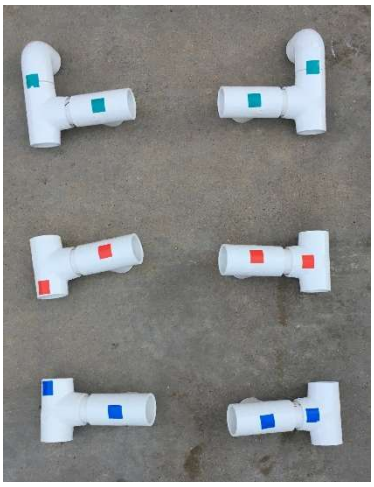
Steps are listed in numerical order

Stand assembly (per stand)

PVC Pipe Stand Part List:

- Corner pieces (12 per stand)



- 1.5” inch (16 per stand) *This is inside the corner piece*
- 6.5” inch (6 per stand)

- 12” inch (16 per stand)

- 17.75” inch (4 per stand)

Legend for tape color

- Blue = Lowest Level
- Red = Middle Level
- Teal = Top Level
- Orange = Bottom of the PVC Pipe

Tips for stand assembly and disassembly:

- Make sure to work on a flat surface to ensure that the stand is leveled when connected
- Twist twice to connect and disconnect PVC pipe (To make it easier to dismantle later on)
- Build one level at a time (To make sure it’s an even surface)
- When assembling, work from the bottom up. (Note: The color sequence will be based alphabetically, starting with “blue”.)
- Check each level completed to make sure it is leveled
- Place red writing/manufacture stamp on the pipes facing towards the back of the stand (To look aesthetically pleasing)
- Dismantle the four legs (for storage purpose) to make easier to assemble in future if there is no need to tear down the remaining part of the stand

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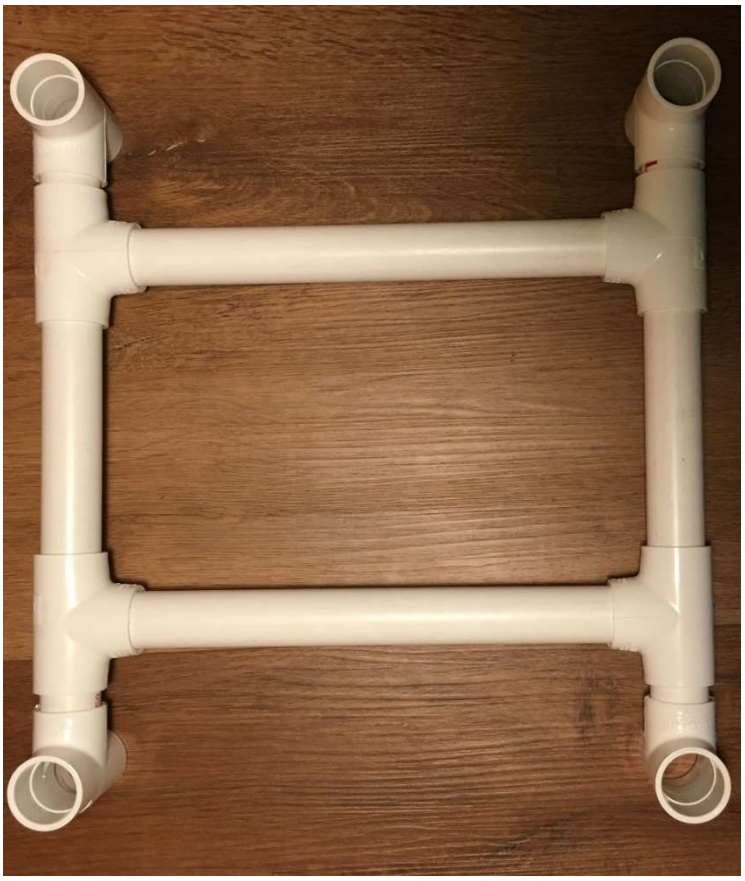
1. Organize the materials into groups (by size or color)
    a. Pipes by Sizes
    b. Corner Pieces by Colors
2. Grab the corner pieces assigned to the blue level and two 12” and two 6.5”. This will be for the bottom level of the stand.

3. Construct the blue level as seen below

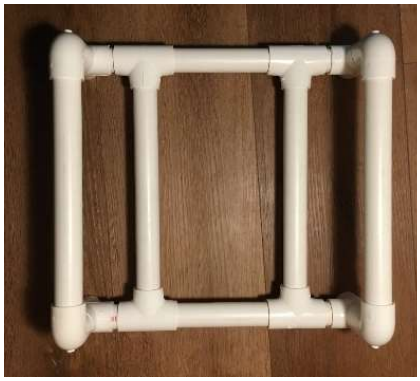
4. Grab the corner pieces assigned to the red level and two 12” and two 6.5”. This will be the middle level of the stand.
5. Construct the red level as seen below (Similar to blue level)



6. Assemble your top teal level with the four teal corner pieces, two 6.5”, and four 12”. This will be the top level of the stand.

7. Construct the teal level as seen below





8. Use the remaining eight 12” as legs for your blue and red levels as seen below

9. Attach the top teal level on top as seen below

10. Grab four of the 17.75” PVC pipe and attach it to the bottom of the blue level

Steps are listed in numerical order

Mixing Fertilizer

1. Fill each of the ***two*** 5-gallon buckets with 2.5 gallons of water
2. Pour the Blend A mixture bag into one 5-gallon bucket
3. Pour the Blend B mixture bag into the ***other*** 5-gallon bucket
4. Mix the contents in the buckets ***carefully*** (to avoid spills and messes) until all solids are dissolved
5. Combine the two solutions into a single bucket and mix thoroughly

   Alternative method: Pour Blend A and Blend B into a recycle 1-gal jug container, add a half gallon of water into the jug, and then re-screw the cap back on. Shake the container vigorously until **all solids** have been dissolved (no solids present) into the water. Empty the jug into a 5-gallon bucket and refill the other half gallon of water to help rinse out any remaining dissolved nutrients residue in the jug into the same 5-gallon bucket. Since the recipe calls for 5 gallons of water, add four more gallons of water into the same 5-gallon bucket and then mix thoroughly.

6. Fill the grow box with the nutrients of the grow box (the volume to fill the grow box is approximately 1-gallon) using a cup or recycle 1-gal jug container.

Important: Keep the lid on the bucket with remaining nutrient solution to prevent evaporation and algae growth

Hello, my name is Nathan Pham, and I am a Boy Scout with Troop 1203. My eagle project is a hydroponics kit that uses the Kratky method. My project will allow seedlings to grow only using water and nutrients placed in a "grow box" until the crop is ready to be harvested.

This will be beneficial because it enables students to develop healthy eating habits with their teachers and peers in a learning environment to hopefully take what they learned home. Science teachers can use these kits to integrate it into their curriculum. This gives students a chance to discover many fields of science such as biology, chemistry, or botany (the study of plants). When you teach students how to grow their own crop, they gain pride and self-confidence to be able to grow, harvest, and eat what is grown.

Below will be instructions on how to grow and transplant microgreens, mixing the fertilizer for the grow box, and how to set up the PVC stand.