

****Northern Virginia’s Regional SeaPerch Challenge****

****Innovative Design Challenge****

The Innovative Design Challenge is awarded to teams that demonstrate creativity, imagination, and resourcefulness in their ROV design. Teams are encouraged to think of creative design concepts that can improve the performance of their ROV (remotely operated vehicle) in a particular game or in all games. There are few restrictions on your thought, so think outside of the box.

Each team may spend up to $20.00 to purchase any upgrades that meet their design. All purchases must have a receipt, and the receipt must be in a section of the team’s SeaPerch Engineering Notebook labeled “Upgrades to ROV.” A teacher can produce a receipt if the part was in the school supply \*\*. 3D printed parts fall under the $20.00 umbrella and are to be charged at a cost of $.05.

All teams must follow the rules documented in the SeaPerch ROV Rules document.  Some of those rules that relate directly to Innovative Design are repeated below. Teams may:

1. Change the shape of the ROV
2. Change the configuration of the ROV
3. Be able to reconfigure, attachments, and components depending on the game, but not remove them.
4. Use only materials that are not easily breakable
5. Use the design, materials, or assembly methods of thrusters provided with the kit

Teams ROV’s must:

1. ONLY use one 4-pair tether (Ethernet) cable
2. Each pair of wires on the tether may power ONLY one motor or other electronic device
3. Be able to fit through an 18-inch diameter hoop
4. Follow the SeaPerch ROV Rules

***Innovative Design Award Presentation Method Requirements***

Teams will present their modifications to the SeaPerch design via a tri-fold presentation display and informal interview with a panel of judges. Judges may come to the pit area to interview the teams or they may be asked into a judging room setup.

Teams shall be prepared to discuss the initial hypotheses and solutions that led them to their final design. At the conclusion of the interview, judges should have a clear understanding of how students implemented their basic knowledge of design concepts, fluids and propulsion.It is also encouraged that preliminary sketches be included on the TriFold display to show the progressive steps of the team’s design process; hand drawn and/or CAD drawings, and photographs are all acceptable.

The TriFold display board will measure 24”x36”.  Format on the display is left to the discretion of the team.
\*\* Teachers, please note, you must have a price list and a receipt form that can be completed for each extra part supplied to any team.

Teams are required to create a ***free-standing display board***, that is ***not to exceed 24” X 36”. Orientation of the poster is at the team’s discretion***:

**Posters that exceed this dimension will not be eligible for judging,**