

Team Tortuga

Kickapoo High School - Viola, WI



HS - Stock

1 Years participating in SeaPerch

NA Times at the International SeaPerch

Challenge

Our SeaPerch is unique because: (100 words MAX)

- **Motor housings:** Our custom 3D printed motor housings securely attach our motors to the frame to decrease drag from water resistance
- **Moveable hook:** Our hook is secured in place with wire so it doesn't move when it hits objects, but it can be turned up into the frame via the pvc so it's out of the way for the obstacle course.
- **Left and right color coding:** The left and right side of the ROV are denoted by the red and yellow pool noodles to aid in orienting the ROV, similar to how an aircraft has a red and green light

SeaPerch Design Overview: (100 words MAX)

We drafted and tested multiple (5) frame designs to ensure selection of a frame with greatest maneuverability and stability while maintaining minimal size and drag.

We drafted a variety of hook designs with different materials and shapes including wire, 3D print filament, and acrylic. Testing for the optimal material and shape resulted in optimal visibility, maneuverability, and ease of hooking and unhooking objects.

Our motors being winged out, and changeable to different angles allows ideal rotational control while keeping the frame small

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

- You get out what you put in: We refused to settle for a design that we thought had room for improvement, even though it required significantly more time and work. In class, we had limited time set aside for working on our ROV, so we chose to put in extra time before and after school (and even a few weekends!) to guarantee we had enough time to evaluate our trials and make innovations.
- Above all, effective communication, teamwork, and dedication made this an incredible learning experience—success was the cherry on top!