

## Intro to Underwater Robotics

**Grade Level:** 4 - 12

**Duration:** 90-minute session

**Available:** March – June

**Gallery Connection:** USS Shark, Shipwrecks

### 4<sup>th</sup> – 5<sup>th</sup>

Students will be introduced to the fundamentals of underwater ROV (Remotely-Operated Vehicle) design through the lens of a real-life recovery mission. Students will work in teams to build an ROV and attempt to recover the seven missing cannons from the *USS Shark*. Students will discuss basics of Oregon and Washington in 1846 and discuss modern laws on shipwreck recovery.

Oregon (Social Science // Science // ELA)

4.18, 4.20, 4.22 // 4.ETS1.1, 4.ETS1.2, 4.ETS1.3 // 4.W.4, 4.W.7

5.24, 5.27 // 5.ETS1.1, 5.ETS1.2, 5.ETS1.3 // 5.W.4, 5.W.7

Washington (Social Studies // Next Gen. Science // ELA)

C1.4.3, H4.4.4 // 4-ESS2-2 // SL1.b, SL1.c

SSS1.5.3, C1.5.3 // 5-PS1-3, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3 // SL1.b, SL1.c

### 6<sup>th</sup> – 12<sup>th</sup>

Students will collaborate to design an underwater ROV (remotely operated vehicle) in attempts to recover the seven missing cannons from the *USS Shark*. Students will analyze charts to see where the known wreck and debris are located as well as debate where currents may take other materials. Students will discuss modern laws on salvage recovery.

Oregon (Social Science // Science // ELA)

6.13, 6.25 // MS.ETS1.1, MS.ETS1.2, MS.ETS1.3, MS.ETS1.4 // none

7.13 // MS.ETS1.1, MS.ETS1.2, MS.ETS1.3, MS.ETS1.4 // none

8.19, 8.36 // MS.ETS1.1, MS.ETS1.2, MS.ETS1.3, MS.ETS1.4 // none

HS.40, HS.73 // HS.ETS1.2, HS.ETS1.3, HS.ETS1.4 // none

Washington (Social Studies // Next Gen. Science // ELA)

SSS1.6-8.2, G1.6-8.1, G2.6-8.4 // MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4 // SL1.b,

SL1.c, SL1.d, WHST 7

G2.11-12.5, H1.9-10.2, H1.11-12.1, H2.9-10.1, H2.11-12.5 // HS-ETS1-1, HS-ETS1-2, HS-ETS1-3,

HS-ETS1-4 // SL1.b, SL1.c, SL1.d, RH 7, WHST