

Save Our Ocean

NGSS: K-2 Engineering Design

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Problem: You are an ocean engineer and have noticed there is A LOT of trash and plastic in the ocean. It is affecting sea life all over! Turtles, dolphins, reefs, and fish are mistaking this trash for food! What can we do to help?



It is your job to save these sea creatures by creating a machine that can scoop up plastic and other harmful items that people have left behind in the ocean. This machine must be able to work above and below water, be powered by remote control or humans, and be able to pick up trash safely so no animal gets stuck or hurt. Make sure to have labels for at least 3 parts of your invention. What will your machine look like?

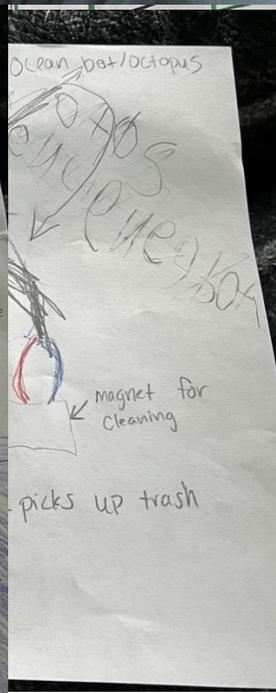
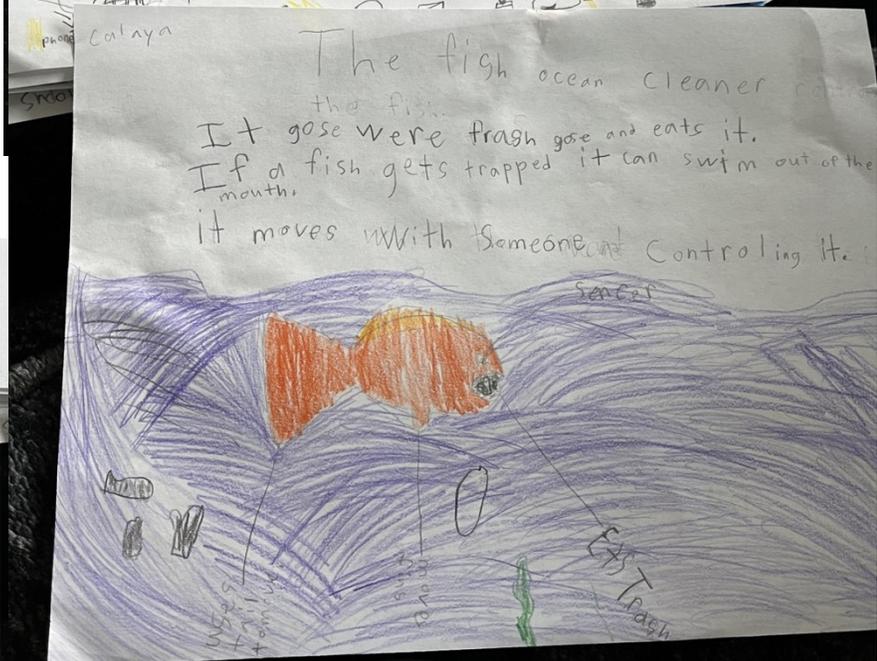
*Take your time on this, you have 30-45 minutes to develop your vehicle. If you need more time, I am happy to give it to you.

*You may use Google Images to help with finding ideas of what kind of vehicle you want to invent. It can be a combo of multiple, but you CANNOT steal another engineer's idea!

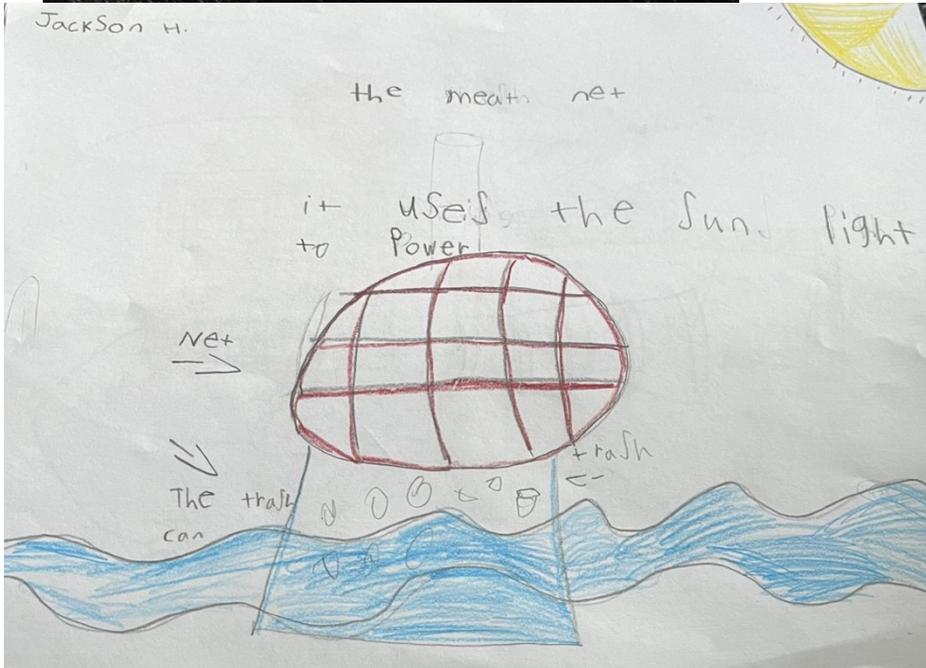
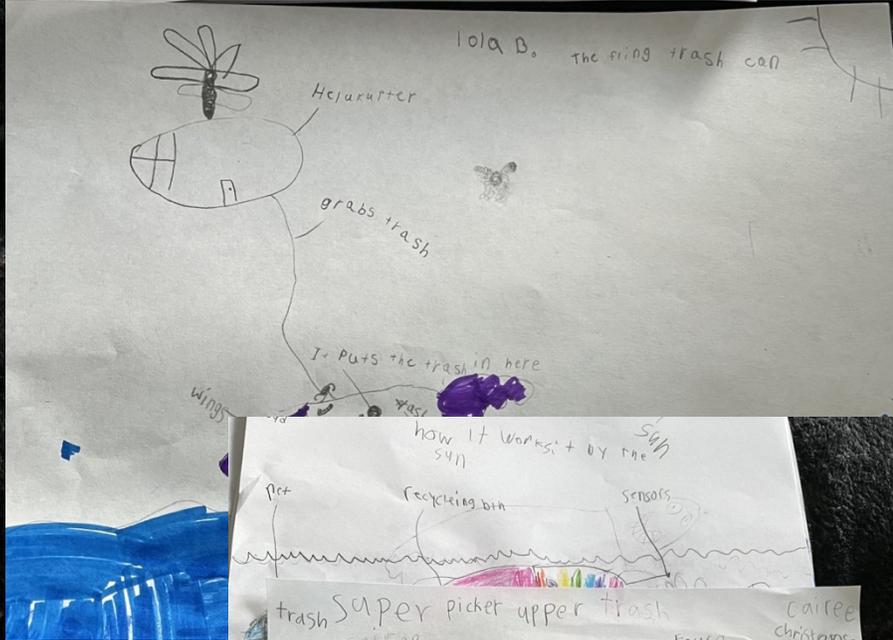
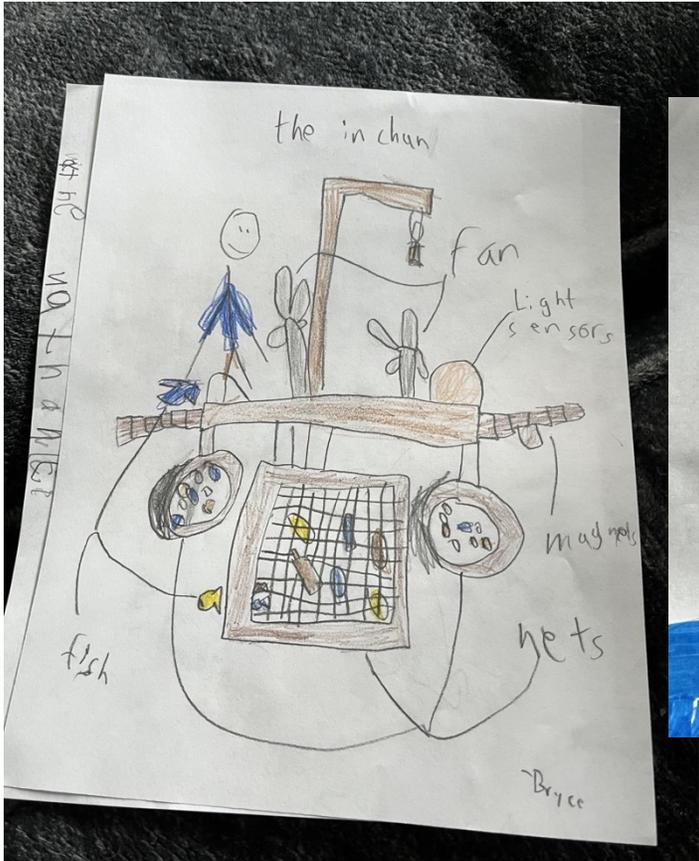
Materials

- Pencil
- Sheet of Paper
- Markers or Colored Pencils
- Engineering Brain!

Photos of some of my students'
designs



for power and new stan



Cleanup inventions.

This piqued their interest and seeing their passion and excitement was very cool. It was fascinating watching their young engineering brains at work when they were creating their “blueprint” for their inventions. Many of my students created a machine that mirrored the shape of a fish or octopus and that was very interesting. It seemed like my students really enjoyed this activity! They also learned so much about how we, as humans, drastically impact ocean ecosystems and wildlife. We didn’t have enough time during the forty-five minutes we had this morning, but I made sure they were able to work on their blueprints during snack and as a can-do. Overall, I enjoyed teaching this lesson and this was one of the most engaging activities my students have worked on this year. We do not have a lot science resources and this makes teaching very challenging. I am quite fortunate to be a part of this class where resources are available to help add to my teaching toolbelt. This is an activity I will be giving my students every year from here on out!