Remotely Operated Vehicles (ROV)

Researchers look on as the ROV sends images from the ocean floor. Courtesy NOAA

Grade Level

6th to 12th grades

Timeframe

Suggested time for curriculum is three 45-min blocks, but can be expanded or shortened as needed

Materials

Materials for each activity are simple and inexpensive.

Local teachers may borrow kits for the design and construction of the ROVs. A small pool is also available for loan. If schools want to create their own kits, step-by-step instructions are provided.

Workshops

To learn more about building ROVs with your students, contact

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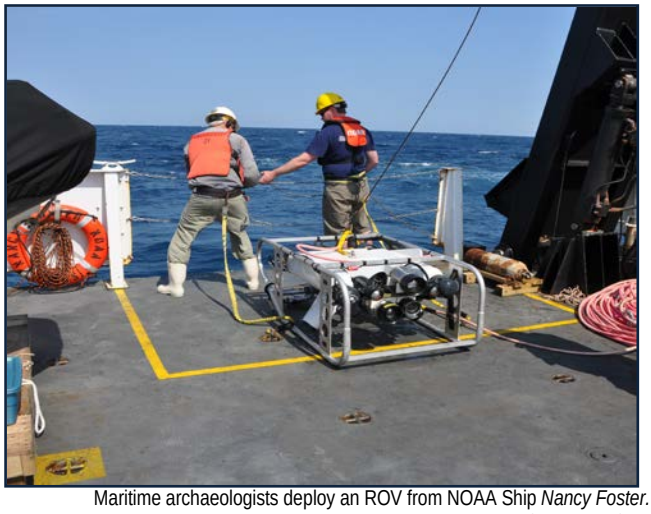

Maritime archaeologists deploy an ROV from NOAA Ship *Nancy Foster.* Courtesy NOAA

Curriculum Summary

This curriculum introduces students to remotely operated vehicles (ROV) and careers in marine science and underwater archaeology. Through a variety of hands-on activities, using problem-based learning, students learn the science behind an ROV. They also work to solve real world problems, while learning about the engineering design process. Students design, build, and test an ROV, as they ready for competition. The curriculum can be used in its entirety or activities can be used independently as appropriate for individual teaching objectives.

Learning Objectives

Students will:

- Learn the science principles necessary to construct an ROV, such as Newton's Laws of Motion, buoyancy, and properties of air;
- Understand the engineering design process and that it is reiterative;
- Design and build an ROV for competition;
- Describe how ROVs are used in the marine science and underwater archaeology; and
- Compare the technology of an ROV to other technologies
- Learn more about our nation's National Marine Sanctuary System