

Title of Lesson: Creating Change- High School Biology

B-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on biodiversity and ecosystem health.

Explore:

Students will view What's wild: Coastal Birds to learn how the Crab Bank Project in Mount Pleasant, South Carolina changed the world for our coastal birds.

After viewing the video, students can view this link

<https://www.coastalconservationleague.org/projects/crab-bank-restoration/> to learn more about the crab bank project and it's recent efforts to continue to conserve coastal birds.

Engage:

Students will research how human activities have negatively impacted the environment and biodiversity in South Carolina.

They will choose an issue that they can feasibly design a solution to using scientific knowledge.

Learning Intentions:

I can research effectively to determine a human activity in South Carolina that has impacted the environment and biodiversity in South Carolina.

I can design a solution for reducing the impact of human activity on biodiversity and ecosystem health.

I can evaluate my proposed solution for reducing the impact of human activity on biodiversity and ecosystem health.

I can refine my proposed solution for reducing the impact of human activity on biodiversity and ecosystem health.

Success Criteria;

I will know I am successful when:

-Design, evaluate and refine a solution for reducing the impact of human activities on biodiversity and ecosystem health.

Project Checklist

_____ 1. Choose human activity that has negatively impacted the environment and biodiversity in South Carolina (ex: overpopulation, overexploitation, habitat destruction, pollution, invasive species, climate change).

_____ 2. Propose a solution that will decrease the negative effects of human activities on the environment and biodiversity.

Include in solution the following:

_____ a. amount of reduction of impacts and/or human activities to be mitigated

_____ b. design constraints and tradeoffs to include:

1. availability and cost of materials

2. environmental impact

3. human needs

4. safety

5. time (construction, function, etc)

_____ 3. Evaluate proposed solution for the following:

_____ a. cost

_____ b. impact on overall environmental stability and changes

_____ c. reliability

_____ d. safety

_____ e. social, cultural, and environmental impacts

_____ 4. Refine proposed solution by prioritizing criteria and making tradeoffs to further reduce the environmental impact and loss of biodiversity while addressing human needs.

Proposed Solution can be presented in a method of student's choosing as long as the teacher approves the format chosen beforehand and it meets the district's technology requirements.