plant in response to water
Thermotropism	The growth of a plant in response to temperature
Thigmotropism	The growth of a plant in response to contact with an object e.g. climbing plants
Growth hormones	Chemicals that slow down or speed up plant growth
Gibberellins	Growth hormone produced in young leaves and in seeds. Stimulates seed germination, stem elongation, side shoot formation and flowering
Auxins	Stimulate the growth of shoots by cell elongation and inhibit the growth of roots at high concentrations
Indoleacetic acid (IAA)	A type of auxin produced in the tips of the shoots and roots. For phototropism it accumulates on the shaded side of shoots and roots - causes cell elongation in the shoots and inhibits cell growth in the roots. For geotropism it accumulates on the underside of the shoot and root - causes cell elongation in the shoots and inhibits cell growth in the roots.

Apical bud	Shoot tip at the top of a flowering plant. Auxins are found in the apical bud.
Apical dominance	Auxins in the apical bud stimulate the growth of the apical bud and inhibit growth of lateral buds which stops side shoots from forming. This allows the plant to grow taller because energy isn't used to grow side shoots.
Abscisic acid (ABA)	Inhibits gibberellins and causes stomatal closure
Synergistic	When two hormones work together e.g. auxins and gibberellins work together to help a plant grow tall
Antagonistic	When two hormones work against each other e.g. auxins inhibit leaf loss but ABA causes leaf loss in deciduous plants
Deciduous plant	Plant that lose their leaves in winter. This reduces loss of water by transpiration when it may be difficult for the plant to absorb water e.g. frozen soil
Ethene	Stimulates leaf loss in deciduous plants
Transpiration	The evaporation and diffusion of water vapour from the leaf
Guard cells	The cells surrounding the stomata, they control the opening and closing of the stomata. When they are flaccid the stomata closes and when they are turgid the stomata are open
Stomatal closure	ABA triggers this by causing the guard cells to become flaccid which results in stomatal closure