

Sustainability in the Southern High Plains

Identification

Unit Topic: Sustainable Agriculture in the Southern High Plains

Lesson Title: The Texas Tech Research Project

Objectives (The student will be able to...)

- Given a description of the project, describe and map 2 rotational systems of the project using diagrams.
- Given reading materials on the project, list two main funding sources for the project and describe why these sources funded the project
- Compare and contrast conventional and alternative cropping systems, using two pros and two cons of each system given a project description.
- Describe how research systems will be compared to each other, given the discussion of the systems, describe using diagrams.

Teaching Materials and Resources (What do you need to bring?)

- PowerPoint pictures of the site
- Student workbook
- Coloring book page, two copies for each student
- Poster boards
- Markers, colored pictures, crayons
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Teaching Procedures– Preparation, Presentation, Application, Evaluation

Preparation (Interest Approach/Motivator)

Key Points – Give each student two copies of the same coloring book page. – Explain that on one coloring page students may only color using one color. However, on the other coloring page students may use any colors they wish. – Allow 2-3 minutes of coloring for each page. – Which page is better looking? Why?	Methods – Teacher-led class interaction. – Teacher-led discussion.
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<ul style="list-style-type: none"> – Explain that each unique color leaves a different unique quality to the page. – How are differences seen better? Are they seen better compared side by side or seen better when viewed separately? – Today we will discuss... <ul style="list-style-type: none"> The rotation systems of the project Funding sources of the project Pros and cons of each system Comparison of the systems 	<ul style="list-style-type: none"> – Differences are more easily recognized when the pages are compared side by side. – Review objectives.
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Presentation (The Content)

<p>Key Points</p> <ul style="list-style-type: none"> – We will begin by describing the location of the research site. – List funding sources of the project and why they funded the project. – Describe the rotation of the different crops and the livestock into the system. – Description of the components of the research project and why they are needed. <ul style="list-style-type: none"> – Irrigation systems – Fencing – Water – Weather monitoring – Pros and cons of each system. 	<p>Methods</p> <ul style="list-style-type: none"> – Where do you think it is located? Refer to information contained in student workbook. – Begin the PowerPoint about the project. – List major funding sources on chalkboard and begin discussion on why they funded the project. Concern about the environment, political issues. – Continue PowerPoint and refer to student workbook. – Teacher lecture. Refer to student workbook for purposes of each component. – Teacher-led
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	questioning, write pros and cons in two columns on chalkboard.
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Application (What will they do with what you taught?)

<p>Key Points</p> <ul style="list-style-type: none"> – Students will develop their own hypothetical research project of an integrated crop or integrated crop/livestock system. This project should reflect something that could be beneficial to the student’s community. – The students will diagram their proposed systems on poster boards provided and should be prepared to share their design with the rest of the class. 	<p>Methods</p> <ul style="list-style-type: none"> – Instruct the students on a general layout of their project based upon the rotational projects of the Texas Tech project. – Provide poster boards and markers.
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Evaluation (How do you know they learned it?)

<p>Key Points</p> <ul style="list-style-type: none"> – What are the funding sources for the project and why did they fund the project? – What are pros and cons of the conventional and alternative systems? – Have a few students present their posters and go over high points of each poster. Provide feedback to the students on what could be improved on their design as students will continue to work on their posters. – Transition into the next day’s lesson by describing how some crops work well together while others do not. 	<p>Methods</p> <ul style="list-style-type: none"> – Oral questioning. – Student presentation and teacher feedback. – Summary– lead-in for tomorrow.
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