

Unit Guide

The Agriculture of Aquaponics: A STEM Unit

Stephanie Matson

During this curriculum unit students will explore the science, technology, engineering and mathematics behind aquaculture, or the farming of fish. The science of aquaponics is an in-depth study that will require many weeks of investigation, however, certain portions of the science of aquaponics can be extracted and taught independently. This curriculum unit highlights 5 activities that are a part of the larger unit that will be taught. The goals of this unit are (1) students will understand the environmental impacts of overfishing and the economic promises that commercial fish farming presents; (2) students will be able to create mini-aquaculture units in the classroom and then apply these skills to create large-scale outdoor systems; and lastly (3) students will be able to explain the ethical, legal and health differences between farm raised fish and wild caught fish. These lessons are designed for students to work in collaborative groups, while relying slightly on direct instruction. Students will discover many of the “aha” moments within their collaborative groups and not through direct instruction.