Plant web quest

The objective of this project is to:

•- describe key characteristics of plants

•- classify plants into the key taxa (nonvascular plants, conifers, flowering plants - including monocots & dicots)

•- explain how plants maintain homeostasis

•- sequence events in the plant life cycle (alternation of generations)

•- categorize types of plant responses to stimuli (tropisms, taxes, hormones)

•- tell how plants use seeds/fruits to distribute themselves

•- understand how some plants depend on animals for reproduction/distribution

For this project, you will work in groups of 4 students and will use the internet to gather information to make a PowerPoint, video, iMovie, Prezi, or any other type of visual/oral presentation, demonstrating mastery of this content. You can use the following sites, or any search engine of your choice, to help you find the information you need.

You must make slides/movies/videos/etc. for the following topics:

GROUP 1-Plant Characteristics- What do all plants share? Overview of Evolution of Plants.

http://www.ucmp.berkeley.edu/plants/plantae.html (plant page of UCMP)

http://www.ucmp.berkeley.edu/plants/plantaelh.html (plant adaptations to environment)

http://www.biozone.co.nz/PLANT_BIOLOGY.html (list of useful links on plants organized by topic)

GROUP 2- Nonvascular plant characteristics-use mosses as your representative

oHabitat? ***•oStructures?*** ***oNiche?*** ***•oLife cycle?***

http://www.biologie.uni-hamburg.de/b-online/library/webb/BOT311/CellTissOrgan/Bryophyta.htm (moss web page)

GROUP 3- Vascular Plants Characteristics-use conifers and flowering plants as representatives. **• What do all vascular plants share?**

oHabitat? ***• oStructures?*** ***oNiche?*** ***• oLife cycle?***

•-Plant structures & functions

http://dallas.tamu.edu/weeds/anat.html (a listing of links to help with plant structures)

http://www.ucmp.berkeley.edu/plants/plantaemm.html (plant cells)

http://en.wikipedia.org/wiki/Plant_morphology (plant structures)

http://www.urbanext.uiuc.edu/gpe/case1/c1facts2a.html (simplified plant parts)

http://www.fastplants.org/intro.lifecycle.php#menu (fast plants life cycle)

http://www2.bgfl.org/bgfl2/custom/resources_ftp/client_ftp/ks2/science/plants_pt2/index.htm (animations of plant life cycles and growth)

http://www.sparknotes.com/biology/plants/characteristics/section1.html (Spark notes plant anatomy)

http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookflowers.html (on-line Biology text book on plants)

http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookPLANTANAT.html (on-line Biology book general plant structure)

http://www.kew.org/ksheets/pdfs/b3plant.pdf (plant structure pdf)

What is a leaf? What does it do? How do plants use special leaves? What are some examples of specialized leaves? Why are stomata important? What controls the stomata?

http://en.wikipedia.org/wiki/Transpiration (transpiration article)

http://extension.oregonstate.edu/mg/botany/images/tree1.html (transpiration movie)

http://www.bbc.co.uk/schools/gcsebitesize/biology/greenplantsasorganisms/1watertransportrev2.shtml (transpiration BSCS review/study guide)

http://croptechnology.unl.edu/viewLesson.cgi?min=1&max=8&topic_order=2&LessonID=1092853841 (transpiration animation)

http://www.phschool.com/science/biology_place/labbench/lab9/stomamov.html (guard cell animation)

http://www.kscience.co.uk/animations/transpiration.htm (transpiration animation)

http://en.wikipedia.org/wiki/Leaf (leaf function)

http://harvardforest.fas.harvard.edu/research/leaves/leaf_structure.html (leaf function & absorption)

http://en.wikipedia.org/wiki/Stoma (stomata)

http://www.eoearth.org/article/Stomata (stomata function)

What is a stem? What does it do? How do plants use special stems? What are some examples of specialized stems?

http://www.microscopy-uk.org.uk/mag/indexmag.html?http://www.microscopy-uk.org.uk/mag/artmar00/watermvt.html (detailed description with pix of water movement through plants)

http://en.wikipedia.org/wiki/Plant_stem (plant stem function)

What is a root? What does it do? How do plants use special roots? What are some examples of specialized roots?

http://en.wikipedia.org/wiki/Root (root)

GROUP 4- What is a conifer?

oHabitat? *•oStructures?* *oNiche?* *•oLife cycle?*

How do plants make seeds? How do seeds help spread plants? Give at least 5 different examples of specialized seeds.

http://curriculum.calstatela.edu/courses/builders/lessons/less/les8/seedtrip.html (seed distribution page)

http://www.seedbiology.de/structure.asp (technical site on seed specialization)

http://en.wikipedia.org/wiki/Gymnosperm

GROUP 5-What is a flowering plant?

oHabitat? ***•oStructures?*** ***oNiche?*** ***•oLife cycle?***

- ***What is a flower? What are the parts of a flower? What does each part do?***

http://ag.arizona.edu/pubs/garden/mg/botany/flowers.html (flower parts)

http://en.wikipedia.org/wiki/Flower (flower parts)

http://dallas.tamu.edu/weeds/anat.html (a listing of links to help with plant structures)

http://www.bbc.co.uk/schools/scienceclips/ages/9_10/life_cycles.shtml (simplified flowering plant life cycle)

- ***How do flowers allow plants to reproduce? How do flowers attract pollinators? Give at least 3 different ways flowers attract pollinators.***
- ***What is a fruit? Why do plants make fruit? Give at least 3 different ways fruit help distribute plants***

http://waynesword.palomar.edu/plfeb99.htm

http://www.mbgnet.net/bioplants/seed.html

http://www.cas.vanderbilt.edu/bioimages/pages/fruit-seed-dispersal.htm

http://en.wikipedia.org/wiki/Biological_dispersal

http://www.pbs.org/wnet/nature/plants/planet.html

http://www.biologie.uni-hamburg.de/b-online/e02/02f.htm

- ***What happens during the plant life cycle?***

http://www.sparknotes.com/biology/plants/lifecycle/section1.html (Spark notes alternation of generations)

http://www.sparknotes.com/biology/plants/lifecycle/section3.rhtml (Spark notes vegetative reproduction)

http://www.jasons-indoor-guide-to-organic-and-hydroponics-gardening.com/plant-life-cycle.html (good guide to the plant life cycle)

- ***Monocot vs. dicot. What is a monocot? What are the characteristics of a monocot? Give at least 5 different examples of monocots. What is a dicot? What are the characteristics of a dicot? Give at least 5 different examples of dicots.***

http://www.ucmp.berkeley.edu/glossary/gloss8/monocotdicot.html (monocot v dicot)

http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookPLANTANATII.html (monocot v dicot online Biology book)

http://www.csdl.tamu.edu/FLORA/201Manhart/mono.vs.di/monosvsdi.html (single page comparison of monocot & dicot)

http://www.backyardnature.net/monodico.htm (monocot/dicot comparison)
http://www.ucmp.berkeley.edu/glossary/gloss8/monocotdicot.html (monocot v dicot)

http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookPLANTANATII.html (monocot v dicot online Biology book)

http://www.csdl.tamu.edu/FLORA/201Manhart/mono.vs.di/monosvsdi.html (single page comparison of monocot & dicot)

http://www.backyardnature.net/monodico.htm (monocot/dicot comparison)
http://en.wikipedia.org/wiki/Dicotyledon

GROUP 6- Plant responses to stimuli

http://www-users.york.ac.uk/~drf1/tropism/jcf_1.htm (time lapse photography of plant movements)

http://plantsinmotion.bio.indiana.edu/plantmotion/starthere.html (movies of tropism, nastic responses)

http://www.biologie.uni-hamburg.de/b-online/library/cat-removed/u3aos23.html (plant response to stimuli textual info page)

What is a tropism? Give at least 4 different examples.

- ***What is a nastic response? Give at least 2 different examples.***

- ***How do plants show a circadian rhythm?***

http://www.urbanext.uiuc.edu/gpe/case1/c1facts1b.html (life cycle by length)

Importance of plants

- Explain at least 3 ways plants are important to people, economically. Give at least 2 examples for each one.

- oExplain why plants are so important in the ecosystem.

http://www.botany.org/planttalkingpoints/economic_botany.php (economic botany)

http://www.botany.org/planttalkingpoints/crime.php (plants and forensics)

http://www.botany.org/planttalkingpoints/endosperm.php (plants as food)

http://www.botany.org/planttalkingpoints/CO2andTrees.php (trees & the environment)