Aquaculture in Action

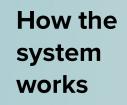
30 years of project-based learning in the classroom Aquaculture education benefits students and teachers:

In 1996, Maryland Sea Grant and University of Maryland Extension developed the Aquaculture in Action program for K-12 science teachers. This program, originally developed with Carroll County Public Schools, has been implemented in 35 schools across Maryland.

Students are encouraged to develop their own research topics to study, from water quality to food supply to fish disease. **Through** project-based learning, teachers and students are connected with university research, applied environmental science, technology tools, and high-quality teacher professional development.

3 Environmental literacy

Students gain deep understanding of the ecological and environmental systems at play in aquaculture



Round, opaque tank provides calm environment for natural schooling of fish in one direction

Biological filter

provides area for growth of denitrifying bacteria to break down toxic waste (ammonia and nitrite) produced by aquatic organisms

External water pump links sump to biological filter

Water flows from tank to sump, which collects sediment and particulate matter to maintain water quality of the system

4 Teamwork

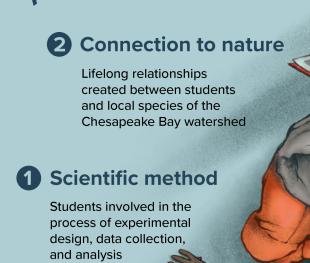
Students encouraged to work as teams to design and complete projects, offering ownership and a feel for the modern workplace

5 Hands-on education

Projects promote hands-on applications of physics (water flow dynamics), chemistry (water quality monitoring), biology (fish and plant culture), and engineering (system design)



For more information, please visit: www.mdsg.umd.edu



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