

## Topic 4 LT #2 Notes

*Learning Target #2 - I can identify different factors that influence how organisms grow and develop.*

Several factors influence how organisms grow. Some are determined by the genetic Characteristics that are passed from parent to offspring during reproduction.

Other factors occur outside of the organism -

- 1) Access to need resources
- 2) Conditions in their environment
- 3) responses to stimuli

Changes that plants and animals undergo overtime to increase their chances of survival are called adaptations. These changes are a response to the stimuli in the environment.

### Plants

Responses to stimuli are controlled by hormones.

Example: auxin - speeds up the rate at which plant cells grow and controls a plant's response to light.

Tropisms - ability of a plant to grow toward or away from a stimulus.

thigmotropism - response to touch

gravitotropism - response to gravity

phototropism - response to light

Seasonal changes are caused by changing conditions brought on by the seasons.

photoperiodism - response to seasonal changes related to the length of night and day.

dormancy - response to freezing temperatures and the lack of liquid water.

Ideal environmental conditions that allow a plant to reach its maximum size

- 1) Sunlight
- 2) Nutrient rich soil
- 3) water
- 4) space
- 5) pest free