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| **CONTENT/UNIT:**  Science and Economics of Farming | **Anchor Standard(s):**  **National Business Education Association Standards:**  Economics:  -Allocation of Resources (1)  -Markets & Prices (4)  -Aggregate Supply & Aggregate Demand (9)  Marketing:  -Consumers & their behavior (2)  -External Factors (3)  **State of Alaska Science Standards:**  The student demonstrates an understanding of the processes of science by:  -[7] SA1.1 asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating\*  The student demonstrates an understanding of the attitudes and approaches to scientific inquiry by:  -[6] SA2.1 identifying and differentiating fact from opinion  The student demonstrates an understanding of the attitudes and approaches to scientific inquiry by:  -[7] SA2.1 identifying and evaluating the sources used to support scientific statements  The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by:  -[6] SA3.1 gathering data to build a knowledge base that contributes to the development of questions about the local environment (e.g., moose browsing, trail usage, river erosion) (L)  The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by:  -[7] SA3.1 designing and conducting a simple investigation about the local environment (L) | |
| **Unit Outline:** 4 Weeks (20 days)  Week 1: What do we already know about Farming? Why are certain crops grown in specific places?  Activities:  -Food Mapping Pre-assessment  -Science Vocabulary Graphic Organizer  -Environmental Resources Discussion  -Climate/Environment  Week 2: Farming Resources  Activities:  -Vocabulary Matching  -Scientific Processes of Growing Plants  -Soil Science  -Photosynthesis  -Mid-unit Assessment (rubric attached)  -Agriculture and Geography of Farming  Week 3: Supply & Demand, Markets  Activities:  -Business Vocab Crossword  -How Are Prices Decided in Our Market System?  -Coffee Model  -Description of Markets Based on Geography  -Small Group Presentations  Week 4: Transportation of Final Product  Activities:  -How Food Moves  -Hypothetical Farming Model Presentations | | |
| **Big Idea Questions:**  -What specific concerns do farmers have to address on a daily basis?  -How does climate play a role in farming?  -What are the scientific processes involved with growing crops?  -What business knowledge is needed to have to be successful?  **Unit Learning goals:**  Students will be able to…  - describe where their food comes from and what goes into the production of that food.  - gather environmental data to build a knowledge base that contributes to the development of questions about where their food originates.  -describe the laws of supply and demand as they relate to farming and the competitive market of food and groceries.  -demonstrate an understanding of the scientific process by identifying and differentiating fact from opinion by asking questions, observing, and classifying information about the science and economics of farming.  -describe the resource costs of farming and what goes into a farm in order to produce the crops.  -identify the environmental resources required for crop production and the process of crop growth (describe photosynthesis).  -identify the environmental differences in geographical climates and the crops each area produces (given a particular crop, describe where you would grow that crop and why).  -obtain a general knowledge of the processes involved in the food that they commonly eat.  **Learning Objectives:**  -An understanding of specific daily concerns of farm production.  -An understanding of how climate and environment affects farming production.  -Knowledge of the scientific processes involved in farming production.  -Knowledge of the business practices involved in farming production. | |  |
| **ESSENTIAL SKILLS/CONCEPTS:**  -Photosynthesis  -Climates/Environment  -Soil Science  -Supply & Demand  -Markets & Prices  -Transportation of Food  -Farming Resources | **Academic Vocabulary:**  -Production  -Processing  -Distribution  -Marketing  -Markets  -Demand  -Resources  -Chlorophyll  -Glucose  -Oxygen  -Carbon Dioxide  -Cellular Respiration  -Nutrients  -Composition  -Aeration  -Minerals  -Climate  -Fertility  -Erosion |  |
| **Scale/Rubric**:  See attached | | |  |
| **Anchor Text(s)/Additional Instructional Resources:**  <http://www.pbs.org/frontlineworld/educators/economics.html>  <http://www.pbs.org/frontlineworld/stories/guatemala.mexico/coffee1.html>  <http://www.sciencedirect.com/science/journal/01695150>  <https://www.ffa.org/FFAResources/ffalearn/midschoolfoodandagr/Pages/default.aspx>  <https://agclassroom.org/directory/topic_search_results.cfm?advSubmitted=yes&gAll=on&acAll=on&agAll=on&Media=8&scope=1&MySubmit>.  <x=39&MySubmit.y=16>  <http://my.ilstu.edu/~jabraun/socialstudies/assess/geo/samples/sam-5-05.html> | | |
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