

ANACOSTIA AQUAPONICS

What can you teach with one classroom aquaponic system?

Biology

- Photosynthesis and plant growth
- Respiration
- Fish health and growth
- Aerobic and anaerobic bacteria
- Insect and pest issues
- Autotrophs vs heterotrophs

Chemistry

- pH and water hardness
- Nitrification
- Aeration and dissolved oxygen
- Nutrient testing and supplementation

Physics

- Water pressure, head height, and friction
- Siphons
- Weight-bearing capacity
- Light wavelength and strength
- Greenhouse heating and thermal mass

Environmental Science

- Agricultural nutrient runoff and hypoxic zones
- Nutrient cycling through a system
- The Feed Conversion Ratio and efficiency of fish protein
- Food miles and the costs of our current food system

Math

- Computing the size and production of an aquaponic system
- Calculating water flow rates
- Using formulas to balance fish feeding rates and plant growth
- Graphing pH and nutrient test results



Educational Aquaponic System in Northwest DC

Dietary Issues

- Nutrition and the importance of vegetables
- Fish protein vs. animal protein
- Food waste and nutrient depletion
- The cultural importance of food
- Food safety procedures and risks

Economics

- Weighing costs vs revenue to set a crop price
- Vertical growing and production per square foot
- The economic impact of agriculture
- Starting a business and green entrepreneurship

Time to ENGAGE your students!
Contact us to bring aquaponics with
NGSS-aligned curriculum to your
classroom!

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