Teacher(s): Jane Martinez
Grade(s): 9-12
Subject(s): Human Geography
Title of Lesson: Agriculture and Its Environmental Impact

Learning Objectives:
- The students will learn about where their water comes from.
- The students will learn how fertilizer is made for the many crops that we grow.
- The students will understand how human interaction can affect the environment around them.
- The students will develop and advocate a plan to confront the environmental issues in our area.

Standards Addressed:
LAFS.910.W.3 Research to build and present knowledge
LAFS.910.W.4 Range of Writing
SC.912.L.17.16 Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SS.912.G.5. Understand how human action can impact the environment

Resources and Materials (supplies needed for activities):
Internet access
poster paper

Lesson Outline:
1. Where does our water come from?
2. What is fertilizer really made of?
3. Field Experience to Strawberry Farm, FL AG department, and Cirlce B Preserve (water quality).
4. Review kinds of farms: shifting cultivation, pastoral nomadism, crop farming (corn, wheat, rice, etc), animal farms (cattle, dairy, poultry, etc.) and aquaculture
5. Group students into five groups. Each group will need: a note taker (someone with great handwriting), leader, time keeper, and presenter. The note taker will summarize the researchers' findings and write them on poster paper. The leader is to keep everyone on task. The timekeeper is to make sure the group completes the assignment on time. The presenter presents the group's finding to the class.
   A. Assign each group a kind of farm.
   B. Inform the students that they need to research: at least two, environmental impacts/problems with the kind of agriculture that was assigned to them and explain how the farm causes these problems, what action is being taken to halt this environmental impact/problem, and how does this relate to the United Nations Sustainability Goals and explain.
   C. After a certain amount of time the students present their finding to the class.
6. Discuss the kinds of farms in our area. What could we do to inform our community, the farmers, local and state politicians of the damage that these types of farms are having on our land and water. Follow through with one of their ideas. (United Nations Sustainability Goals website has some great ideas if the kids need some help.)
7. Field Experience to Mosiac Coastal Education Center

Systems thinking connection (learning habits and/or tools used):
English, Life Science, and Geography
Learning Strategies:

Science Concept(s):

Humanities Concept(s):

Student Assessment Strategies:

Benefit to my students: