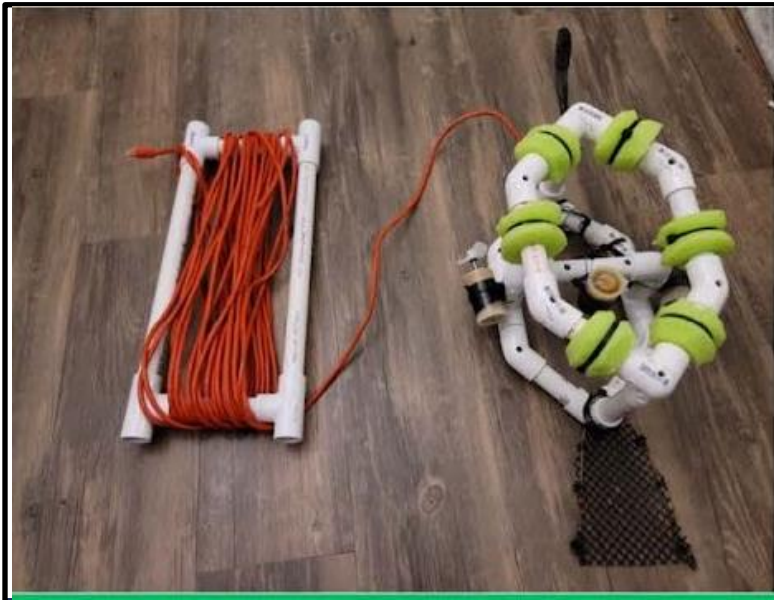


SHS Tiger Sharks (ROV Name – SHS Tartarus)

Saint Helena School, Blue Bell, PA USA



MIDDLE SCHOOL – CAPTAIN'S CLASS

- 3 Years participating in SeaPerch
- 2 Times at the International SeaPerch Challenge

Our SeaPerch is unique because: (100 words MAX)

Our SeaPerch is unique because of its double diamond design that allows it to slice through the water both forward and backward. The name Tartarus comes from Greek Mythology which refers to a place below the underworld similar to hydrothermal vents. The diamond design went through multiple iterations before the final design. The pool floats are unique as well since they are cut to make them hydrodynamic as well. The front of the ROV has a small surface area and is small so it flies through the water.

SeaPerch Design Overview: (100 words MAX)

The team learned from past years to identify critical design elements and trade spaces to continuously improve the ROV. The team kept the two-level design and used a metal hanger for the attachment. The unique design of two pointed ends greatly improved the reverse speed. The team also noticed an improvement in the forward speed due to better hydrodynamics. The team used a stretched diamond design enabling SHS Tartarus to move fast and have quick, efficient turns. Lastly, we took the mesh included in the kit and folded it into a basket to carry items needed for the missions.

Our biggest takeaway this season is: (100 words MAX)

We used many Engineering Design Process iterations to continually improve the ROV design. It is important to recognize that any failure just shows you places for improvement. As a team you need to listen to each team member and their ideas. Bouncing ideas off each other led the team to the best design. Testing was a very important part of the process. It was great to see test results and certain outcomes that surprised the team. These results led us down the path to the best design.