

School Garden Webinar Series:

Success Stories with Joseph City Jr/ High School

Webinar Series

April 21, 2021, 3:30pm

Professional Standards Learning Code: 1230



Arizona Department of Education (ADE)

This training was sponsored by the Arizona Department of Education (ADE) Health and Nutrition Services Division (HNS).

Intended Audience

This training is intended for **School Food Authorities (SFAs)** operating the **National School Lunch Program (NSLP)** and the school garden leaders and teachers that support them.

Professional Standards

Information to include when documenting this training for Professional Standards:

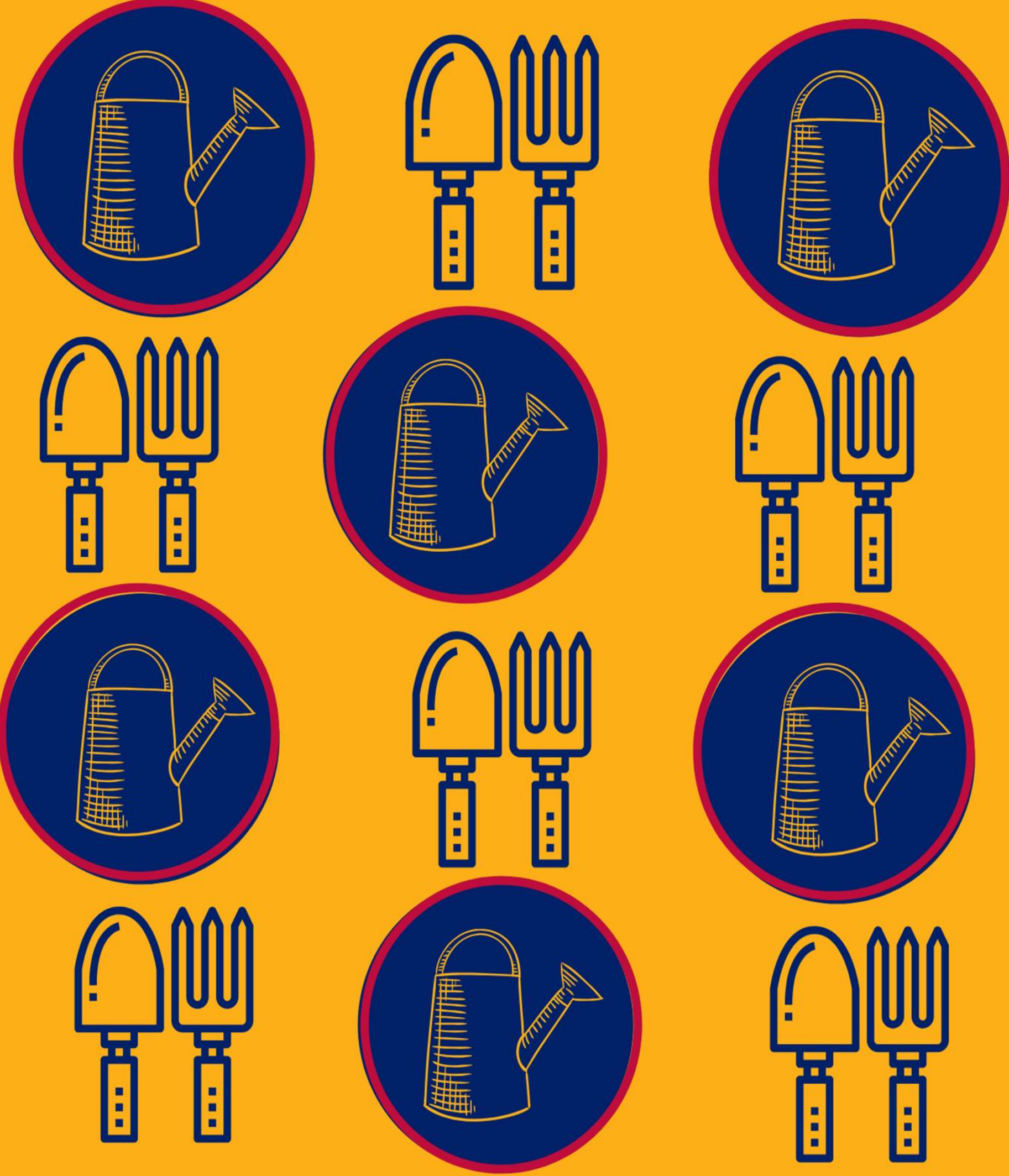
Training Title: School Garden Webinar Series - Success Stories with Joseph City Jr/High School

Key Area: 1000- Nutrition

Learning Codes: 1230

Length: 1 hour





40%

In February 2020 past attendees of the 2019 Arizona School Garden Sustainability series, responded wanting to learn more about success stories from school garden programs in Arizona.



Eric Miller

Principal

Joseph City Jr/Sr High School

Thank you for joining me today!

Bio:

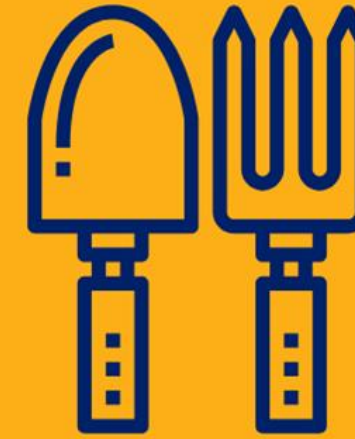
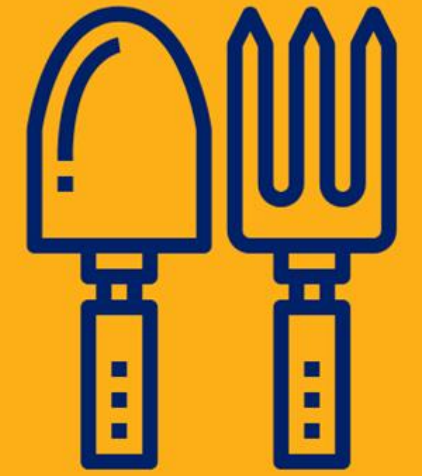
- ✓ Bachelor of Science in Spanish Education from NAU
- ✓ Master of Education in Educational Technology Leadership from Lamar University
- 14 Years at Joseph City Jr/Sr High School
- 5 Years as Athletic/Activities Director
- 3 Years as Assistant Principal
- 4 Years as Principal

Overview

Joseph City USD Program

- 2018 ADE School Garden Grantee (pilot)
- USDA NRCS Grant (expansion)
- Garden to Cafe

Q&A



Joseph City Jr/Sr High School Greenhouse



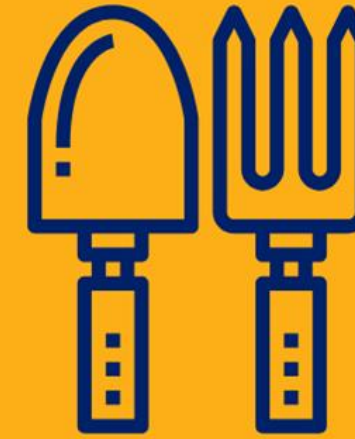


Presentation Overview

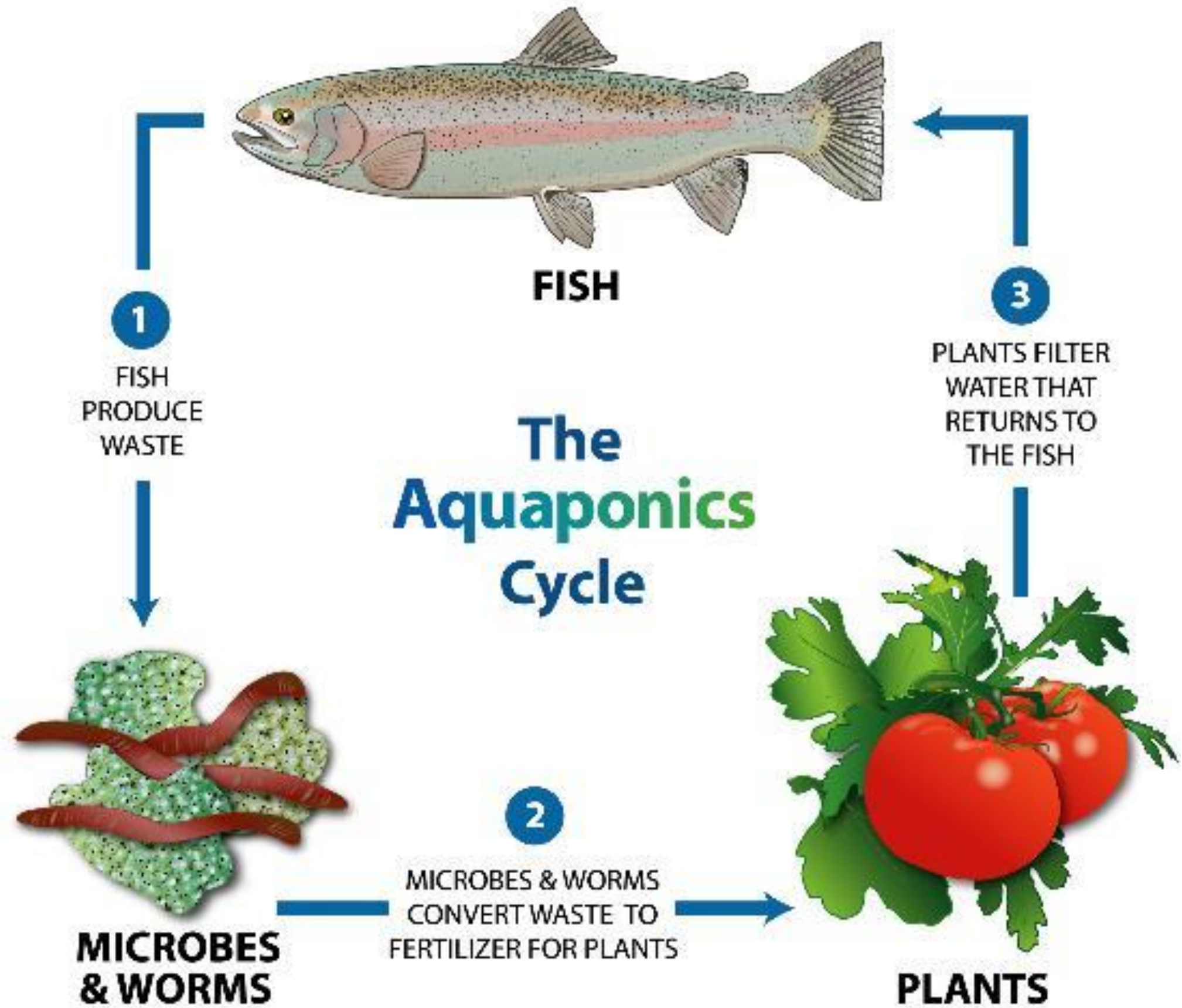
- 1) What you need to start a greenhouse project
- 2) What is Aquaponics?
- 3) IT IS A PROCESS!
- 4) Aquaponics vs Hydroponics
- 5) Successes and Failures

PREREQUISITES

- ✓ Space
- ✓ Motivated Staff (i.e., Brad Neal and Myself)
- ✓ Support from Administration
- ✓ YouTube
- ✓ Greenhouse Experience is not Required



HOW DOES AQUAPONICS WORK?

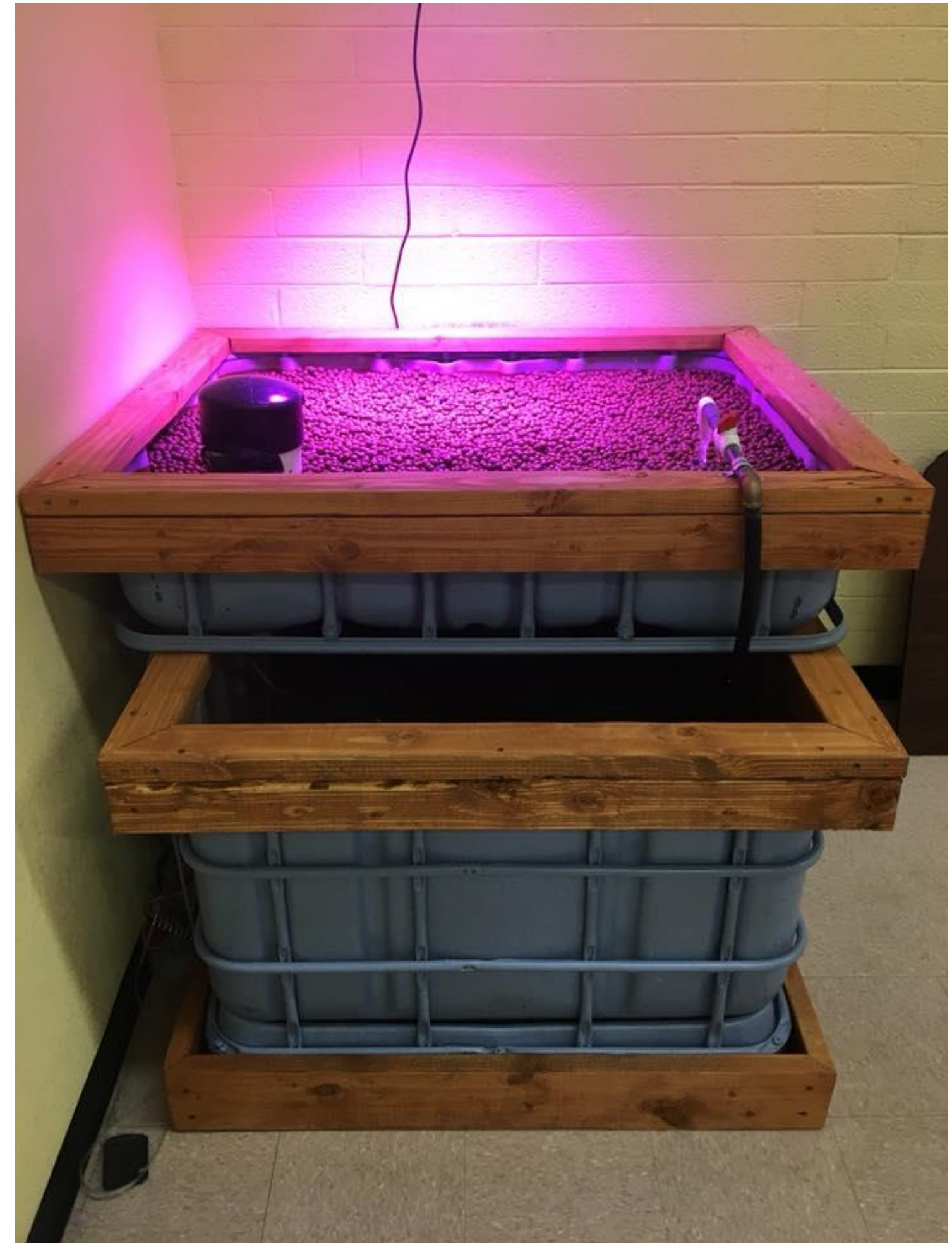




Step-by-Step Process used by JCHS

REMEMBER: This is a process!!
Patience is key

**1st Step: Cafeteria
Aquaponics System (Early
2018)**





SECOND STEP- Greenhouse

April 2018

- 1) Greenhouse Frame Purchased from Craigslist- \$2500
- 2) Polycarbonate for Exterior Purchased on Internet- \$12,000
- 3) Built by Maintenance Department (with help from high school principal)

THIRD STEP- Building the Aquaponics System

1st Semester of 2018-2019 School Year

- 1) Transitioned our Agriculture Class to Focus on the Greenhouse
- 2) Built the System During Class Time (and some maintenance supervisor/principal time)
- 3) Cost of Materials- \$5000+
 - Lumber
 - Pumps
 - Gravel
 - Pipe





4th Step- Adding Fish and Planting

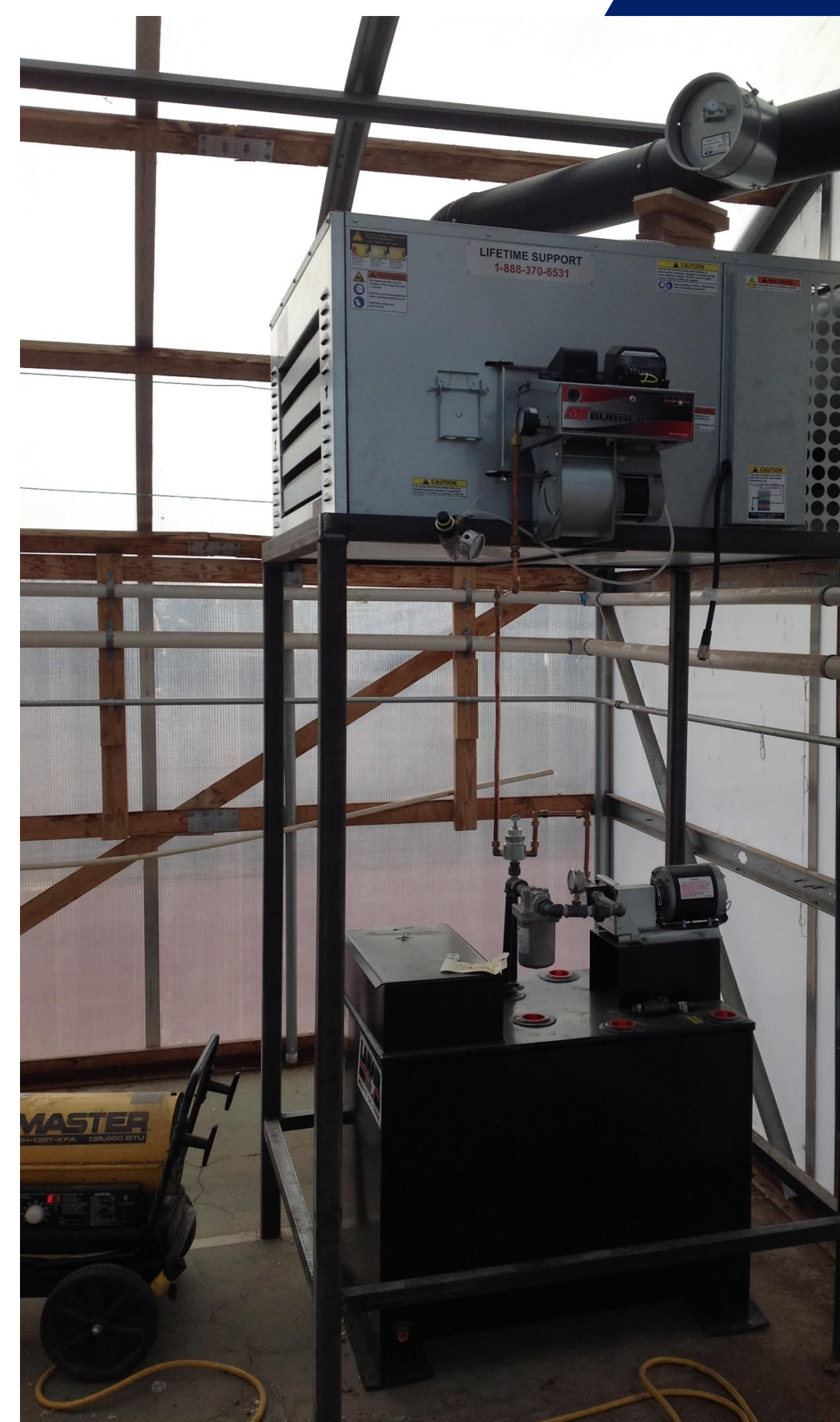
Types of Fish Used: Tilapia, Koi, Goldfish
Other Aquatic Animals Used: Crayfish (Crawdads) and Waterdogs

Plants Grown Successfully: Lettuce, Squash, Cherry Tomatoes, Asparagus, Peppers, Peas, etc.



Other Steps

- 1) Adding Cooling Fans (Summer 2019)
- 2) Adding 2nd Row of Grow Beds (Fall 2019)
- 3) Adding a Junior High Agriculture Class (2020-21)
- 4) Installing a Heater for the Winter (Winter 2020)



FINAL (CURRENT) PRODUCT



Aquaponics vs Hydroponics

- 1** | Aquaponics uses fish waste for fertilizer
Hydroponics requires fertilizer to be added
- 2** | Aquaponics can limit which plants can be grown
Hydroponics provides more planting options
- 3** | Aquaponics requires careful observation of pH Levels
pH is important in hydroponics but not as critical
- 4** | Aquaponics requires work over the summer
Hydroponics can be stopped over the summer

Learning From Mistakes

- 1) Aquaponics System Layout
- 2) Heating and Cooling
- 3) Backup Pumps
- 4) pH Level
- 5) Grants



Successes



Best of Show

2019 Navajo County Fair



2019 Sustainability in Education for the 21st Century Award

The Sustainable Economic Development Initiative



Spotlight on School Success

Presentation to the Arizona State Senate (Jan 2020)

Successes: The Important Ones

**Providing free garden starts to
Community during COVID shutdown**

Late Spring 2020

**Hosting Multiple Elementary Class
Fields Trips**

Building School Agriculture Department

Building Positive Community Relations

Selling Vegetables to Community, Parent Visits

Q&A

We are all in this together!



Upcoming Opportunities:

- **Respond** to the Arizona School Garden Survey - <https://bit.ly/2021AZSchoolGardenSurvey>
- **May 20th** – Success Stories with Alhambra School District (register) <https://bit.ly/AZSchoolGardens>

Want to speak with Eric Miller? Email him -- ericm@jcusd.org

Congratulations!

You have completed the *Recorded Webinar: School Garden Webinar Series - Success Stories with Joseph City Jr/High School*

To request a certificate, please go to the next slide.

In order to count this training toward your Professional Standards training hours, the training content must align with your job duties.

Information to include when documenting this training for Professional Standards:

- **Training Title:** *Recorded Webinar: School Garden Webinar Series - Success Stories with Joseph City Jr/High School*
- **Learning Codes:** 1230
- **Key Area:** Nutrition
- **Length:** 1 hour

Please Note: Attendees must document the amount of training hours indicated regardless of the amount of time it takes to complete it.



Congratulations!

Requesting a training certificate

Please click on the link below to complete a brief survey about this webinar. Once the survey is complete, you will be able to print your certificate of completion from Survey Monkey. **This will not appear in your Event Management System (EMS) Account.*

<https://www.surveymonkey.com/r/RecordedWebinarOnlineSurvey>

The information below is for your reference when completing the survey:

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