

Hydroponics: Lab Essentials

- There are many essential pieces of _____ in the hydroponics lab
- It is important that each student knows how to use all material and equipment
- While you will be _____ having a _____ is helpful to your classmates and teacher
- Remember the basic ground rules for work in the lab
 - No _____ in the lab
 - No _____
 - Follow all instructions _____
 - Ensure that you can _____ when they are given
 - _____ if you are not sure what to do
 - Never eat or drink anything in the lab _____
- We start each of our plants _____
- In order to do this, we use a _____
- We use _____ to sprout the seeds in – these are the _____
- Each plug has a _____ in the top where we put the seeds
- We use a small version of the Gro-Den, but it comes in _____
- Gro-Den is an excellent tool for hydroponics as it _____ well and _____ for the seedlings
- We usually put _____ in each plug to ensure at least one or two sprouts
- It is important that the Gro-Den plugs _____ throughout propagation or the seeds will not grow
- As each seed begins to grow, we will need to _____ the new plant
- Plants are ready to transplant when they _____

- When the roots have reached a decent size, we will transplant them

- Depending on which system you are using, we may need to use _____ to support our plants
- We use a _____ in these net pots to help the new roots get the water and nutrients that they need
- We use wicks and net pots in _____

- We have seven different stations in our lab
 - Nutrient Film Technique _____
 - Deep Water Culture _____
 - _____ (Fish)
 - _____
 - _____
 - Deep Water Culture _____
 - _____
- Nutrient Film _____
 - Water is stored at the base of the pipes in a _____
 - It is pumped up to the top of the pipes then flows back to the reservoir
 - The plants are held in net pots in the _____ in the systems
 - Nutrient water _____ over the root systems
- Deep Water Culture – Tent
 - The tent is the only system that has something resembling _____
 - We use _____ to provide structure for the roots
 - The water is stored in a reservoir _____ of the tent
 - There are _____ at the base of each bucket inside the tent
 - Because the light is inside of the tent, the tent itself can be _____ than the rest of the lab
- _____
- Aquaponics (Fish)
 - This is the only system that _____ gets nutrient water

- The _____ provides all of the nutrients that the plants need
 - It is important that the aquaponics team _____ each and every class
- **Aeroponics**
 - Water is held in a reservoir at the _____
 - Roots of each plant are _____ nutrient water
 - Any excess water _____
 - This system can have a buildup of _____
 - As the roots are easily watered, this is an _____
 - **Vertical Garden**
 - The VG has the _____ in the entire lab
 - Water is held in the _____ and pumped to the top
 - Water then _____ through the different levels
 - If the power goes off, the VG is the only system that _____
 - **Deep Water Culture (Buckets)**
 - The buckets can be one of the more _____ in the lab
 - It is important that whomever is running this system _____
 - Water is pumped up to the drip ring using an _____
 - The nutrient water is dripped down onto the _____ of the plant
 - As the nutrient water may get on the leaves, it is important that the plant is _____
 - **Deep Water Culture (Flood Table)**
 - Water is pumped from a reservoir _____ the flood table
 - The table must be run for a _____ to maintain the water level on the table
 - This system has a _____ to provide structure to larger plants