



# **Hydroponic Systems Resource Guide**

#### A handy guide for starting or enhancing your hydroponic project!

This collection of resources will help you design, build, and maintain hydroponic systems in your school, whether you're just starting out or looking to take your project to the next level.

Know of a great resource we're missing? Started a project yourself? Share it with the FES N:OW for Net-Zero team: <a href="mailto:nowfornetzero@fesplanet.org">nowfornetzero@fesplanet.org</a>

# **Key Concepts for Learning Hydroponics**

Introduction to Hydroponics

System Design & Infrastructure

Nutrient Solutions & Hydroponic Mixtures

Troubleshooting Common Challenges

Plant Selection & Care

**Advanced Techniques** 

## **Free Virtual Courses**

## **Hydroponics STEM Lessons**

Over 70 short videos by Green Our Planet covering system setup, nutrient solutions, plant physiology, and classroom components. Be sure to check out their many more exciting programs below.

- Gardening in schools
- More lessons

### **Megaponics Hydroponics Simplified**

A free 9-video course on plant selection, pH calibration, lighting, and nutrient balancing for beginners.

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# **Virtual Workshops**

Workshop Title	Link
Introduction to Hydroponics Gardening	Watch here
Introduction to Hydroponics Systems	Watch here
Hydroponics Basics	Watch here
Basic Classroom Hydroponics	Watch here
Starting and Germinating for Hydroponics	Watch here
Inexpensive Projects and Curriculum for Indoor Gardening	Watch here
Vertical Gardening	Watch here

# **Top Reading Resources**

# **Comprehensive Curricula and Lesson Plans**

# Grow with the Flow: A Hydroponic Gardening 10-Week Curriculum for Youth

Structured curriculum for students to explore hydroponic gardening. <u>Download Curriculum</u>

# **Exploring Hydroponics and Discovering Through Hydroponics**

Classroom guides (K-5) with hands-on activities, setup instructions, and reference materials.

- Exploring Hydroponics Guide
- <u>Discovering Hydroponics Guide</u>

# **Grade-Specific Hydroponics Curricula (NACSS)**

Tailored lessons for Grades 1 and 4 on hydroponics.

- Grade 1 Curriculum
- Grade 4 Curriculum





#### **Culturally Responsive Hydroponics Curriculum Framework (2021)**

Focus on integrating cultural perspectives into hydroponics education. <u>View Framework</u>

#### **Classroom Guides for Beginners**

#### Hydroponic Gardens for Classrooms: Your Beginner's Guide

Practical tips for classroom hydroponics and case studies of school programs.

- Beginner's Guide
- Basic Principles of Hydroponics

#### Hydroponics in the Classroom by Farm to Cafeteria Canada

Guide to implementing hydroponics in classrooms. View Guide

#### Farm to Cafeteria Resources Page

Extensive resources for funding, curriculum alignment, and project ideas. Visit Resource Page

#### School Food Gardens' Resources for Educators

Tools and resources to support food gardens in schools. <u>View Resources</u>

#### **Project Implementation and DIY Guides**

#### F2SBC: How to Build a Grow Station for Starting Seeds

Step-by-step guide for constructing a grow station. Watch the video

#### **REAPS Indoor Growing Guide: Hydroponics & In-soil**

Comprehensive guide for indoor hydroponic and soil-based growing. <u>Download Guide</u>

#### The Good Food Machine: A Guide for Teachers and Educators

Resource to support educators in setting up hydroponic projects. View Guide





## **Technical References and Supplemental Resources**

## Basic Hydroponic Systems and How They Work

Detailed PDF explaining different hydroponic systems. Download PDF

## 4 Types of Hydroponics PDF

Overview of the four main types of hydroponic systems. <u>Download PDF</u>

# **Need Funding?**

If you haven't already, be sure to checkout our N:OW for Net-Zero Grant <a href="here">here</a> and our additional funding opportunities <a href="here">here</a>!

Resource Name	Description	Link
Farm to Cafeteria Canada: Grants and Resources	Offers grants and resources for school food gardens and hydroponic projects.	<u>Visit Resource</u> <u>Centre</u>
Sustainable Canadian Agricultural Partnership (Sustainable CAP)	Funding for innovative agricultural and education projects.	<u>Learn More</u>
TD Friends of the Environment Foundation	Grants for environmental projects, including hydroponics in schools.	Explore Grants
EcoAction Community Fund	Community-led environmental project funding, including education-based initiatives.	<u>Learn More</u>
Community Foundations of Canada	Micro-grants for different projects through local foundations.	View Current Initiatives

Want to learn about how some of our N:OW for Net-Zero grantees have implemented hydroponic systems into their school?

Visit https://nowfornetzero.org/solution-stories/

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