

2020 SeaPerch Presentation Guide

Each team will make a maximum 10-minute presentation to a panel of judges on the day of the competition. The team should present as though they are the sales team of the company that designed and built their sea perch. The U. S. Navy (panel of judges) has a mission to find the hidden mines buried under the sea floor and they are screening possible companies to determine which sea perch model would be right for them. It is the sales teams' responsibility to prove to the clients that their product is the best.

The formal presentation will be followed by an informal 5-minute question, answer, and discussion period. At this time, teams that modified the original Sea Perch design should discuss their modifications. They should discuss the experiments they conducted during their design phase and what modifications came from them. At the conclusion of the question, answer, and discussion period, judges should have a clear understanding of how students implemented their basic knowledge of fluids and propulsion.

<u>Prior to Presentation (High School Only)</u>	Points Possible
Brochure <ul style="list-style-type: none"> <input type="checkbox"/> A concise and clearly developed brochure that includes the following <ul style="list-style-type: none"> • Mission/Vision Statement of the company • Overview of types of engineers involved in process • Organizational Chart 	6
<u>Company Information</u>	
<input type="checkbox"/> Articulated company name, size and demographics	3
<input type="checkbox"/> Mission/Vision statement and purpose that includes naval engineering focus	3
<input type="checkbox"/> Organization/structure of company explained	3
<u>Recruiting</u>	
<input type="checkbox"/> Explained how company recruited members <ul style="list-style-type: none"> • Word of mouth, newspaper, website, flyer, poster, etc. 	4
<u>Budget Management</u>	
<input type="checkbox"/> Identified and itemized the additions to the Sea Perch	3
<input type="checkbox"/> Explained trade-offs for various additions	3
<u>Design and Manufacturing Process/Engineering Process</u>	
<input type="checkbox"/> Identified the steps taken by the company to achieve the design changes/alternatives <ul style="list-style-type: none"> • Brainstorming, Testing, Research, Subtask 	6
<input type="checkbox"/> Design research evident in certain areas <ul style="list-style-type: none"> • Propeller design, control box, considerations/human factors, aerodynamics, hydraulics, other 	4
<input type="checkbox"/> Identified technical calculations or testing they took to achieve design priorities <ul style="list-style-type: none"> • Identify naval engineering design considerations • Buoyancy calculations • Material properties evaluations/scientific material selection • Thrust/Power calculations and or testing • Electrical calculations (power/voltage/amperage requirements) 	5
<ul style="list-style-type: none"> • Practicing and testing was well planned and integrated lessons learned 	4
<input type="checkbox"/> Lessons learned from testing were present and specific	3

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<u>Use of Available Computer Technology</u>	
<input type="checkbox"/> Presenters described how they used or would use organizational concepts) CAD/other, Visualization (PowerPoint Rendering)	10
<ul style="list-style-type: none"> • Presenters demonstrated a focus on naval engineering and presented professionally 	3
<u>Presentation Professionalism</u>	
<input type="checkbox"/> Presenters concluded within one minute of the eight minute requirement	3
<input type="checkbox"/> Presenters had at least 2 presenters and less than 9 (including coach)	3
<input type="checkbox"/> Use of multimedia was effective and creative	4
<input type="checkbox"/> Use of creative (song, rap, video, pictures etc.) presentation techniques	4

<u>Innovative Design Interview Q and A (10 minutes max)</u> (Ask questions to clarify information in the presentation and any of the following topics that were not mentioned)	
<input type="checkbox"/> Hull Design <ul style="list-style-type: none"> • Arrangement/ Configuration: streamlining, balancing, ballasting etc. • Team justifies choice of materials: PVC, expanding foam, etc. 	6
<input type="checkbox"/> Controller Design/Human-System Interface <ul style="list-style-type: none"> • Switch type, switch layout, controller selection etc. 	3
<input type="checkbox"/> Design for Maneuvering <ul style="list-style-type: none"> • Propulsion efficiency, props, ducting, thruster location, pylons, rudders, canards, vectored thrust, etc. 	5
<input type="checkbox"/> Design for Object Retrieval/Camera Mounting <ul style="list-style-type: none"> • Modularity, hook location effectiveness, etc. 	6
<input type="checkbox"/> Interview skills <ul style="list-style-type: none"> • Adequately addresses judges' questions, knowledgeable about the design • What did the team learn about Naval Engineering? 	6
<u>Total</u>	
	100

