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| Light is a very interesting component in the survival of plants.  Not only is it indispensable in the process of photosynthesis, but it also affects many other plant functions.  There is the phenomenon of phototropism, the plant adaptation that causes a plant to bend towards light.  It seems that this response is created through the function of a hormone called auxin.  This is the same hormone that is responsible for geotropism, which causes the root of a plant to grow downwards and the shoot to grow upwards.  In the case of geotropism auxin accumulates on the underside of plant parts to encourage growth in the right direction.  In phototropism this same hormone, auxin accumulates on the shaded region of a plant encouraging growth there; and so, bending the plant towards the light. (Northen).    Photosynthesis is perhaps the most important light reaction in a plant.  Plants contain photosystems in their thylakoid membranes.  When a photon hits a pigment molecule that molecule becomes excited passing energy from molecule to molecule in photosystem II until the energy reaches the reaction center.  At the center the energy fuels an oxidation-reduction, an excited electron is passed to the electron acceptor.  An electron transport chain passes I the electron to photosystem.  This passing down the chain fuels the creation of ATP, an important energy source.  The electron than falls into place in an empty spot in photosystem I.  Excited electrons are then passed from photosystem I to create NADPH, another important energy molecule.  Meanwhile the hole created in photosystem I is filled by the splitting of water molecules and the creation of oxygen molecules.  This entire process creates energy for the plant and is integral to the survival of the plant. (Campbell).    An interesting study was done on the response to light by young plants in relation to their development.  A bean plant will germinate without light but will not uncurl from its starting bent position and open its young leaves.  Yet a brief exposure to light and a return to darkness will cause the sprout to unfurl its young leaves and straighten up.  The response to light is almost magical.    ([Intro1](http://docs.google.com/introduction.html))([Intro2](http://docs.google.com/intro2.html))([Intro3](http://docs.google.com/intro3.html))([Intro4](http://docs.google.com/intro4.html))  [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2002 Projects](http://docs.google.com/AP2002/index.html)][[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |