

**How to Create your Very Own Hydroponic System: PVC Tube Set-Up**  
**The Nova Hydroculture Project: [www.sciencealivefl.org](http://www.sciencealivefl.org) ; [eschmitt@nova.edu](mailto:eschmitt@nova.edu)**

**Step 1: Plant the seeds in starter trays.**

1. Add soil into a bowl.
2. Add enough water into the bowl so that when you mix the soil and water, the soil is sticking together and can easily be transferred into the starter tray. Be careful to not add too much water.
3. Place soil in the starter tray.
  - a. Starter tray: Can use [Amazon.com : Jiffy BC390507 Plant Start 72cell Dome Tray](#)
4. Add seed just below the soil surface. Can use seeds from fruits/vegetables obtained from grocery store and/or
  - a. Peas: <https://agclassroomstore.com/dwarf-space-plant-seeds-earligreen-peas/>
  - b. Tomatoes: <https://agclassroomstore.com/dwarf-space-plant-seeds-micro-tina-tomatoes/>
  - c. Peppers: <https://agclassroomstore.com/dwarf-space-plant-seeds-triton-peppers/>
  - d. Strawberries: [Everbearing strawberries](#) and [Alpine Giant Strawberry Regina Red Everbearing Indoor](#) -we were not successful due to aphids and whiteflies
  - e. Spinach: [Bloomsdale Spinach Seeds for Planting](#) (we were not successful)
  - f. Lettuce: [Large Lettuce Seed Collection for Planting - Buttercrunch, Jericho, Great Lakes, Salad Bowl, Little Gem and Lolla Rosa Varieties](#)
  - g. Basil: Italian Large Leaf [Italian Large Leaf Basil Seeds for Indoor, Outdoor and Hydroponic Planting](#),

**Step 2: Seedlings emerge.**

1. Let the seedlings sprout. This may take up to a week or even longer. Remember to keep an eye on your seedlings and give it water when necessary.

**Step 2: Assemble the PVC Tube Garden and Reservoir.**

1. Using the ready made PVC Tube Garden, assemble the garden.
  - a. PVC Tube Garden: [72 cell PVC Tube Garden](#)
  - b. Reservoir (10-12 gallon opaque storage container with lid)
  - c. Pump (if not provided with the tube garden kit) should be approx. 10 gal. pump.
2. Drill a hole on the top of the reservoir so that the PVC system can connect and the pump with tubing can connect to the garden tubes
3. Attach the reservoir to the garden.
4. Fill the reservoir with water.
5. Attach the pump and ensure that it is working by placing your finger in the holes where the seedlings go; also ensure that the pump is vibrating. You should feel the flow of water. The water should cover the pump in the reservoir. The pump will need to be connected to electricity. Outdoor extension cords and multiplugs will be needed.

**Step 4: Prepare the seedling for the tube garden**

1. Remove the seedling from the starter trays and get rid of any soil by carefully washing it in water.
2. Weave the roots through the sponge that is provided from the PVC Tube Garden package.
3. Place the sponge holding the plant in the cups that were also provided from the PVC Tube Garden package. The plants are now ready!

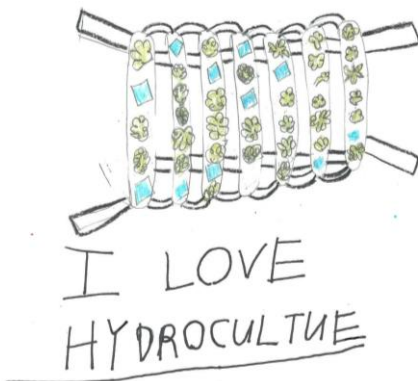
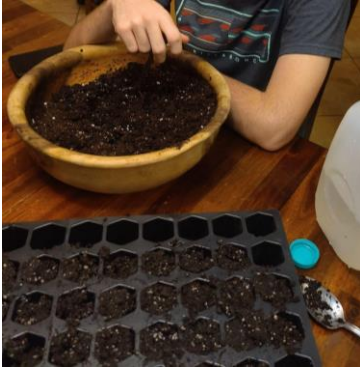
**Step 5: Move the seedling into the PVC tube system.**

1. Place the cup into the different holes of the PVC system. Ensure that the roots are touching the water if possible.
2. Using a sharpie, you can label the hole with the seed you are growing and the date you planted it to see the progress.

**Step 6: Maintain the Garden for eventual harvest and repeat.**

1. Add liquid fertilizer to the reservoir to provide nutrients to the plant.
  - a. Liquid Fertilizer: [EZ-gro Liquid Plant Food for Aerogardens \(1 QT\)](#)
  - b. Fill the reservoir with water when it is necessary to do so.
2. Enjoy the process of watching your plants grow and bear fruits and vegetables!

Photos of the Hydroculture Process: <http://www.sciencealivefl.org/nova-hydroculture-project.html>



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