

## **Aquaponics in Trumansburg Middle School**

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Interacting and working with plants and animals can be a useful educational tool to increase the learning capacity of grade school children. Extensive research has shown that kids, and especially those who struggle with disabilities, benefit from visual and hands-on active learning. Aquaponics is a self-sustaining agricultural system that incorporates the interaction between plants and animals. Aquaponics is an ideal pedagogical tool for special needs grade school children because, in order to be successful, it requires a group effort of daily maintenance, observation of fish and plant health, which leads to an understanding of biological requirements, for instance. As an additional bonus, aquaponics systems have the ability to grow food, which then can be used in cooking projects.

This paper describes the incorporation of an aquaponic system installed in a special needs classroom of Trumansburg Middle School. I will present examples of weekly lesson plans focused on developing knowledge including, but not limited to: the nitrogen cycle, plant and animal health, and why such a system brings light to our agricultural future.

Aquaponics should be implemented in all schools across the United States to help aid in higher education because it offers educators a great tool to achieve higher learning outcomes among students. More specifically, aquaponics can be a useful tool for special needs kids because it connects them to nature and it does so in a kinesthetic, visual, and auditory way. This is important because a system like aquaponics gives these children the ability to understand a system that will set them up so that they have the skills and knowledge to be able to create their own system at home, grow their own food, and also harvest their own fish as a future meal.

