PBLworks

PROJECT DESIGN OVERVIEW

Name of Project: Save Our Oceans		Duration: 1 month
Subject/Course: Science NGSS	Teacher(s): Star Treff/Yvonne Carrion	Grade Level: 4/6

Other subject areas to be included, if any: Reading

Key Knowledge and Understanding (CCSS or other standards)	**4th Grade Standards:** **4-LS1-1.** Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. **4-LS1-2.** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. **4-ESS2-2.** Analyze and interpret data from maps to describe patterns of Earth's features. **4-ESS3-2.** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.* **3-5-ETS1-3.** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. **6th Grade Standards:** **MS-LS1-5.** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. **MS-ESS2-6.** Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. **MS-ESS3-3.** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.* **MS-ETS1-1.** Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

Success Skills (to be taught and assessed)	Critical Thinking/Problem Solving	X	Self-Management	
	Collaboration	X	Other:	

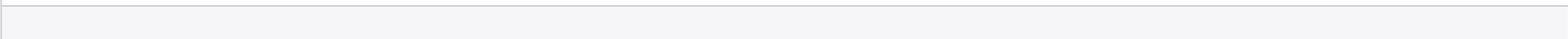| Project Summary (include student role, issue, problem or challenge, action taken, and purpose/ beneficiary)	Students will take an everyday item that is normally thrown away and repurpose it to benefit the Earth thereby cutting down on pollution.	
Driving Question	How can we as oceanographers solve the impact of the amount of trash in our oceans?	
Entry Event	Trash in classroom, Grid picture clues on Instagram, Dave as Mr. Eco (Mr. Eco music in background) Domino activity to link to the food chain	
Products	Individual: Presentation Products Elevation Shoebox	Specific content and competencies to be assessed: The students will be able to visually see the ocean floor descending and explain each zone
	Team: Constructed Products .Device to clean up plastics Food Chain sort	Specific content and competencies to be assessed: Students will design and engineer a device to clean up the ocean's plastics The students will be able to classify which animals eat which other animals and justify their decision. They will be able to visually see/explain if a top predator is taken out, what will happen to the chain.

PROJECT DESIGN: OVERVIEW

Making Products Public (include how the products will be made public and who students will engage with during/at end of project)	We will make the products public by using Flipgrid to show our High School Pathway buddies.
Resources Needed	On-site people, facilities:We will be using the learning commons for construction. We will need our TOA to reveal our STEAM Theme.
	Equipment: Plastic bin to hold water
	Materials: plastic bags, shoeboxes, k-cup pods, jars, water bottles, paper towel/toilet paper rolls, hot glue sticks, cardboard, food chain cards (printshop), poster paper
	Community Resources: Skype a Scientist, Longshoreman,

Reflection Methods (how individual, team, and/or whole class will reflect during/at end of project)	Journal/Learning Log	X	Focus Group	
	Whole-Class Discussion	X	Fishbowl Discussion	
	Survey		Other:	

Notes:

PBLworks

PROJECT DESIGN: STUDENT LEARNING GUIDE

Project: Save Our Oceans

Driving Question: How can we as oceanographers solve the impact of the amount of trash in our oceans?

Final Product(s)	Learning Outcomes/Targets	Checkpoints/Formative Assessments	Instructional Strategies for All Learners
Presentations, Performances, Products and/or Services	Knowledge, understanding & success skills needed by students to successfully complete products	to check for learning and ensure students are on track	provided by teacher, other staff, experts; includes scaffolds, materials, lessons aligned to learning outcomes and formative assessments
(Individual)	MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.		
(Team)			