



About Science Prof Online PowerPoint Resources

- Science Prof Online (SPO) is a free science education website that provides fully-developed Virtual Science Classrooms, science-related PowerPoints, articles and images. The site is designed to be a helpful resource for students, educators, and anyone interested in learning about science.
- The SPO Virtual Classrooms offer many educational resources, including practice test questions, review questions, lecture PowerPoints, video tutorials, sample assignments and course syllabi. New materials are continually being developed, so check back frequently, or follow us on Facebook (Science Prof Online) or Twitter (ScienceProfSPO) for updates.
- Many SPO PowerPoints are available in a variety of formats, such as fully editable PowerPoint files, as well as uneditable versions in smaller file sizes, such as PowerPoint Shows and Portable Document Format (.pdf), for ease of printing.
- Images used on this resource, and on the SPO website are, wherever possible, credited and linked to their source. Any words underlined and appearing in blue are links that can be clicked on for more information. PowerPoints must be viewed in *slide show mode* to use the hyperlinks directly.
- Several helpful links to fun and interactive learning tools are included throughout the PPT and on the Smart Links slide, near the end of each presentation. You must be in *slide show mode* to utilize hyperlinks and animations.
- This digital resource is licensed under Creative Commons Attribution-ShareAlike 3.0:
<http://creativecommons.org/licenses/by-sa/3.0/>

Alicia Cepaitis, MS
Chief Creative Nerd
Science Prof Online
Online Education Resources, LLC
alicia@scienceprofonline.com

Tami Port, MS
Creator of Science Prof Online
Chief Executive Nerd
Science Prof Online
Online Education Resources, LLC
info@scienceprofonline.com

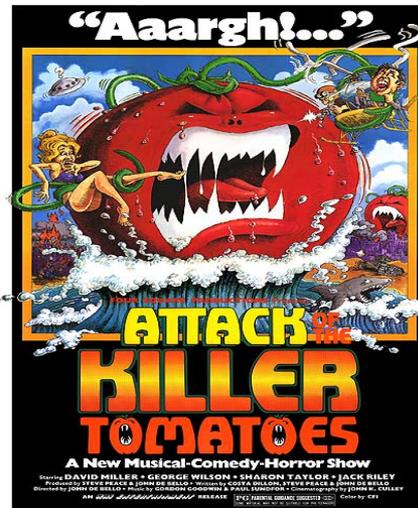
What
are the
plants
up to?



Have you seen the movie
[Guardians of the Galaxy?](#)
It's awesome!!!

WATCH THIS! [Feed Me Seymour!](#)

**flesh eating
plants**
aren't
only found in
horror movies.





**WATCH
THIS!**
A
Sundew
Plant
Catching
Fly



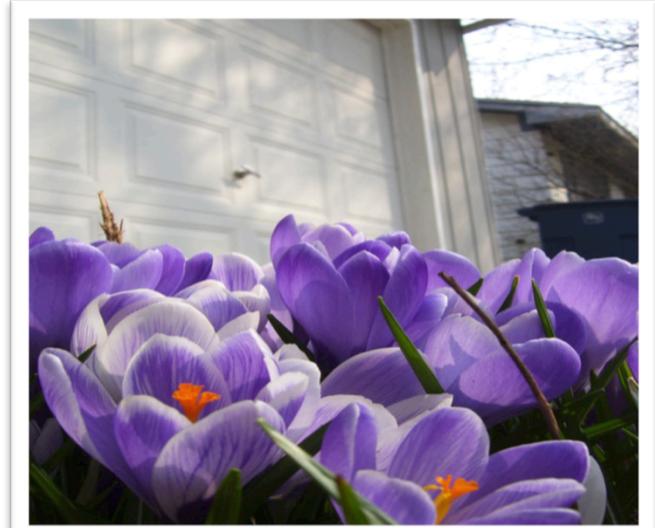
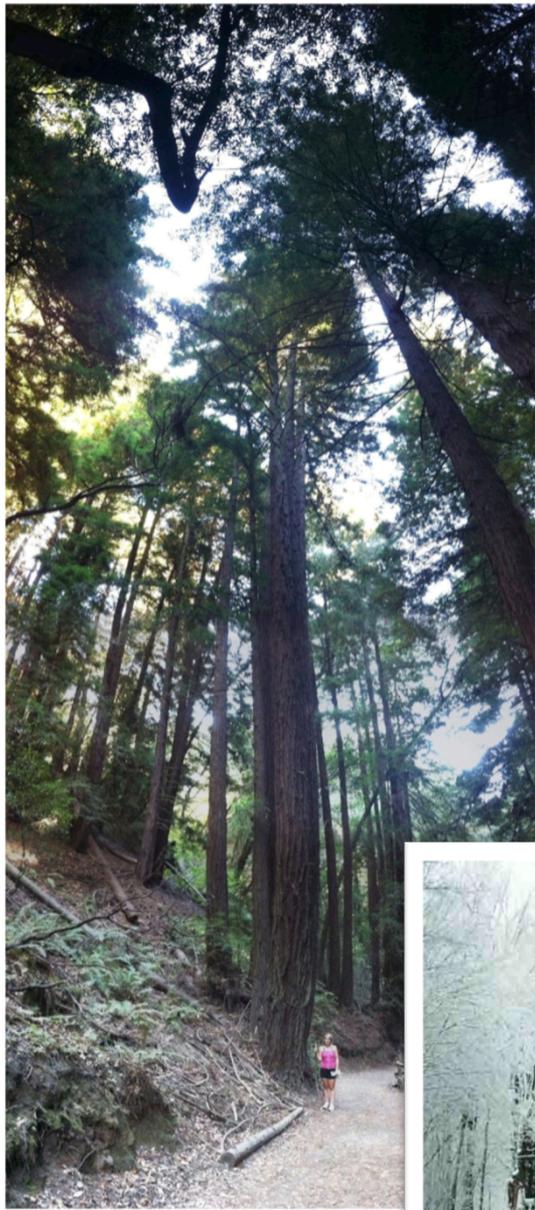
Images: [Venus fly traps](#), [Pitcher Plants](#), [Sundew *Drosera anglica*](#) with damselflies, Wiki; [Drosera](#) wrapping around prey, Wiki.

From the [Virtual Biology Classroom](#) on [ScienceProfOnline.com](#)

What Do Plants Need?



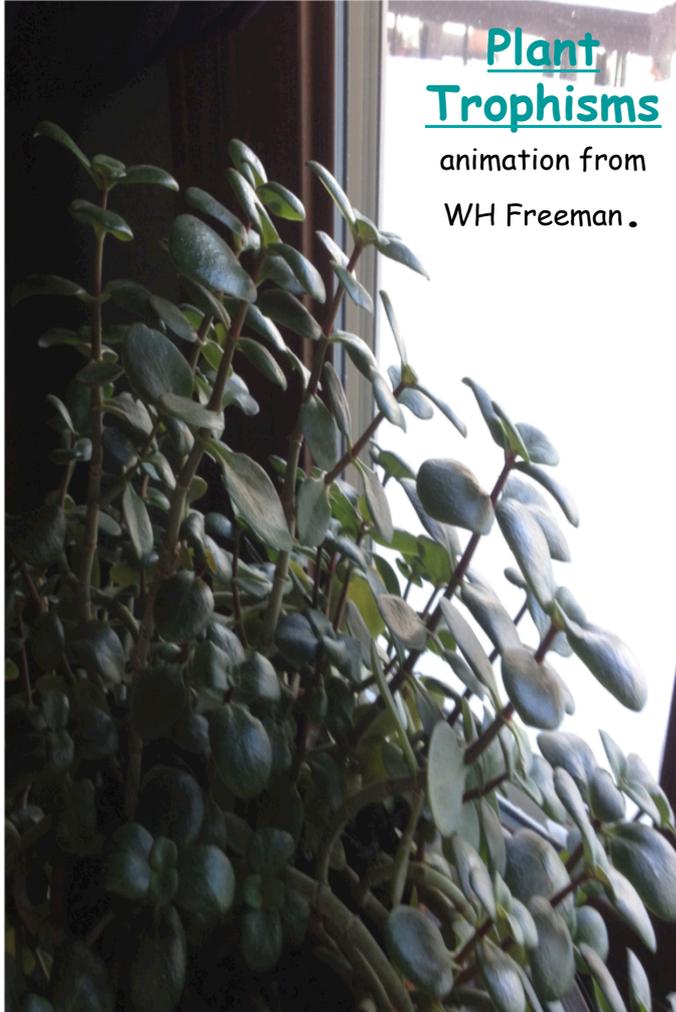
Plants have different *strategies* to get what they need.



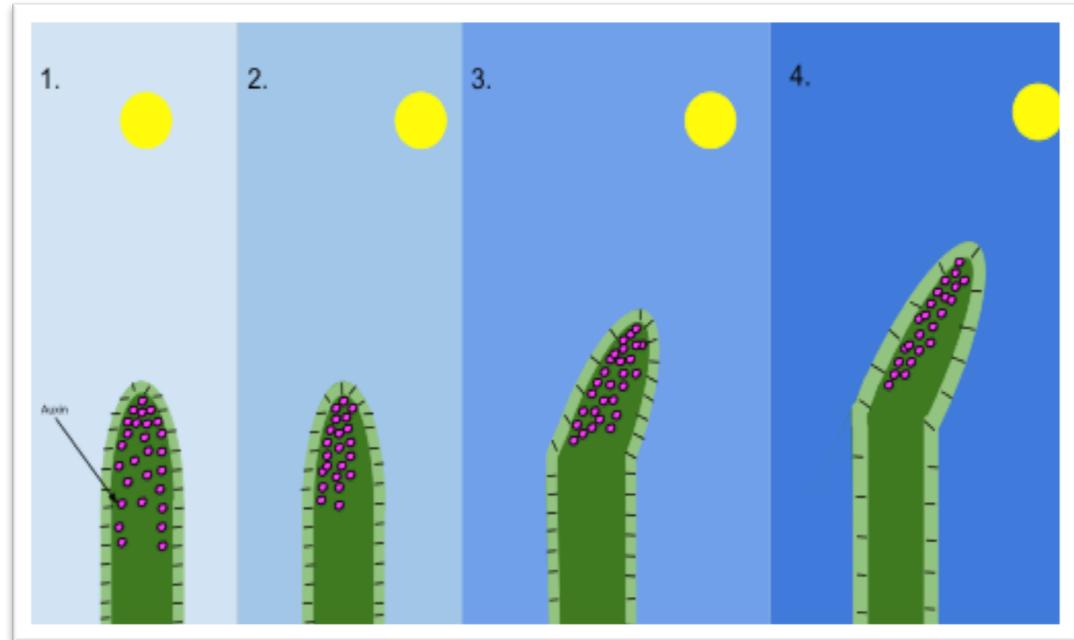
Plant Need Light!

Plant Trophisms

animation from
WH Freeman.



Phototropism & Light



1. Plant with sun directly above. Auxin molecules (plant hormone represented by pink dots) evenly distributed.
2. Sun positioned at an angle to plant causes auxin to move the opposite side of the plant. Increased auxin next to plant cells causes them to grow.
- 3 & 4. This results in the plant growing toward the sun.

WATCH THIS!

[Plant Physiology: Phototropic Response](#)
from Encyclopedia Britannica.

Like All Living Things, Plant Need To Reproduce!

Flowering Plants



Lets
Talk
About
Sex!

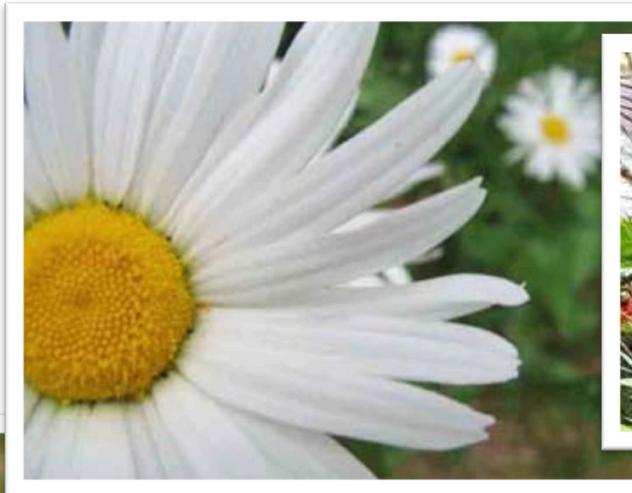


Images: [Ragweed](#), [Oak flowers](#), Wiki; Daisy and *Echinacea* with Eastern Tiger Swallowtail feeding, Rose T. Port

From the [Virtual Biology Classroom](#) on [ScienceProfOnline.com](#)

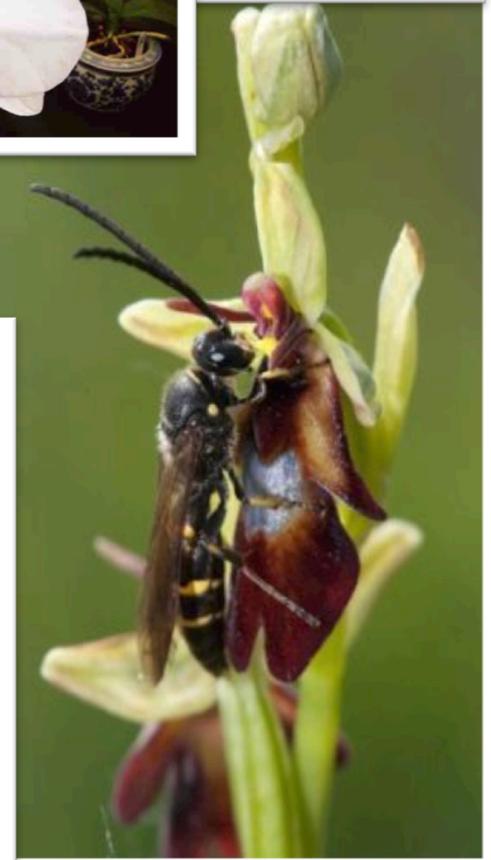
Insect Pollinated Flowers

Advertising, Bribery and Deception!



WATCH THIS!

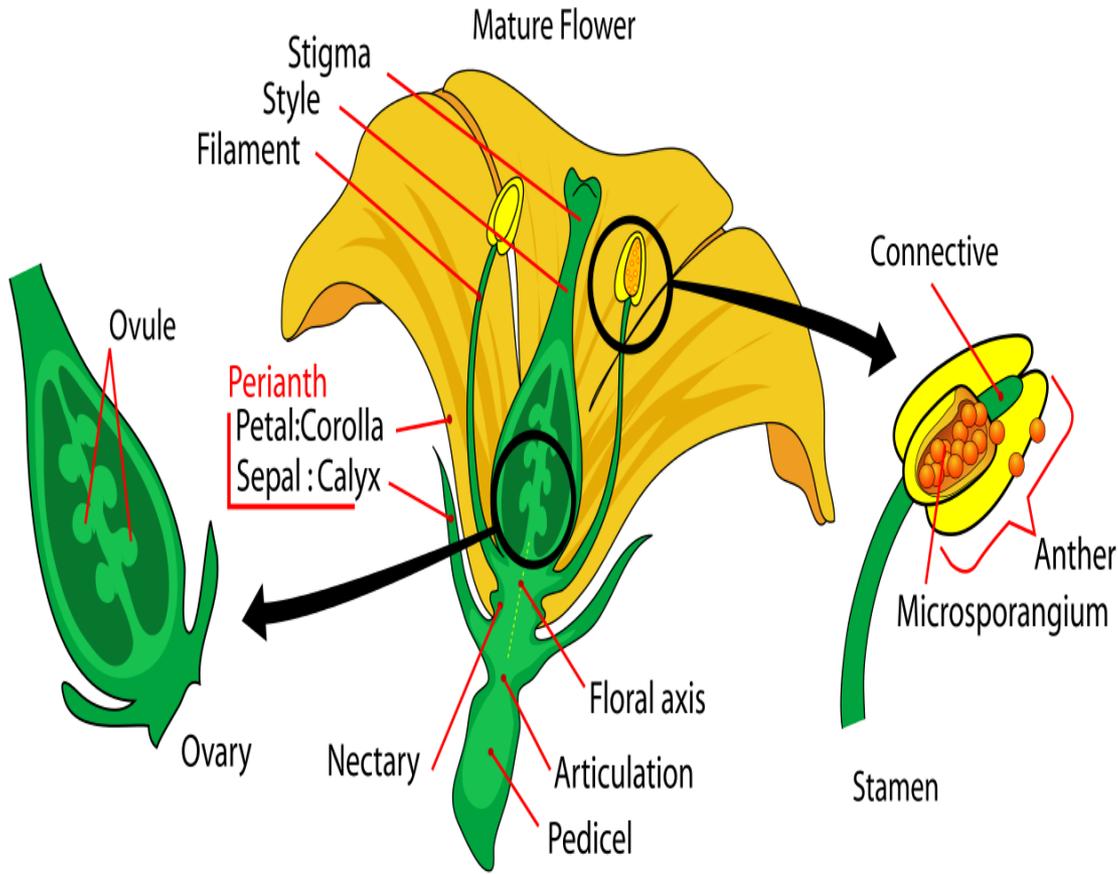
[Plant Reproduction: Methods of Pollination](#) from Encyclopedia Britannica.



Images: Top row - Daisy, Red Crocosmia, Moth Orchid, Rose, T. Port;
Bottom row - *Echinacea* with Eastern Tiger Swallowtail feeding, T Port;
[Carrion flower with fly pollinator](#), Wiki; Wasp Pollinated Orchid

From the [Virtual Biology Classroom](#) on [ScienceProfOnline.com](#)

Flowering Plant Reproductive Parts



WATCH THIS!

Time lapse film of [pear growing from flower to fruit.](#)

As with phototropism, plants respond to stimuli in other ways as well.



Pinching Back Branching Plants

- Why do gardeners pinch back plants?
- How do plant respond to being pinched back?
- What might happen to plants in nature that pinching back mimics?

WATCH THIS!

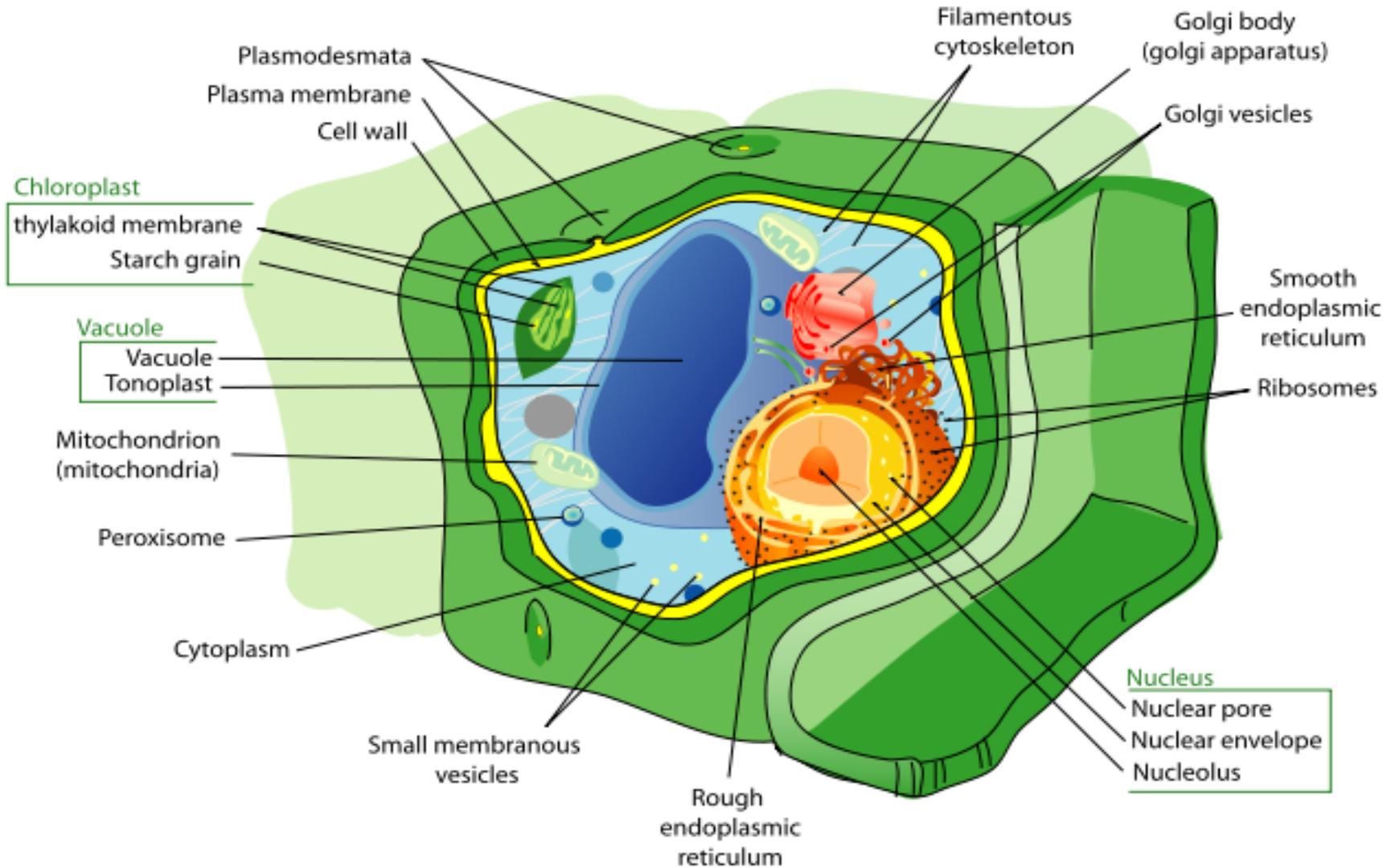
[Plant Asexual Reproduction](#)
from Encyclopedia Britannica.



Your Cute Baby *Crassula* (Jade Plants)



Plant Cell (Eukaryote)



Confused?

Here are some links to fun resources that further explain Cell Biology:



- [Eukaryotic Cells Main Page](#) on the Virtual Cell Biology Classroom of [Science Prof Online](#).
- [Plant Photosynthesis](#) from Encyclopedia Britannica.
- [Plant Trophisms](#) animation from WH Freeman.
- [Plant Physiology: Phototropic Response](#) from Encyclopedia Britannica.
- [Eukaryotic Cell: Structures, Functions & Diagrams](#), an article from SPO.
- [Cells Alive](#) interactive website.
- [Plant Asexual Reproduction](#) from Encyclopedia Britannica
- [Plant Reproduction: Methods of Pollination](#) from Encyclopedia Britannica.
- ["Do Plants Have Sex?"](#) from Livescience.
- [Cell Structure](#) tutorials and quizzes from Interactive Concepts in Biochemistry.
- [Eukaryotic Cell Tour](#) an Animated Science Tutorial.
- [Plants & Bees: Plant Reproduction](#) from CrashCourse Biology
- [Angiosperm \(Flowering Plant\) Lifecycle](#), Youtube.
- [Lets Talk About Sex](#), song by Salt-n-pepa
- Biology4Kids – [Cell Biology Main Page](#) by Raders.

(You must be in PPT slideshow view to click on links.)



What if plants decided that humans were a threat to the planet that had to be eliminated?