



How to Build Your Own Greenhouse, on a Budget

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Steps to make your own greenhouse out of PVC pipe

1. Materials and tools

- (12) - 12 foot long 2x4s
- 6 mil plastic sheet
 - i. It needs to be at least 22 feet wide by 16 feet long
 - ii. If you can't find anything larger than 10 feet, then you can tape 2 sheets with construction tape
- Plywood to hold the 2x4 together
- Screws
- A bag of tie wrap
 - i. Needs to be long enough to wrap around 2x2
- (10) - 3/4" Schedule 40 PVC tubing
 - i. Use gray because it's resistant to UV light
- (8) - 2 feet rebar to hold the pipes together
- (5) - 45 degree PVC connectors 3/4" inside diameter
- 4 metal fence posts
 - i. 4 2 by 4 end brackets

2. Build the sides

- Begin with connecting 2 PVC pipes together using a 45 degree connector
 - i. Use round quick pins to attach the pipes together, if you want to take it apart later
- Temporarily attach both ends of the assembly to each side of a 11 feet 2 by 4, which gives you a rough idea of the dimension of the side of your greenhouse

- Now, you can decide the size of your door, in which you'll measure and cut all the other pieces of wood
 - i. This one will be 3 feet, but you can adjust accordingly depending on your preference
- Next, cut some plywood, apply glue and drill it onto the 2 by 4 boards, which will keep the structure strong and square
- After, drill holes in the PVC pipe in the 4 locations and use tie-wraps to keep them even stronger
- Finally, you can staple plastic on each side, but cut a hole in one of them for the door

3. Attach the sides together

- First, find a 12' by 12' space, which is flat to place your greenhouse
 - i. After finding the right place, hammer 2 fence posts at one end and make sure to align the posts with the vertical sides of your door
 - ii. Since this door will be 3 feet wide, put your fence posts 3 feet 4 inches apart
- Once, the posts are deep into the ground, place one side of your greenhouse against the post and then drill holes through the 2 by 4 and use zip-ties to fasten it to the posts
- Repeat the same process 12 feet further to set the other side of the greenhouse and make sure they are aligned
- Lastly, use two 12 feet 2 by 4 and screw them onto the plywood on each side using end brackets, in which you'll finish up with 2 strong beams joining both sides of your greenhouse

4. Assemble the PVC pipes

- Now, we still need to put the ribs to the greenhouse
- Start with hammering rebar every 3 feet from one side to another and place them at an angles as we'll slide the PVC tubes onto it
- Next, create 3 PVC assemblies (10-foot PVC tubes + connector + pins) by sliding them on the rebar and aligning them
 - i. Screw the pipes on the horizontal trusses and fasten them with tie-wraps to prevent any movement
- A second horizontal beam is added lower on the ribs, which ensures that the plastic does not collapse through the PVC tubes during high winds or other weather conditions
- Finally, another element is the crossed wires, which create diagonals, ensuring that the greenhouse stays square over time
 - i. The wires cross over the middle PVC pipe on each side

5. Cover the pipes with plastic

- Begin by using your 22' by 16' plastic film and wrap both ends around a 12 feet long 2 by 2 (along the 16' edge), which will add some weight at the bottom as well as making it more convenient to roll the bottom to ensure a better air flow
- This one is 2 by 2 from a 2 by 4 cut in half using a circular saw
- Now, put the entire plastic film over the greenhouse, center it and staple it to the vertical sides

- i. Fasten the plastic with 1 by 2 boards on the frame and trim off the excess

6. Make a door

- Start with making a door to the dimension of the greenhouse opening
 - i. If the opening is 3 feet, then make the door a bit larger, for instances 3'3"
- Now, use 1 by 2 spruce or pine to keep it lightweight
 - i. Plywood in the corners will keep everything straight and you can add crossed wires to prevent movement over time
- Lastly, add a barrel latch on the outside and a simple hook on the inside by using 2 hinges



Futher ideas:

<https://www.instructables.com/id/A-Greenhouse-for-the-North/>