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2012

Best Crop

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Recommended Citation

Schwarz, Bill, "Best Crop" (2012). *Open Educational Resources*. 58.

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Best Crop

Created by: Bill Schwarz

Cedar Rapids Prairie High School, Cedar Rapids School District

Grade Level (Req.): 9th-12th grade	Content Area (Req.): Physical Geography, Technology	Unit (Opt.):
Connections to Other Disciplines (Opt.):		
<ul style="list-style-type: none"> • • • 		
Time Frame (Req.): One week	Goal (Req.): To introduce the many aspects of farming in general, and crops specifically. To realize that there are a wide variety of natural lands on which agriculture takes place in Iowa.	
	Objective (Req.): Students will match the best conditions for a crop to the existing conditions around the state of Iowa.	
Materials Needed (Req.):	New Vocabulary (Opt.):	
<ul style="list-style-type: none"> • Research materials • Computer • LCD projector with PowerPoint • • • • 	<ul style="list-style-type: none"> • • • • • 	
Anticipatory Set/Introduction [Inquiry Question is required] (Req.): How does location influence agriculture in Iowa?		
Instructional Sequence/Procedure (Req.): <ol style="list-style-type: none"> 1. Divide the class into small groups to research and present various crops, and/or the different geographic landform regions of Iowa (use lists that are attached below). 2. Students will research a specific crop and develop a PowerPoint to be shared with their class. Information should include necessary climate, soils, and other physical environment considerations, investments of time (workforce amount and time) and money (seed, poisons, equipment, etc), and technique(s) of farming the crop. Presentation of PowerPoints will take place later in the project. 3. Students will then be divided into groups for each landform region to simulate extension offices that will evaluate and make recommendations as to the best crops to consider growing within that region. This will require a second research mission to evaluate the conditions within the region. Groups will determine climate, soil types, slopes, etc. A guiding worksheet will be used to collect information. 4. Students will then present their crop PowerPoint. Audience members will take notes, paying special attention to characteristics that will match well with conditions in their landform region. 5. Students will then gather into their landform region groups to determine which crops should be recommended as suitable. Recommendations will be documented and shared with the whole class. 6. Students will compare their recommendations to actual practice. 7. Extending the Lesson: Students could investigate why there may be differences between their 		

recommendations and the practices that are actually taking place.

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Formative Evaluation (Req.): Use of class time, checking for understanding.

Assessment (Req.): Students will be evaluated on their crop presentation by PowerPoint. Use a rubric for breadth and depth of information as well as professionalism of the presentation. A guided worksheet will be used to collect landform region characteristics influencing agricultural practices. As region managers, students will answer open ended questions explaining why crops are good or poor choices in their region. Students will answer open ended questions comparing and contrasting their findings with actual practice.

Iowa Core Curriculum Standards Used (Req.):

- Geography, grade 9-12: Understand the use of geographic tools to locate and analyze information about people, places, and environments.
- Geography, grade 9-12: Understand how physical and human characteristics create and define regions.
- Geography, grade 9-12: Understand how physical and human processes shape the Earth's surface and major ecosystems.
- Geography, grade 9-12: Understand how human actions modify the environment and how the environment affects humans.
- Employability Skills (21st Century Skills), grade 9-12: Communicate and work productively with others, incorporating different perspectives and cross-cultural understanding, to increase innovation and the quality of work.
- Employability Skills (21st Century Skills), grade 9-12: Demonstrate leadership skills, integrity, ethical behavior, and social responsibility while collaborating to achieve common goals.
- Employability Skills (21st Century Skills), grade 9-12: Demonstrate productivity and accountability by meeting high expectations.
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Common Core Curriculum Standards Used (Opt.):

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NGS Standards Used (Req.):

- How to Use Maps and Other Geographic Representations, Tools, and Technologies to Acquire, Process, and Report Information From a Spatial Perspective
- How to Analyze the Spatial Organization of People, Places, and Environments on Earth’s Surface
- The Physical and Human Characteristics of Places
- The Physical Processes That Shape the Patterns of Earth’s Surface
- How Human Actions Modify the Physical Environment
- How Physical Systems Affect Human Systems
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Five Themes of Geography Used (Req.):

- Location
- Place
- Region
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School District Standards and Benchmarks (Opt.):

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21st Century Universal Constructs (Opt.): Productivity and Accountability

Other Disciplinary Standards (Opt.):

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Other Essential Information (Opt.):

Other Resources (Opt.):

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Crops

Corn
Soybeans
Sunflowers
Canola
Alfalfa
Cotton
Wheat
Christmas trees
Watermelons
Etc

Iowa Regions

Paleozoic Plateau
Iowan Surface
Des Moines Lobe
Northwest Iowa Plains
Missouri Alluvial Plain
Loess Hills
Southern Iowa Drift Plain
Mississippi Alluvial Plain