# <u>Science</u> Core Units

Course Title: Ag Biology

#### Unit Title: What does it mean to be ALIVE? Length of

## Length of Unit: 3 weeks

#### Grade Level: 9

## Pages (2)

Standards & Benchmarks	Essential Questions, Learning Targets & "I can" Statements	Key Vocabulary	Suggested Assessment	Possible Resources
<ul> <li>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicelluar organisms.</li> <li>HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</li> <li>HS-LS2-8 Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.</li> <li>HS-LS4-3 Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.</li> <li>HS-LS4-5 Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number individuals and some species, (2) the emergence of new species over time, and (3) the extinction of other species.</li> </ul>	"I can" identify the seven characteristics of all living things. "I can" relate the seven characteristics of living things to an animal. "I can" conduct an investigation to test homeostasis. "I can" group and sort organisms according to observable traits. "I can" use a dichotomous key to identify different species. "I can" identify theories for the domestication of animals.	Cells Cytoplasm Cell Membrane Prokaryotic Eukaryotic Unicellular Multicellular Sexual Reproduction Asexual Reproduction DNA Autotrophs Heterotrophs Photoautotrophs Chemoautotrophs Chemoautotrophs Metabolism Photosynthesis Cellular Respiration Stimuli Evolve Organizational Levels Biosphere Ecosystem Community Population Organism Organ Tissue Organelle Molecule Atom Classification Xerofit Higrofit Hidrofit Herbivore Carnivore	Daily Bell Work on "I can" statements. *Group and Individual Homework Packet (Attached) Daily Q & A Poster on Characteristics Paper on Animal Characteristics including changes over time Making an Dichotomous Key Power point on Domestication Test	YouTube – Oldest Living Things video. You Tube – Classification of Living Things video "The Science of Agriculture" a Biological Approach Ray V. Herren "Biology" Stephen Nowicki

	Domain Kingdom Phylum Class Order Family Genus Species Monera Protista Plantae Animal Fungi Binomial Nomenclature Dichotomous Key Domestication		
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## Science Core Units

**Course Title: Ag Biology** 

Unit Title: How can I affect plant growth?

## Length of Unit: 8 weeks

#### Grade Level: 9

Pages (2)

Standards & Benchmarks	Essential Questions, Learning	Key Vocabulary	Suggested Assessment	Possible Resources
	Targets & "I can" Statements			
Science investigations use diverse methods and do not always use the same set of procedures to obtain data. Scientific inquiry is characterized by a common set of values that include: logical thinking, precision, open-mindedness, objectivity, skepticism, replicability of results, and honest and ethical reporting of findings.	"I can" identify experimental variables. "I can" design an experiment to manipulate plant growth. "I can" measure plant growth using a variety of tools.	Photosynthesis Roots Stems Complete Flower Incomplete Flower Simple Leaf Compound Leaf Dry Fruits Fleshy Fruits	Plant Packet – Each student will fill out their own plant packet. Students will work in partners. Students will present their projects and results in a power point presentation.	"Research and Students" NSTA "Biology" Stephen Nowicki

		"I can" analyze data to determine	Independent Variable	
The discou	rse practices of science are organized	which method produced the best	Dependent Variable	
around disc	vinlinary domains that share exemplars	nlants	Control Variable	
		plants.		
for making	decisions regarding the values,		Data	
instruments	s, methods, models, and evidence to adopt		Observation	
and use.	*		Mode	
			Median	
			Mediali	
Scientific investigations use a variety of methods,			Mean	
tools, and t	echniques to revise and produce new		Germination Rate	
knowledge				
-				
HS-I S1-	Use a model to illustrate			
5	how photosynthesis transforms light			
5.	operavinte stored chemical operav			
	energy into stored chemical energy.			
110 1 00	Desire suchasta and affine a solution			
HS-LS2-	Design, evaluate, and refine a solution			
7.	for reducing the impacts of human			
	activities on the environment and			
	biodiversity.*			
HS-LS4-	Evaluate the evidence supporting			
5.	claims that changes in environmental			
	conditions may result in: (1) increases			
	in the number of individuals of some			
	species, (2) the emergence of new			
	species over time, and (3) the			
	extinction of other species.			