

ALCS Sonoran Sojourn Trip

Fall - 2018

Theme: Learning to recognize “sustainable & un-sustainable” communities in the Sonoran Desert

Objectives: Students will be able to...

- Experience their ‘key terms’ in order to understand the basic differences between (a) large scale industrial food growing operations, and (b) ‘sustainable – voluntary--equitable--diversified’ simplicity in the Sonoran desert.
- Find an intrinsic motivation to (a) do hard things, and (b) use analytical thinking to understand economic, ecological, political & social issues that are often ‘hidden-in-plain-sight.’
- Use their notes to creatively & accurately construct their own meaning from at least one experience from the trip, based on creatively viewing what is ‘hidden-in-plain-sight’

Itinerary:

Monday Nov 5th	Location and Curricular Focus	Activity
8:30 – 9:00	Depart from ALCS / Eat lunch on the way (11:30'ish)	Load bus and check gear
10:00	Stop along Hwy 90 & view Sky Island ecosystem from above	Stretch / B-Room
11:00	On the bus: discuss, and view industrial agriculture from above	Chiricahua National Monument
12:00	Arrive at Forest in the Desert & meet Greg Freeman	Hike, Eat Lunch, Ask Questions & Listen to learn about industrial agriculture & voluntary simplicity on a budget
3:00 - 5:00	Arrive at Dragoon Mountain trailhead	Afternoon hike to and through educational exhibits
5:00	Set up camp & eat dinner (burritos & carrots)	Dinner
6:30	Evening sit & group circle	Introspection & sharing
9:30	Campground (dispersed sites)	Lights out

Tues. Nov 6th	Location and Curricular Focus	Activity
7:00 AM	Dragoon campground (dispersed sites)	Wake-up, Wash-up, Eat breakfast
8:00 – 1:00 PM	Hike into Stronghold & Day sit	Day sit & hike & eat lunch back at the bus
4:00 – 6:00 PM	Arrive at Catalina State Park	Set up camp & groups cook dinner...
	<i>On the drive: View & discuss ‘Industrial Ag’ in action as we pass mega-farms. Discuss the role of corporate investors.</i>	Analytical observations to see what is hidden in plain sight
6:30 – 9:30	Catalina State Park (Tucson, AZ)	Hike & dinner
10:00	Catalina State Park (Tucson, AZ)	Lights out

Wed. Nov. 7th	Location and Curricular Focus	Activity
7:00 AM	Catalina State Park (Tucson, AZ)	Wake-up, Wash-up, Eat breakfast
9:00 – 3:00	Sonoran Desert Museum	Raptor show, indigenous gardens, and plant identification

3:30 – 6:30	Tucson... 4 th Street... Student groups & park play time	Down- town Tucson
7:00	Catalina State Park (Tucson, AZ)	Reading circle over Sand County Almanac and team-building activities
9:00	Catalina State Park (Tucson, AZ)	In tents for journaling time
9:45 – 10:00	Catalina State Park (Tucson, AZ)	Lights out and quiet

Thursday Nov. 8	Location and Curricular Focus	Activity
5:00 AM (or earlier)	Catalina State Park (Tucson, AZ)	Wake-up, Wash-up, Eat breakfast
7:00	Catalina State Park (Tucson, AZ)	Board bus and depart
8:30 - 9	Amer-Indian Museum at northern end of Dragoon Mountains	Hike & exhibits
11:30	Eat lunch & read about Buffalo Soldiers OR from 'Ishmael' (erratic retaliator strategies)	Eat lunch & Group Reading activity (Land & food histories from Apache eyes)
12:00 to 1:00	Depart for ALCS	Load bus
4:30	ALCS	Arrive, Clean bus, Unload gear

Background Resources (if needed, depending on student levels of comprehension & prior knowledge):

'Food Inc' OR Michael Pollan's film (Hint: Questions & notes from this film)

1. Growing food is not easy, but it is satisfying.
2. Small growers receive minimal subsidies compared to industrial growers.

'A Sand County Almanac' *Thinking Like a Mountain*, ecology lessons

'My Ishmael' ('food under lock & key')... Agricultural Revolution is only 10,000 yrs old (out of 200,000 yrs)

Current events about food, energy & water (for additional depth)

1. Water:
http://www.npr.org/sections/thesalt/2015/11/02/453885642/saudi-hay-farm-in-arizona-tests-s-tates-supply-of-groundwater?utm_source=npr_newsletter&utm_medium=email&utm_content=20151103&utm_campaign=npr_email_a_friend&utm_term=storyshare
2. Food deserts: <http://blog.walkscore.com/2014/03/best-and-worst-u-s-food-deserts/>
3. Healthy Food Access: <http://healthyfoodaccess.org/resources/search-by-region>
4. 'A Sand County Almanac' *Green Lagoon, desert* ecology lessons
5. 'A Sand County Almanac' *Song of the Gavilan, desert* ecology lessons
6. **Privatization, disaster capitalism, subsidy & pumping groundwater**
 - Granting (& then canceling) a \$300 million no bid contract to Whitefish Co (see Pete's notes) for hurricane recovery in Puerto Rico.
 - Selling public aquifers as private hay-bales, cotton-bales & corn products
 - Turning life's genetic heritage into patents (GMO technology in industrial agriculture)
 - Drop-Box notes

Student Packet - Use your bus time and earned Friday (Nov 13) wisely.

- **Packet is Due by midnight on Thursday Nov 15. The key terms will be part of the fall final exam.**
- Have this packet ready at all stops & circles. **Add extra pages, as needed.**

Part I (Note-Catcher): **4 pts for each ‘connection’ = 100 Vocab quiz is part of the fall final exam.**

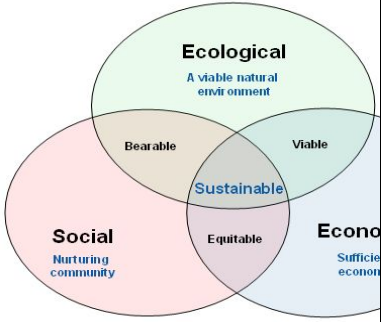
Key Terms & Definitions: *HELP each other. Ask trip facilitators. Most, but not all, terms will be covered as part of the trip.*

-Link for Related Terms: <https://quizlet.com/285330131/ap-human-geography-agriculture-flash-cards/>

Key Terms	Definitions	Notes <u>connecting</u> your word to a trip experience
1. Sustainable	Capacity to endure a very long time socially, economically and ecologically.	
2. Genetically Modified Organism (GMO)	A living thing (organism) whose genes have been engineered to complete a specific task, such as corn surviving poisonous chemicals.	
3. Papago (Tohono O’odham)	Native people in the Sonoran desert who have lived here sustainably for many centuries using rain-water “run-off farming” techniques	
4. Factory Farming	Crop growing and livestock raising designed for “efficiency”. Often characterized with mono-cropping, poisonous chemicals, and antibiotics.	

5. germination	When a seed breaks open and begins to grow into a plant	
6. Arid	A place that is very dry and without rain for most of the year	
7. Plant (bio) diversity	Many different plants growing in an area / able to survive drought, disease, pests, and changes in the environment while providing high nutrient food for many different animal species, including humans	
8. Water consumptive crops	Foods, mostly plant crops, that take a substantial amount of water to grow. Often, these crops are mono-cropped GMOs and use water from aquifers.	
9. Desert run-off farming	Growing food by collecting rain-water for growing food as it flows across the landscape	
10. Co-evolved microorganisms	Tiny beings and bugs that support all of life as a vital part of the soil community	
11. Food-sheds	Geographic areas where food moves around in that one area (think watershed, but with food), OR the physical web that connects foods to their source.	

12. Adaptation	A change or the process of change where an organism becomes better suited for its environment.	
13. Watershed Restoration	Filling arroyos with rocks in order to stop & heal erosion and direct rainwater run-off so it heals the land.	
14. Aboriginal territory	Lands lived on for centuries by native peoples	
15. Ecosystem services	The resources we, as humans, take from nature, usually for free and without direct consequence.	
16. Food sovereignty	The right of a community to decide in favor of healthy food.	
17. Food justice	Equity for those producing the food and consuming the food.	
18. Food-print	The amount of carbon burned per person by the production, transport & consumption of his/her food.	
19. Food subsidy	Tax money used by farm corporations, often those who mono-crop corn with large machines & chemicals.	

<p>20. The 3 pillars of sustainability</p>		
<p>21. Localization</p>	<p>To gather, collect, or concentrate economic & political power close to home.</p>	<p>Advantages: transportation costs...</p>
<p>22. Globalization</p>	<p>Worldwide integration and development; the opposite of localization.</p>	<p>Economies of scale... efficiency...</p>
<p>23. Permaculture</p>	<p>The community development of agricultural ecosystems that are sustainable, self-sufficient and learn from careful observations of the natural world.</p>	
<p>24. Slow Food</p>	<p>Food that is produced or prepared with local culinary traditions, typically using high-quality locally sourced ingredients.</p>	
<p>25. Subsidy</p>	<p>Funding from a government to a private company, organization, or charity to help it to function or to achieve a societal goal (such as 'economic growth,' educated citizens, or 'maximum industrial production').</p>	

26. Symbiosis	An interaction between two different organisms living in close physical association.	
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Part II: *Guide for Navigating Social-Science Related Exhibits at Sonoran Desert Museum*

A. *Water in the Desert: Source of Life (Culture)* Desert Waters / Rivers in the Sand / Where the Desert Meets the Sea
Water is precious and should be respected... / "It is going to rain.." (poetry) / "The rain ceremony..." (theatre)

B. *Desert Landscapes: Distinctive and Diverse (Geography)* Sonoran Desert / Subdivisions of the Sonoran Desert: Lower CO river valley, Central gulf coast, Volcano, Arizona upland, Plains of Sonora, Magdalena / Sonoran Desert Region / North American Deserts: Four major deserts / World Deserts: Where are deserts located in our world? / What is a Desert?: Deserts are... / What is your spirit animal & why? Research...

C. *Grasslands Trail – series of exhibits: Pleistocene giants... what happened to grass-land megafauna? Why exterminated? / Soils... magnification... draw pics... explain natural condition & how impacted by industrial agriculture / Swale community... snakes / Cienega... vanishing habitat / Humans and Grasslands (4 parts)* i. Humans and millions of years ago... vast savannas ; ii. Grasslands and human evolution... How did grasslands lead to complex thought?; iii. Grass feeds the world... bar graph... %'s (wheat 16% / rice 14% / corn 13% / potato 13%) ; iv. Domestication of corn... teosinte... 5,000 BC / "How could you grow food with only rain-water?": Terraces , Check-Dams: 100,000 plants grown... (agaves) 10,000 harvested per year... Heart of flower base roasted in pits... center is water to drink... pulque

D. *Your own choosing:* Choose an exhibit NOT listed in A, B or C above.

Note-Taking Space:

Part III - Making Analytical Observations: Choose one exhibit listed in A through D above -- or, a different experience / quote from the trip -- and apply the 5 steps of making analytical observations.

1. Physical characteristics

2. Measurable aspects / assets

3. Quantifiable parts to #2

4. Patterns we can easily see OR imagine from...

5. What inferences can be made? What questions can be asked?

Part III - Ecology Connections: For Environmental Science you are going on a figurative organism hunt. (50 points) List an organism (Common Name, *Genus species*) that fits the definitions provided. Refer to your notes if you cannot remember these definitions.

Herbivore: _____

Carnivore: _____

Omnivore: _____

Autotroph/Producer: _____

Heterotroph/ Consumer: _____


Keystone Species: _____

Part II (c) Animal Adaptations: Find the following two animals. How have they learned to adapt to the desert climate? List two physical, physiological or behavioral adaptations for each animal. (50 points)

Desert tortoise (near large aviary) -

Javelina (desert loop trail) -

Part II (c) Symbiosis: Locate an organism pair that exhibits one of the different types of symbiosis. What type of symbiosis is exhibited?

Relationship/ Type of Symbiosis	Species "A" BENEFITS 	Species "B" BENEFITS	Species "A" is NEUTRAL	Species "B" is NEUTRAL	Species "A" is HARMED	Species "B" is HARMED
*Mutualism	X	X				
*Commensalism	X			X		
*Parasitism	X					X
Amensalism			X			X
Neutralism			X	X		
Competition					X	X

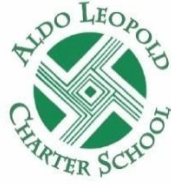
NM Standards covered on **Sonoran Sojourn 9th Grade Fall Trip** (among others)

4-B

6. Analyze the roles played by local, state, tribal and national governments in both public and private sectors of the United States system;
7. Understand the relationship between the United States' governmental policies and international trade;
8. Evaluate economic systems by their ability to achieve broad societal goals (e.g., efficiency, equity, security, employment, stability, economic growth);
9. Explain how businesses (e.g. sole proprietorships, partnerships, corporations, franchises) are organized and financed in the United States economy;

Common Core Standards covered in context of **Sonoran Sojourn 9th Grade Fall trip**:

- Determine the meaning of words and phrases as they are used in a text; including vocabulary describing political, social, or economic aspects of history/social science (RH.9-10.4)
- Write arguments focused on discipline-specific content (WHST.9-10.1)
- Write informative or explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes (WHST.9-10.2)
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience (WHST.9-10.4)
- Draw evidence from informational texts to support analysis, reflection, and research (WHST.9-10.9)



Rubric for ALCS Experiential Education

Methodology relating to Scale: The following areas will be assessed through facilitator evaluation of written artifacts as well as behaviors in the context of experiences. Upper level scores need *not* be flawless. Decimal points will be used to numerically reflect growth during students’ time at ALCS, with respect to the 4 C’s. A score of 8-9 represents a concise picture of what we, as facilitators, expect of graduating seniors at ALCS.

Guidelines for Using this Rubric:

First: Determine whether work is upper or lower level (i.e. above or below five).

Second: Understand that students at various grade levels will be graded according to the following scores (modified by their developmental & grade level).

Third: Remember that 1-2 is always a below-ability grade, no matter the level.

Fourth: Consider that each category is a spectrum between its two levels, the evaluator / facilitator must use discretion to determine the exact score.

Scoring:

Experiential Learning Behaviors and Actions
8-9: Expands upon the experience using a wide range of strategies while cognizant of the responsibilities that come with that freedom. Possesses maturity and an effective command of perspective in analysis of activities and roles.
6-7: Completes the experience using a noticeable strategy that exhibits some awareness of the responsibilities that come with the activity. Demonstrates sufficient self-control and awareness of group dynamics.
5: Understanding of experience is imprecise or simplistic. Task is performed adequately.
3-4: Activity is performed adequately, but full effort is lacking. Weak self-control and organization of thoughts or actions within a group.
2-1: Fails to respond adequately to facilitator or peer requests. Participation in experience is unacceptably brief. Consistent weakness in attempts to act or reflect on basic elements of the experience.
0: No attempt to participate in experience in a constructive manner.

Experiential Learning Journal Responses
8-9: Specific evidence is the basis of proposals and reflection. Evaluates issues and concepts that are not readily apparent and their relevance. Possesses maturity and an effective command of perspective in analysis of activities and roles.
6-7: Specific evidence is the basis of proposals and reflection but does so less fully or effectively than top ranges. Is aware of relevant issues and concepts that are not readily apparent but needs to expand upon them.
5: Understanding of experience is imprecise or simplistic. Reflection addresses learning goal in an overly generalized manner. Attempt at organization may not be fully realized or effective. Creates proposals and reflection but lacks specific evidence that would otherwise provide consistency between steps.
3-4: Understanding of experience is inaccurate or lacking evidentiary support. May confuse or misrepresent the purpose of the experience. Reflections are inconsistent with the learning goal.
2-1: Consistent weakness in attempts to act or reflect on basic elements of the experience. Though some attempt is made to respond to the experience, reflections consist primarily of disjointed ideas or recounting of events.
0: No attempt to reflect on experience in a constructive manner.

