

Grades: 4-5

SciGirls, "Aquabots"

This series showcases bright, curious real girls putting science and engineering to work as they answer questions and make unexpected discoveries in the world around them. In this episode Akina and friends dive into underwater robotics at the U.S. Naval Academy, building a "Sea Perch" ROV to investigate artificial oyster reefs in the Chesapeake Bay.

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- What evidence does the TV show director give to support his or her central idea?
- What is this program "saying"? Cite evidence to support your analysis.
- Which details support the key idea? Look for the who? What? When? Where? Why? How much? How many?
- What is the central message in this program? Explain?
- What are the program's supporting claims that support the central message?
- How does the decrease in oysters affect the water in the Chesapeake Bay?
- What is biodiversity?
- What is an ROV?
- What is neutral buoyancy? Why was it important for the SciGirls project?
- How did the SciGirls mark where they dropped their bags in the bay?
- What did the SciGirls learn about the oyster reefs in Chesapeake Bay?
- How did the girls compare the data that they collected?

Question Box 2

- What did you enjoy about this program?
- What parts of it do you particularly like? Dislike? Why?
- If someone else were looking at this program, what might they learn?
- What is one thing you would like to add to this topic?
- What would you change about this program?
- Why do you think the girls brainstormed and drew a picture before they began building their Sea Perch?
- Were the SciGirls successful right away? Did they persevere through the challenges?

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Box 3 (Tasks)

- Describe a “Sea Perch” ROV so others in your class can understand.
- Research and describe other types of underwater robots.
- Describe the experiment the SciGirls performed, beginning with the question they wanted to answer.
- What type of data did they collect to answer their question?
- Describe the tools that the SciGirls used to build their Sea Perch. How did having the correct tools help them with their project?

Box 4 (Enrichment)

- Describe the engineering that took place in order to build the artificial oyster reef.
- Describe how the SciGirls used science to investigate the artificial reef.
- Learn more about oyster conservation [here!](#)

Box 5 (Extend/Real-Life)

- Research and describe other types of artificial reefs and their current uses.
- Research where oysters grow off the coast of California.
- What is being done to conserve the oyster population on the west coast? Visit the websites below to find out more:
<https://wildlife.ca.gov/Conservation/Laboratories/Shellfish-Health/Restoration>
- <https://www.fisheries.noaa.gov/feature-story/forum-fosters-native-southern-california-oyster-restoration>
- <https://www.coastkeeper.org/restoration/olympia-oyster/>