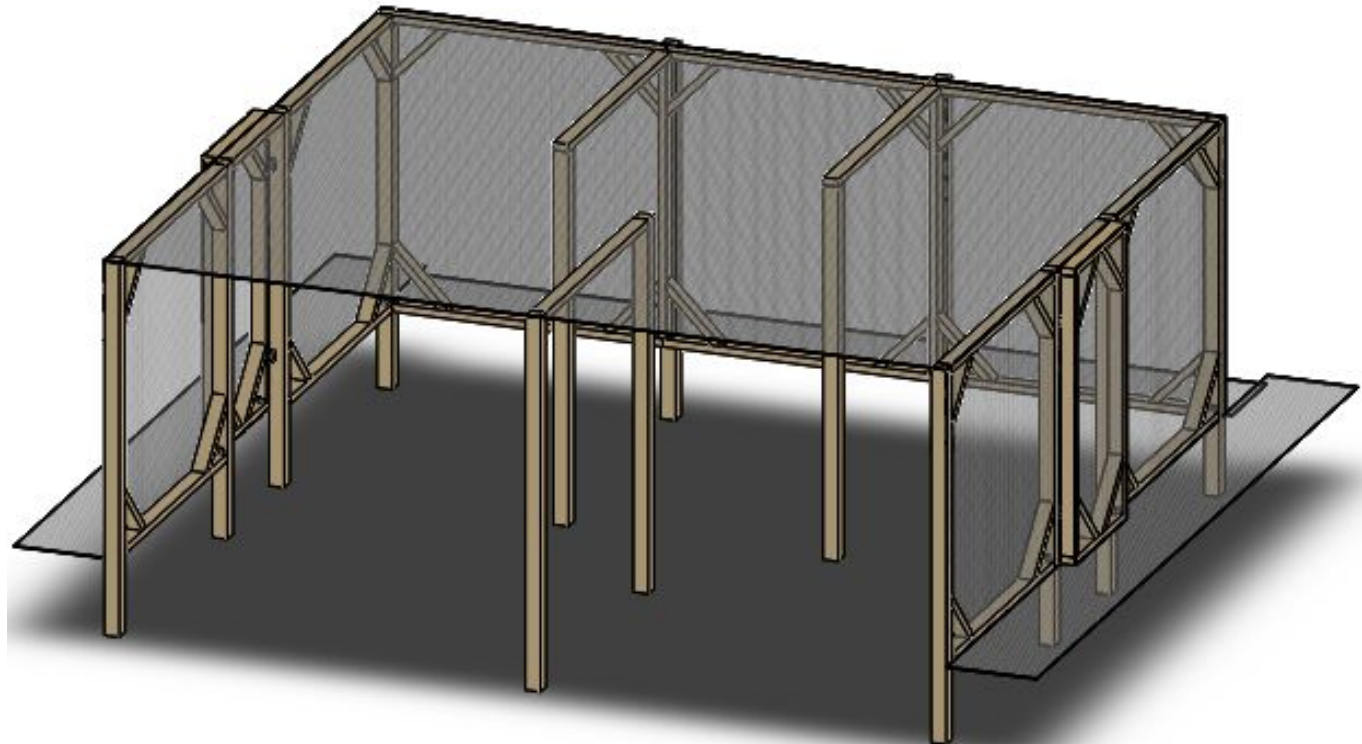


# Building A Predator Proof Chicken Run attached to a Shed



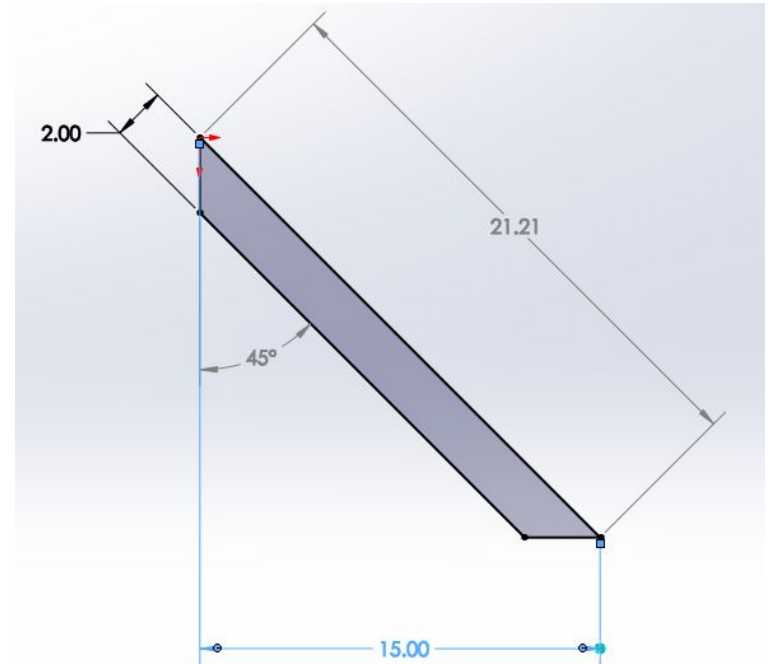
# Collecting The Materials

## Materials:

- 6 foot 2x4in beams: 38
- 8 foot 4x4in beams: 14
- Brackets
- Hinges
- Screws
- Washers
- Hardware Cloth
- Saw
- Screwdriver
- Cement
- Measuring tool
- Level

## Cut Support Beams: (36 needed)

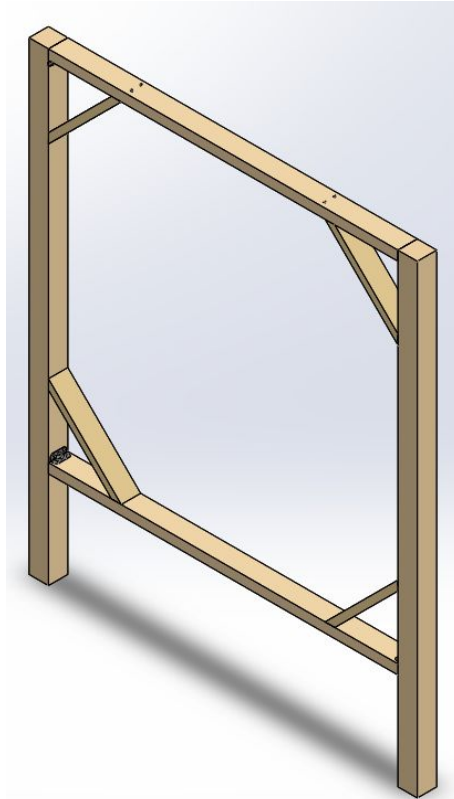
- Can cut 3 per 6ft 2x4



# Building the Side Wall

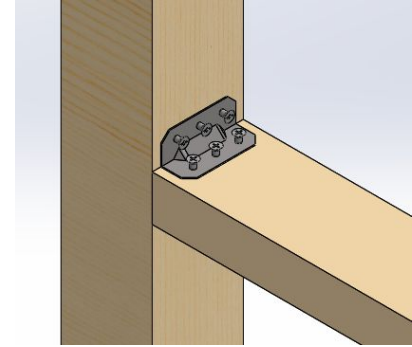
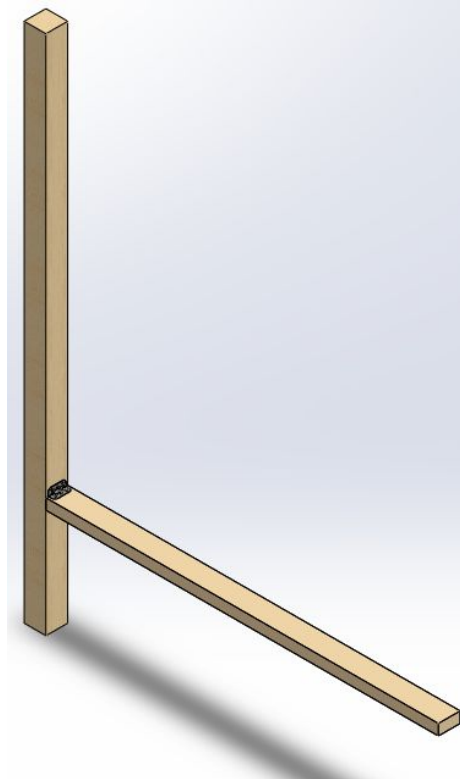
## Materials:

- 6 foot 2x4in beams: 2
- 8 foot 4x4in beams: 2
- Support beams: 4
- Brackets
- Screws
- Saw
- Screwdriver
- Cement
- Measuring tool
- Level



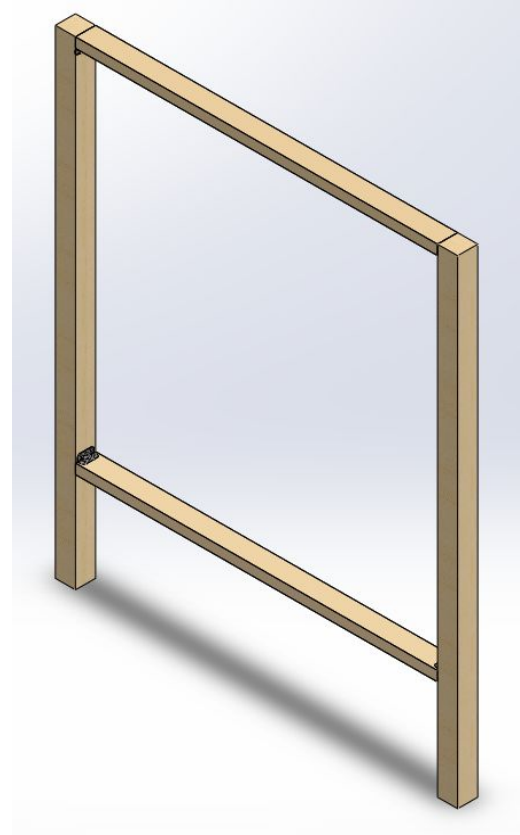
# Step One: Attaching 4x4s to 2x4s

- Lay 8ft 4x4 post and a 6ft 2x4 next to each other with the 2x4 perpendicular to the 4x4 20 inches above the bottom of the post.
- Place a bracket in the corner and screw it in, so the wood can't move.



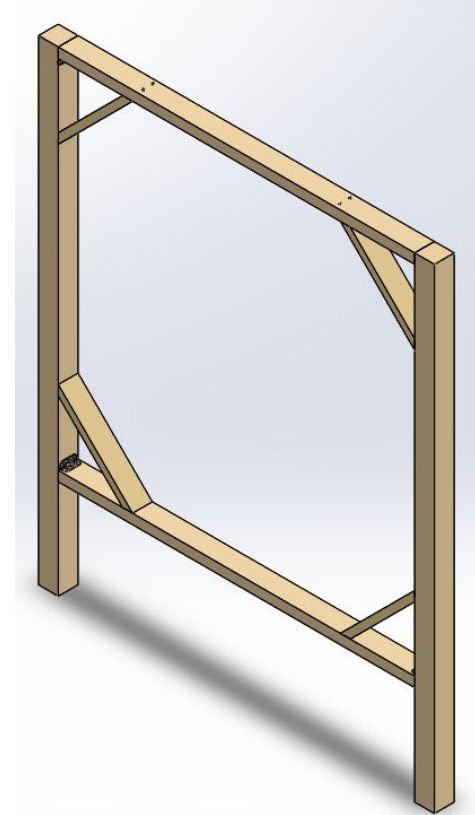
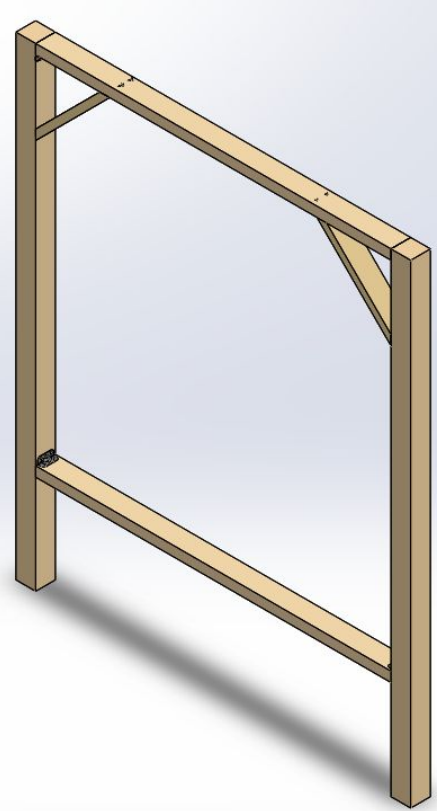
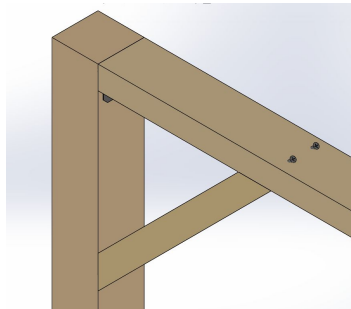
## Step Two: Making it a square 6x6ft

- Keep the 2x4 level and connect it to another 4x4 at the same height using brackets and screw them in.
- Lay a 2x4 at the top, and use brackets to screw it in.



# Step Three: Support Beams

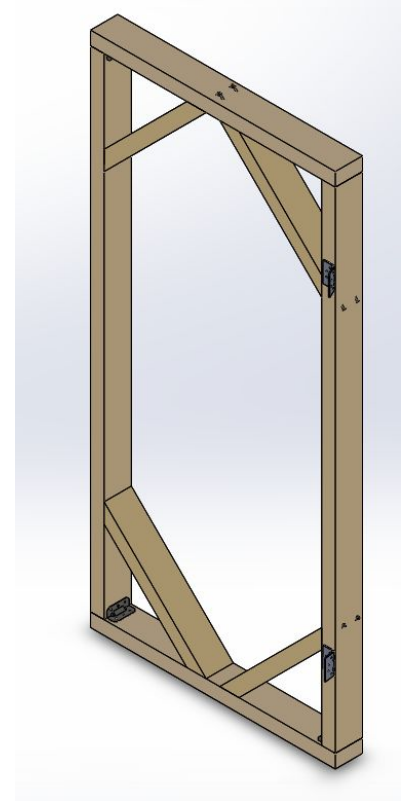
- Place The support beams in the corners, and screw them in parallel to the support beams.



# Building the Door

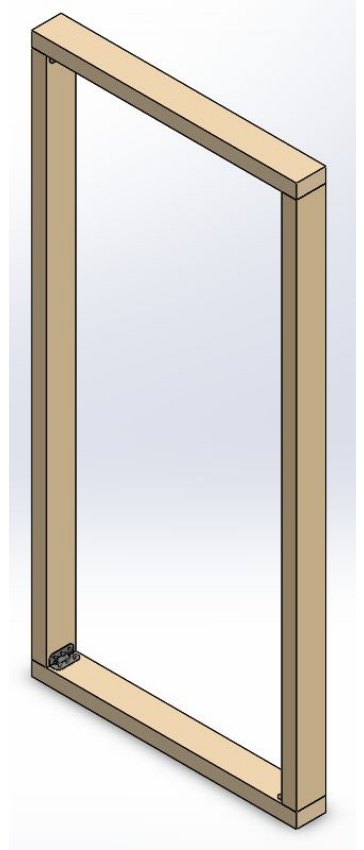
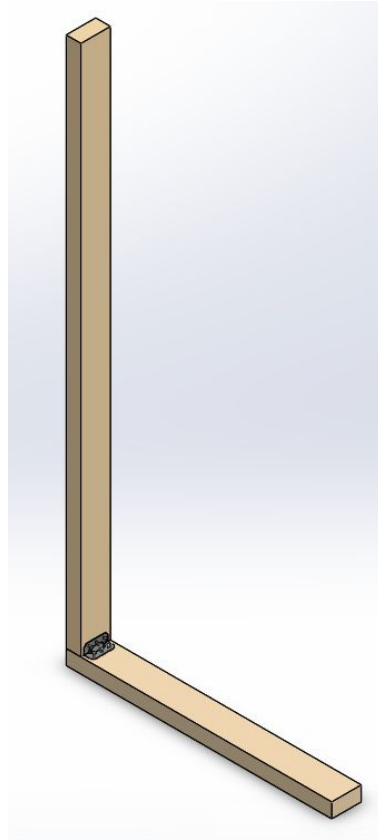
## Materials:

- 6 foot 2x4in beams: 3 (cut one of them in half so its two 3ft 2x4in)
- Support beams: 4
- Brackets
- Hinges
- Screws
- Saw
- Screwdriver
- Cement
- Measuring tool
- Level



# Step One: Making Door Frame

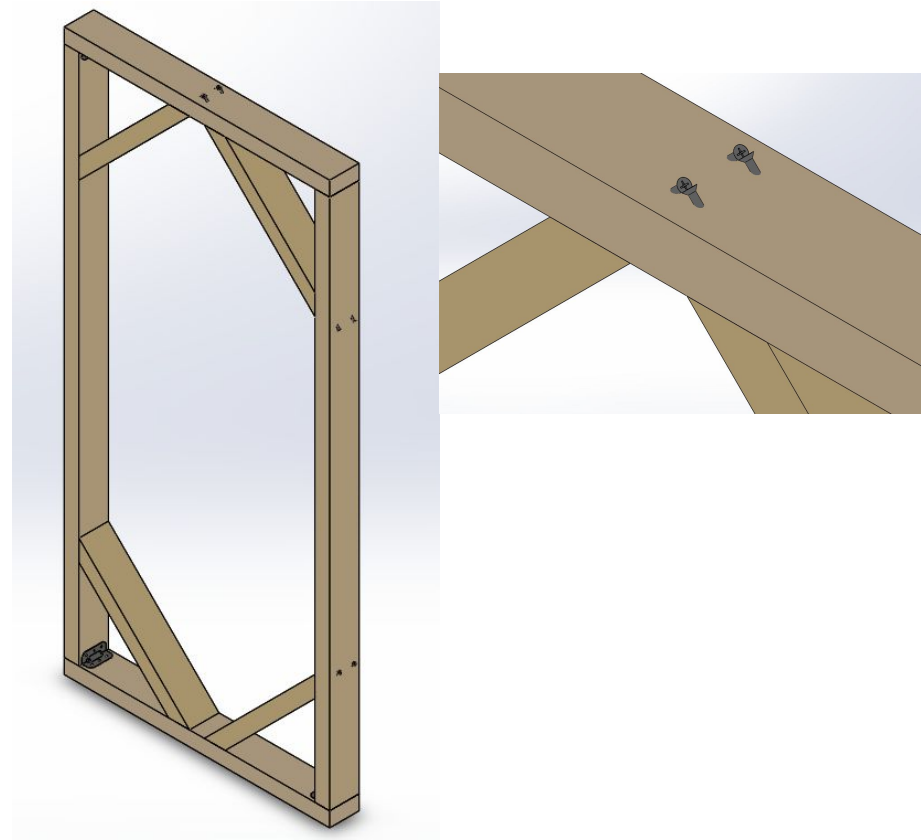
- Lay two 6ft 2x4s parallel with 3ft 2x4s on top and bottom like shown.
- Place a bracket in each corner and screw it in, so the wood can't move.





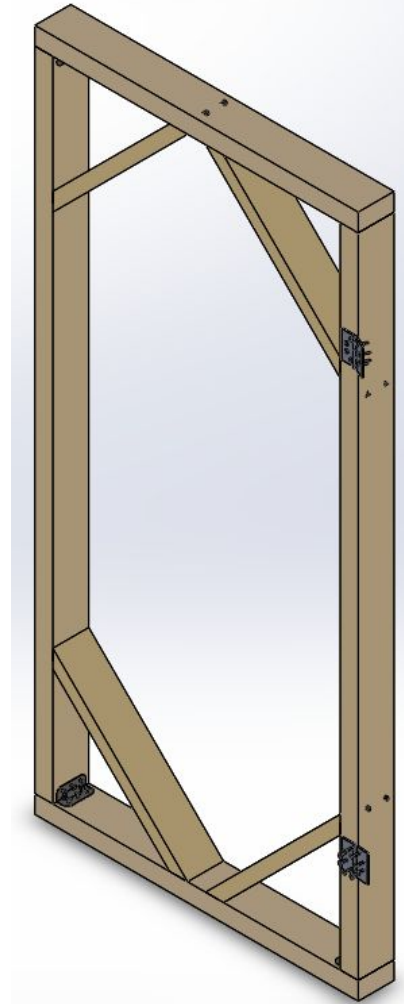
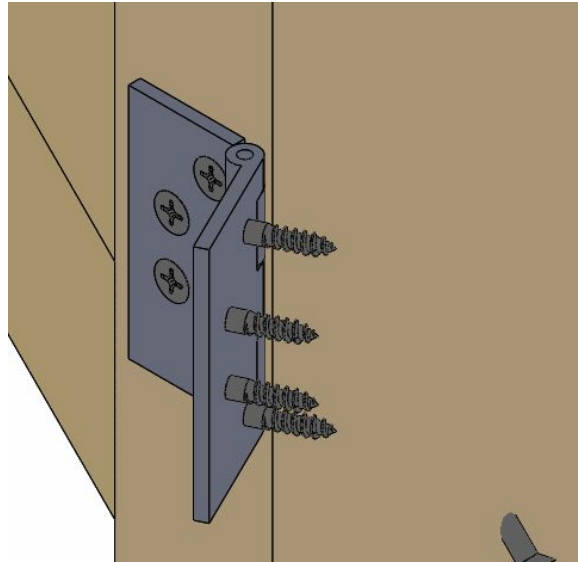
# Step Two: Adding Support Beams

- Place The support beams in the corners, and screw them in parallel to the support beams.



## Step Three: Adding Hinges

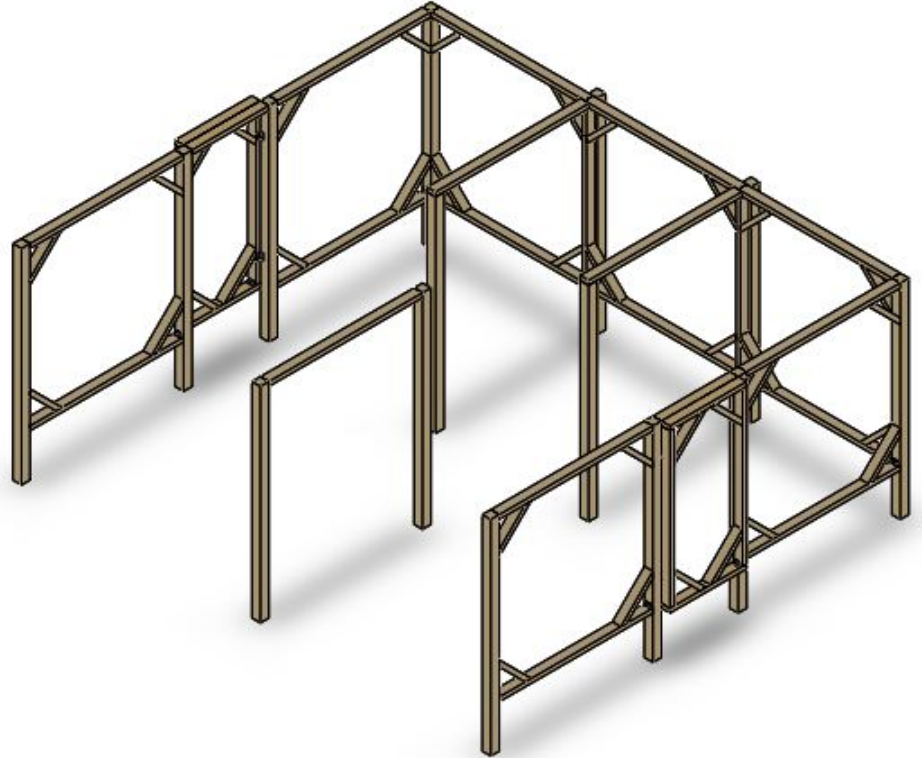
- Hinges should be placed 1ft from the top and bottom, then screwed in



# Building the Run

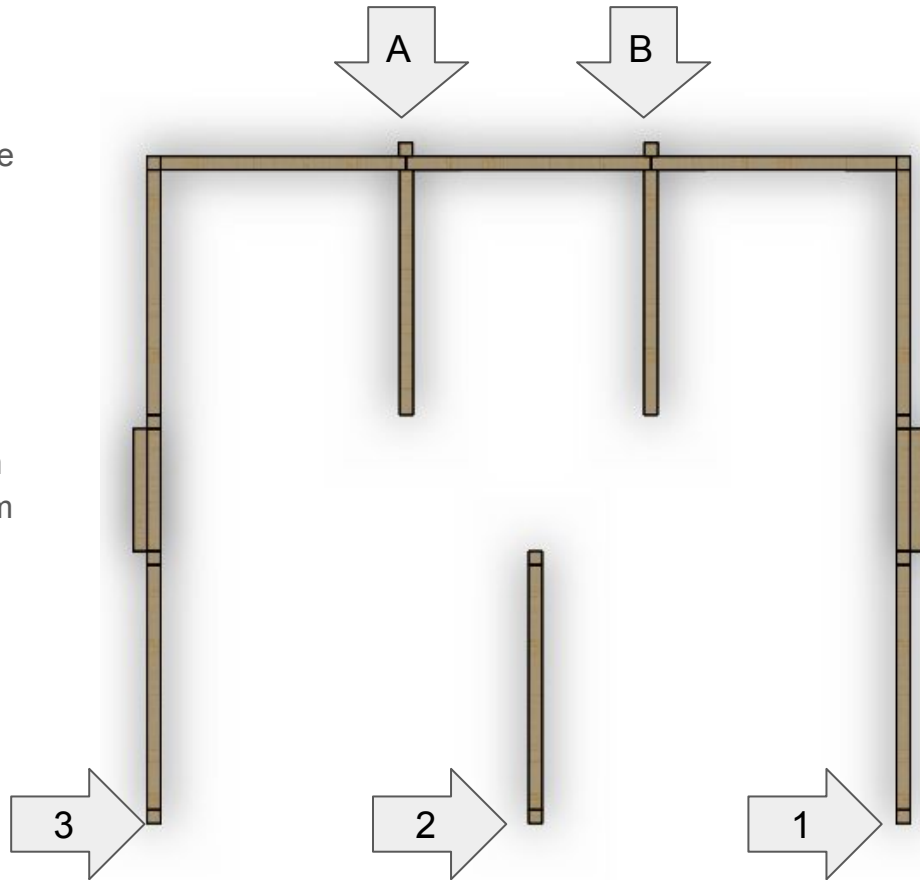
## Materials:

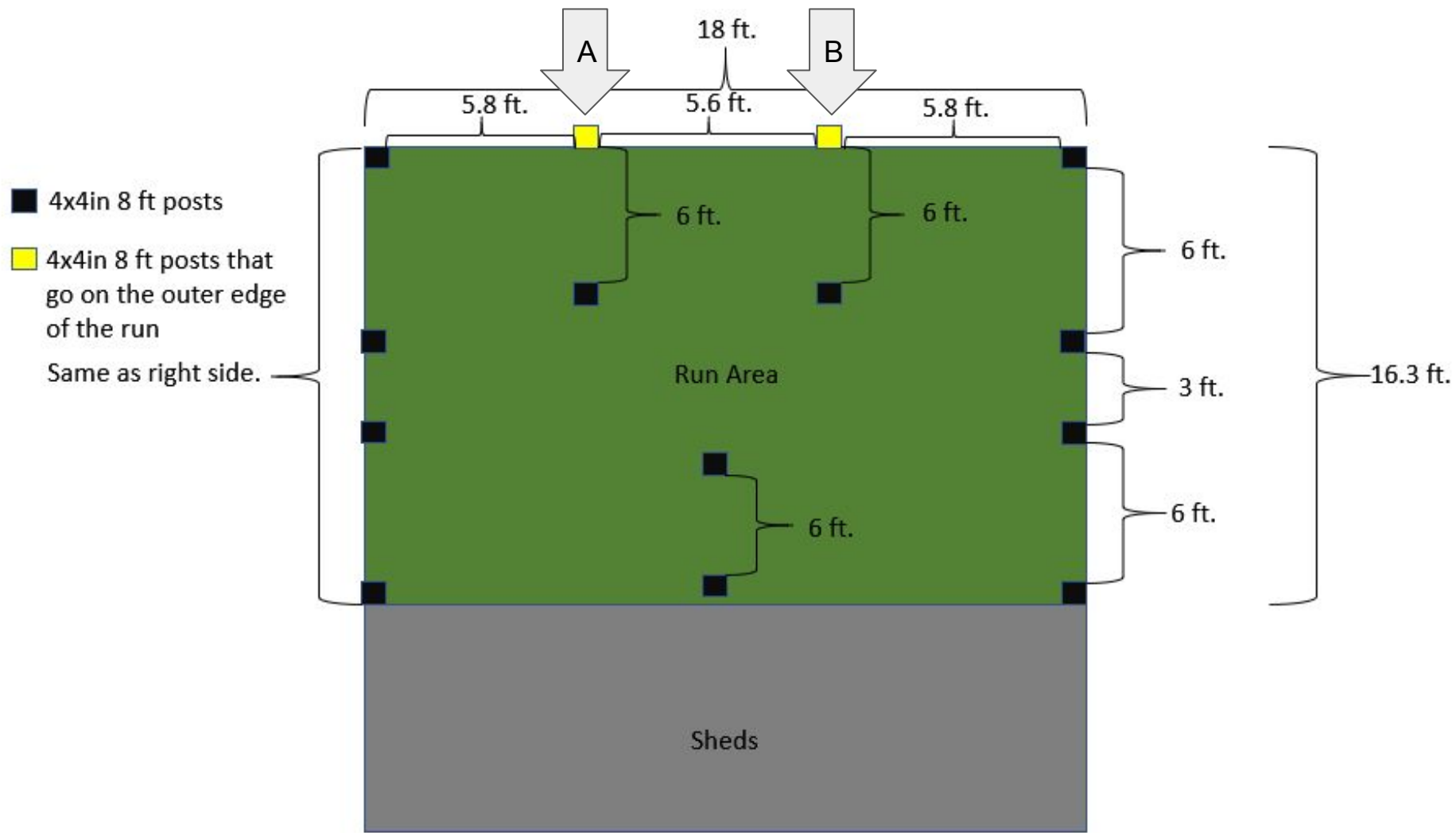
- 6 foot 2x4 beams: 38
- 8 foot 4x4 beams: 14
- Brackets
- Screws
- Saw
- Screwdriver
- Cement
- Measuring tool
- Level

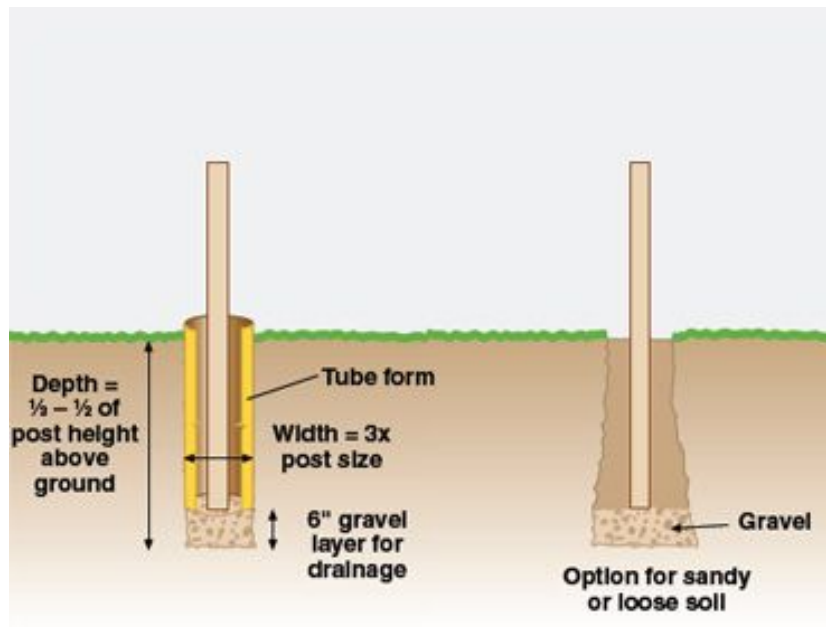
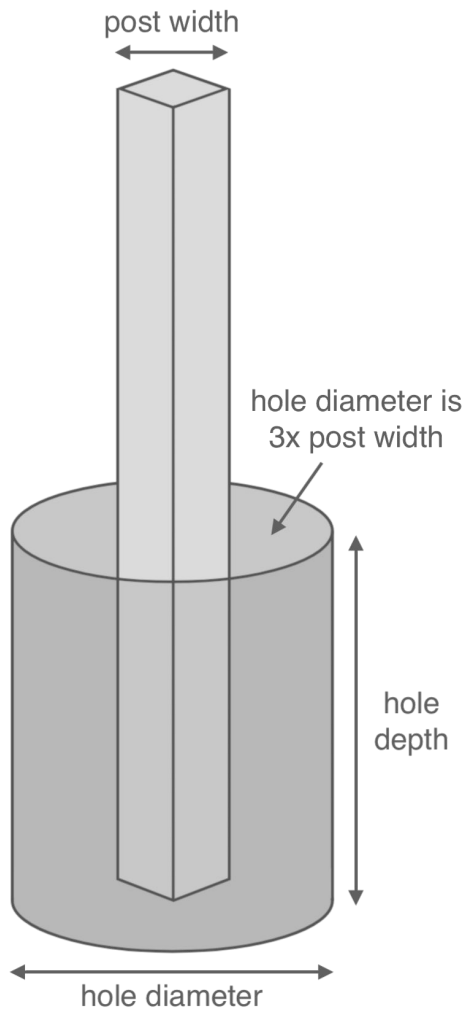


# Step One: Digging the holes

- Using the diagram in the next page, dig holes for the 8 ft 4x4 beams in the appropriate spots. These holes should be 2 feet deep.
- Once the holes are all dug, first start by placing (one by one) the three 4x4 beams that are next to the shed (Numbered 1,2,3). Ensure that they are connected to the shed and there are no gaps between the beam and shed side.
- When putting the other beams in the holes, level the beam first and then pour cement into the hole to secure the beam to the ground.
- Pat down the dirt around the holes and beams and ensure that the ground around the beams is level and smooth.
- \*\*\* For Beam A and B, ensure they are placed on the outskirts of the run, they will NOT be in line to the other beams in that row. See diagram on the next page.

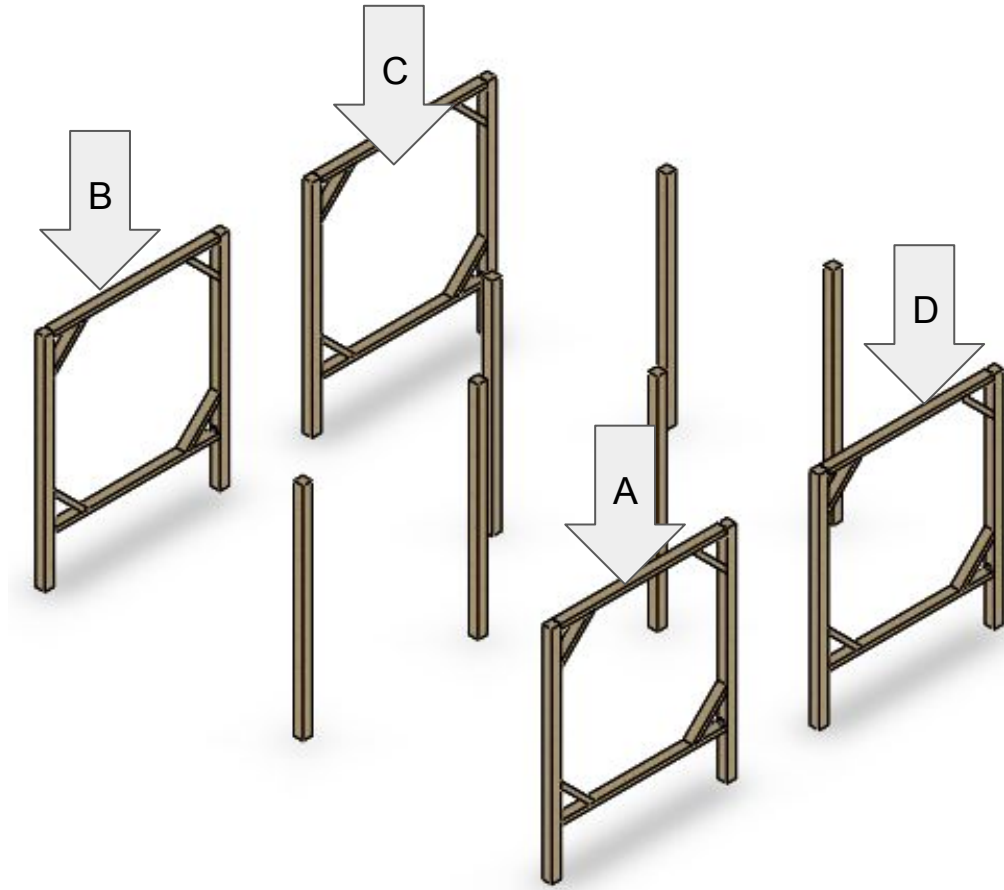






## Step Two: Attaching the side walls

- Now that the 4x4 beams are in the ground and the ground around them is level, it is time to make the panels.
- Using the blueprints for the panels, start with Side A, and build the panel.
- Next, build the panel on side B and work your way to C and then D.
- Ensure that all the parts are secured using brackets and screws.



# Step Three: Attaching the Doors

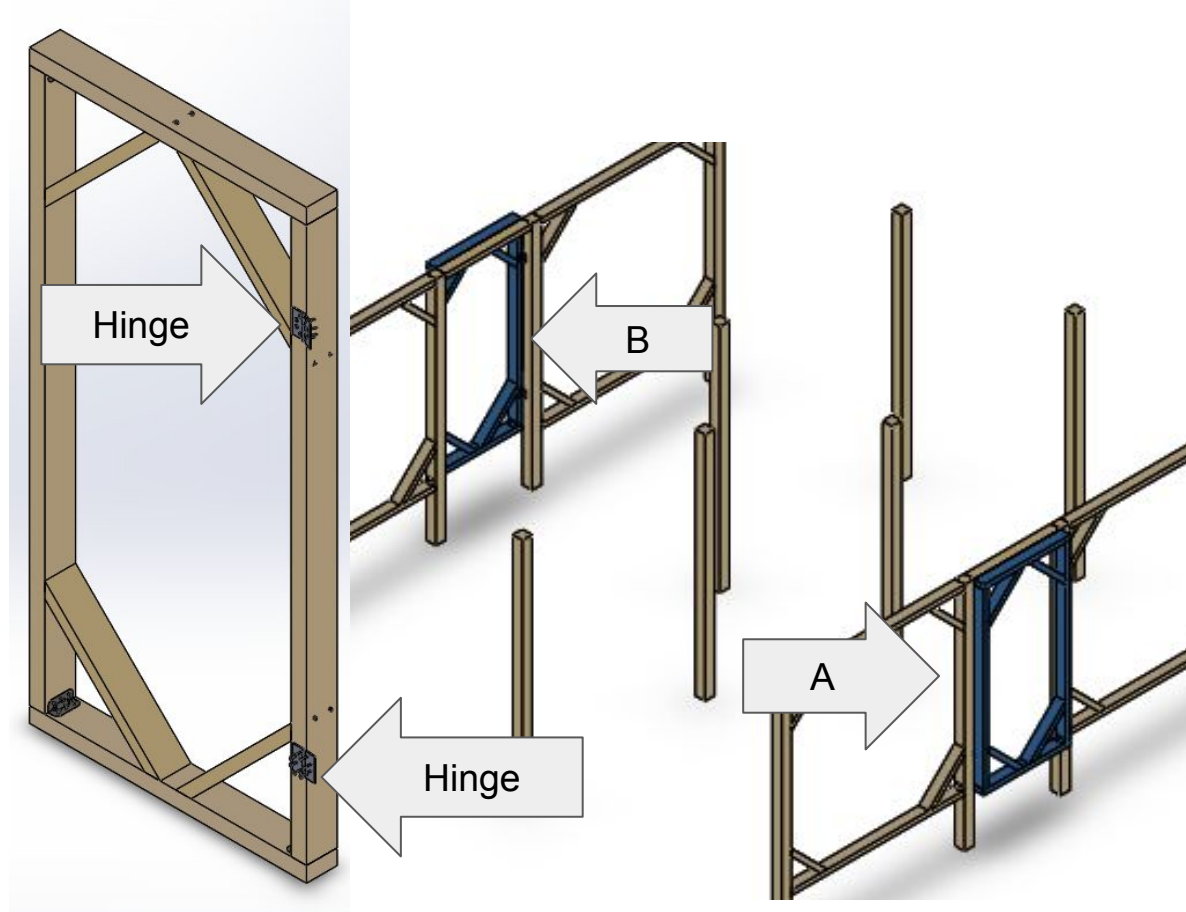
- Using a 3 ft long 2x4 beam, start at Side A and place the beam on the top of the doorway area as shown. Secure the beam using brackets and screws.
- Repeat this step for side B.
- Ensure the beams are properly secured to the 4x4 beams on either side.





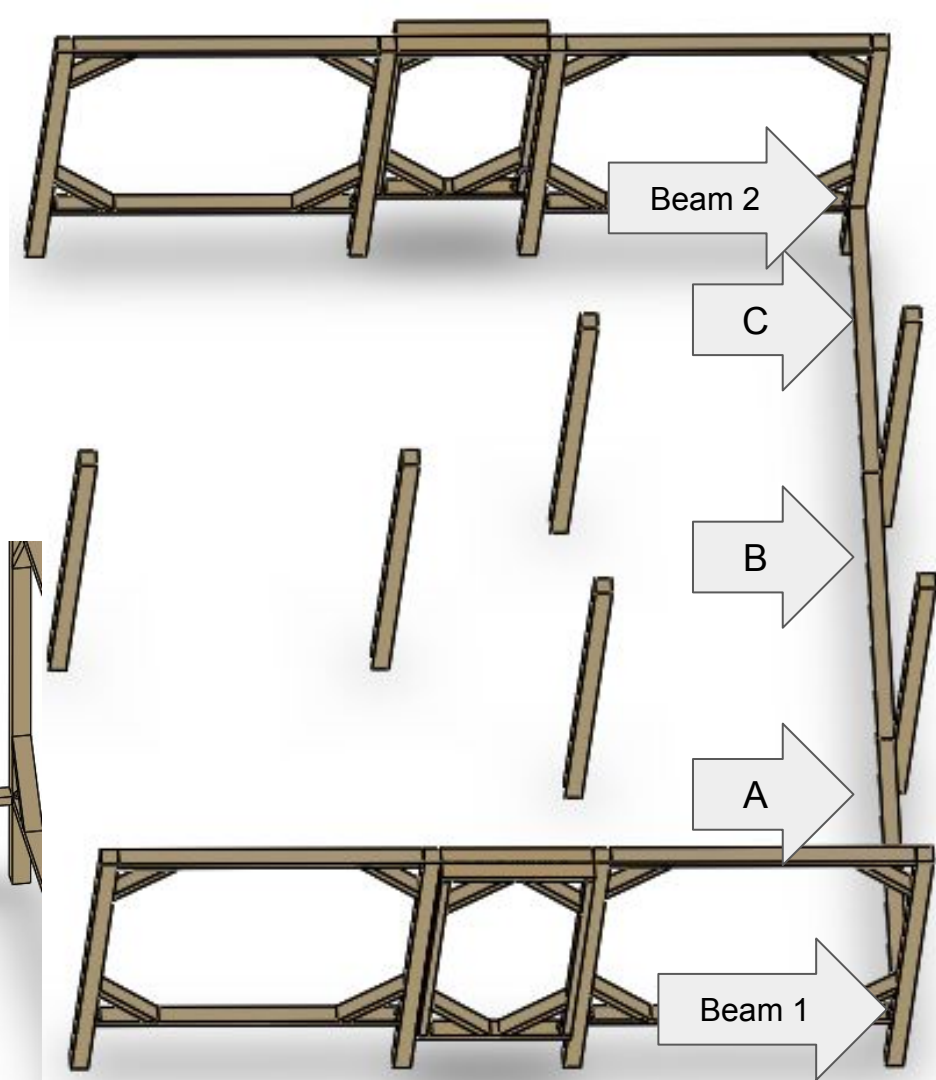
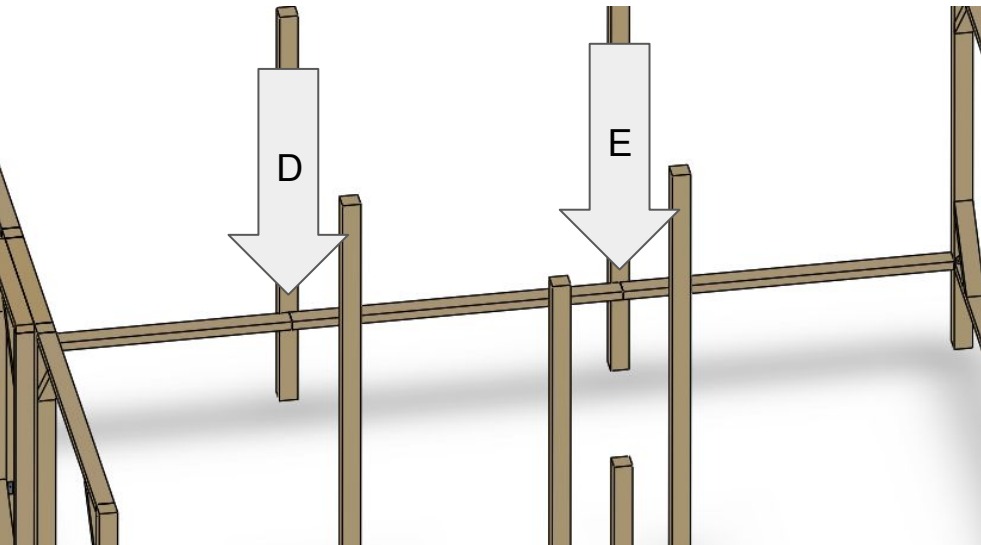
# Step Three: Attaching the Doors Cont.

- Refer to the blueprints for how to build a door. Ensure all parts are secured using brackets. Ensure hinges are placed on the door
- First start with placing in door A, then continue with door B. The hinges will be attached where Arrow A and B are pointing.
- To attach the doors so they swing inwards, simply attach the hinges on the inside of the run instead of the outside as seen in the picture.



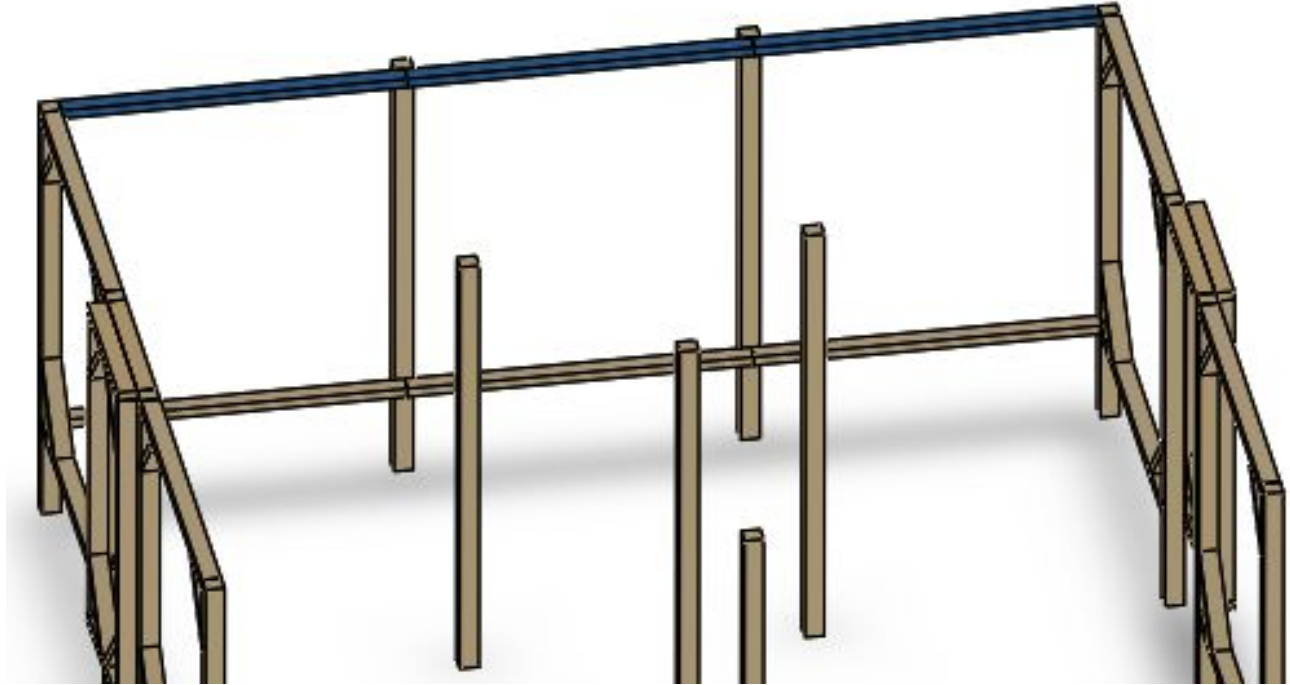
## Step Four: The back panels

- Using 6ft. 2x4 beams, start at Arrow A and place a beam on the ground so that it connects to beam 1 and the middle 4x4 beams as shown. Secure the beams to each other as well as to beam 1 and beam 2.
- These beams will also be connected to the middle 4x4 beams as shown below on arrows D and E. Ensure that they connect exactly in the middle of the 4x4 beam and secure using a bracket.



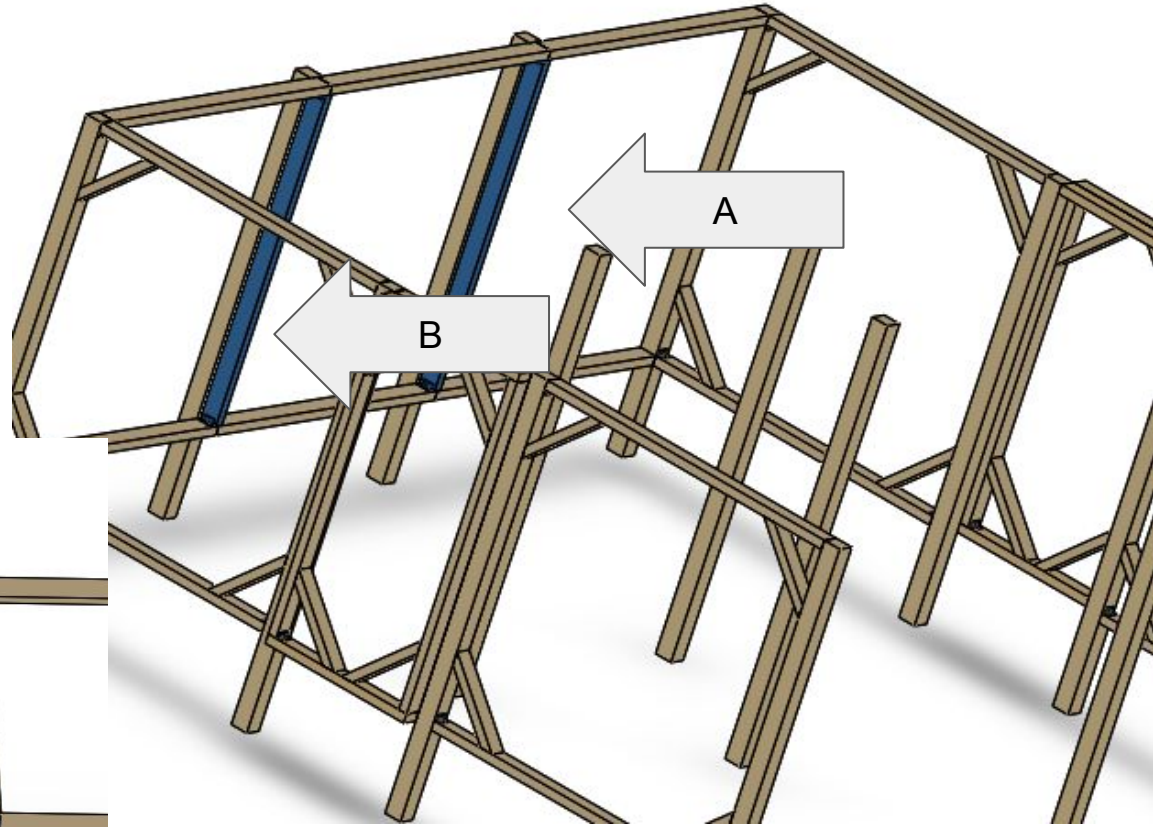
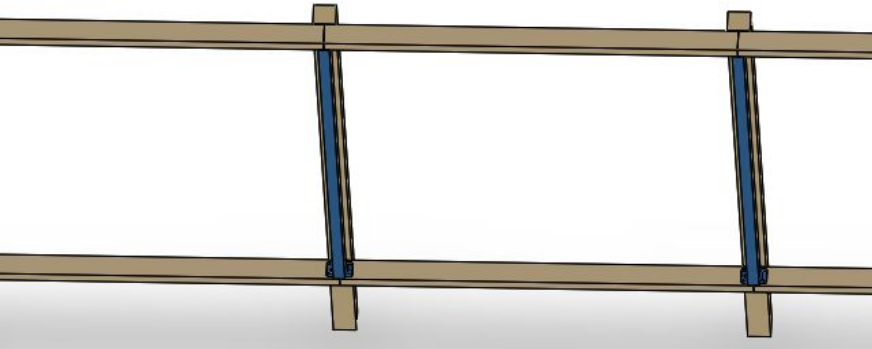
## Step Four: The back panels cont

- Using 6ft. 2x4 beams, add top beams the same way the bottom beams from the previous page were added. Ensure they are secured to each other and the 4x4 beams with brackets and screws.
- These beams will also be connected to the middle 4x4 beams as shown before with the bottom beams



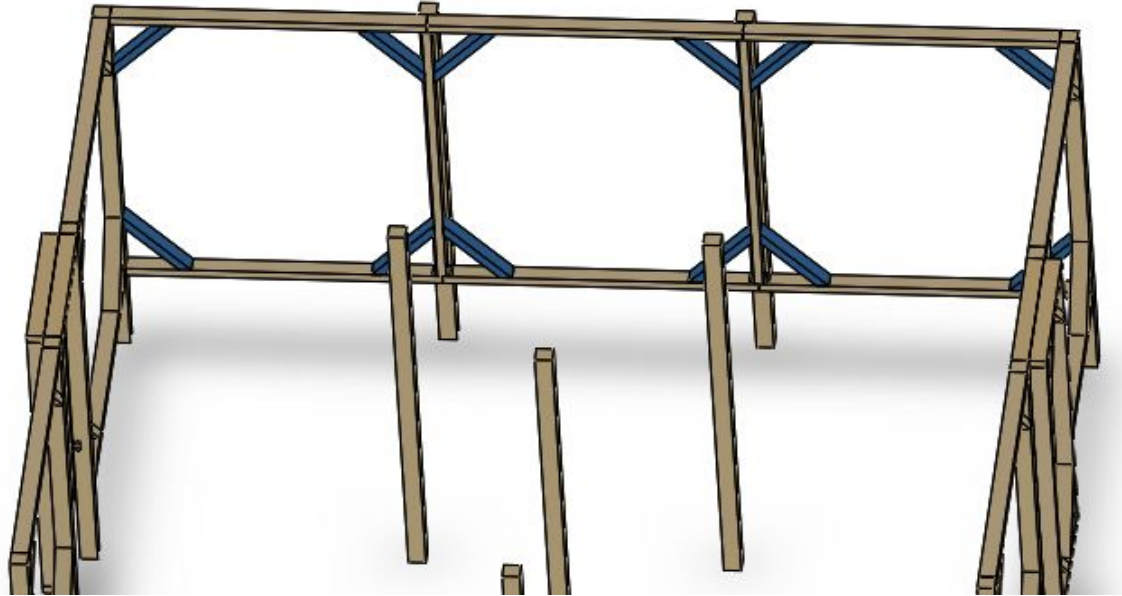
## Step Four: The back panels cont

- Using 6ft. 2x4 beams, first add a middle beam against the back 4x4 beams at point A. Secure the beam using brackets and screws.
- Add another beam at point B, and secure using brackets and screws.
- As seen below, these beams should be centered on both the 4x4 beams and also the top beams.



## Step Four: The back panels cont

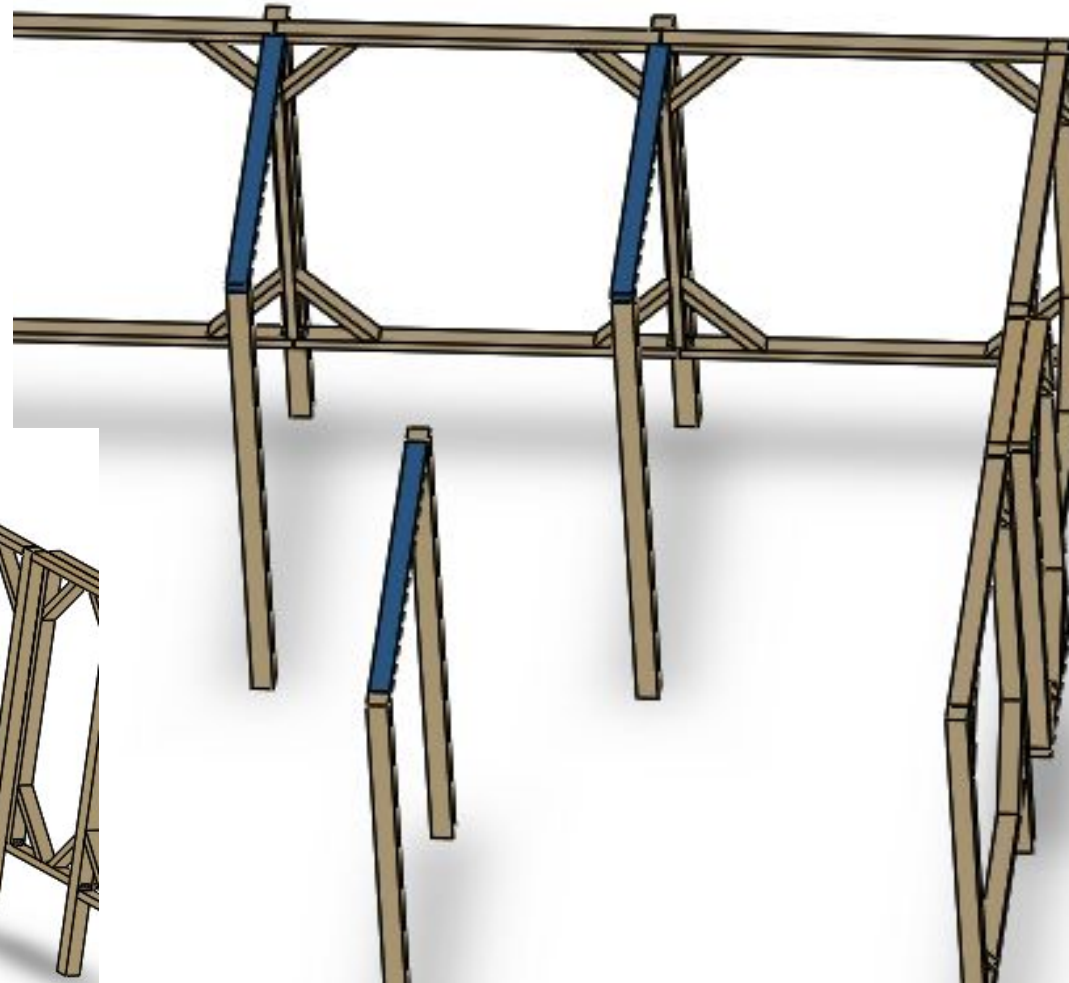
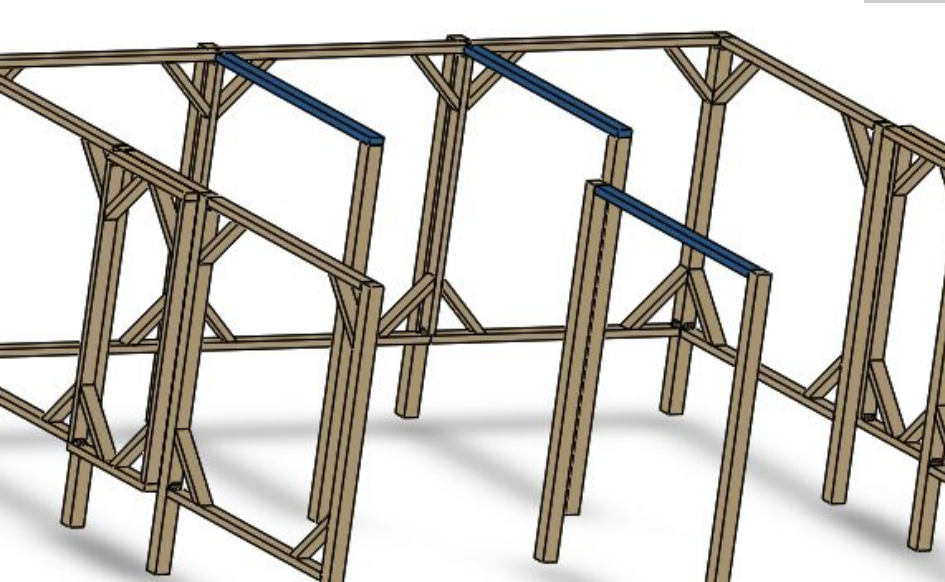
- Add the support beams to the back panels as shown. Use the blueprints for the panels and door for the support beams.
- Ensure everything is properly secured using brackets and screws.





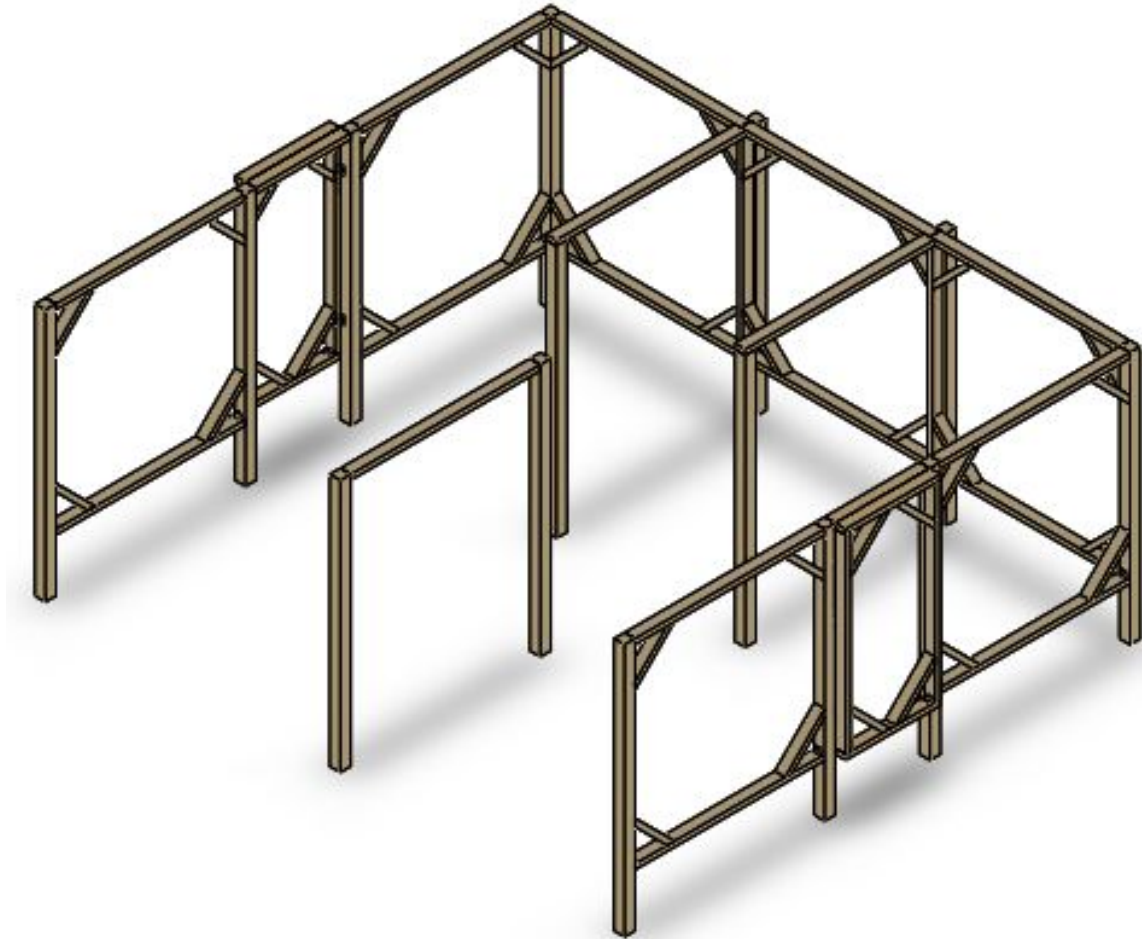
# Step Five: The roof supports

- Using 6ft 2x4 beams, attach the beams as shown. The beams will serve as roof support for the hardware cloth.
- Attach beams using brackets and screws.



# Step Six: Safety Check

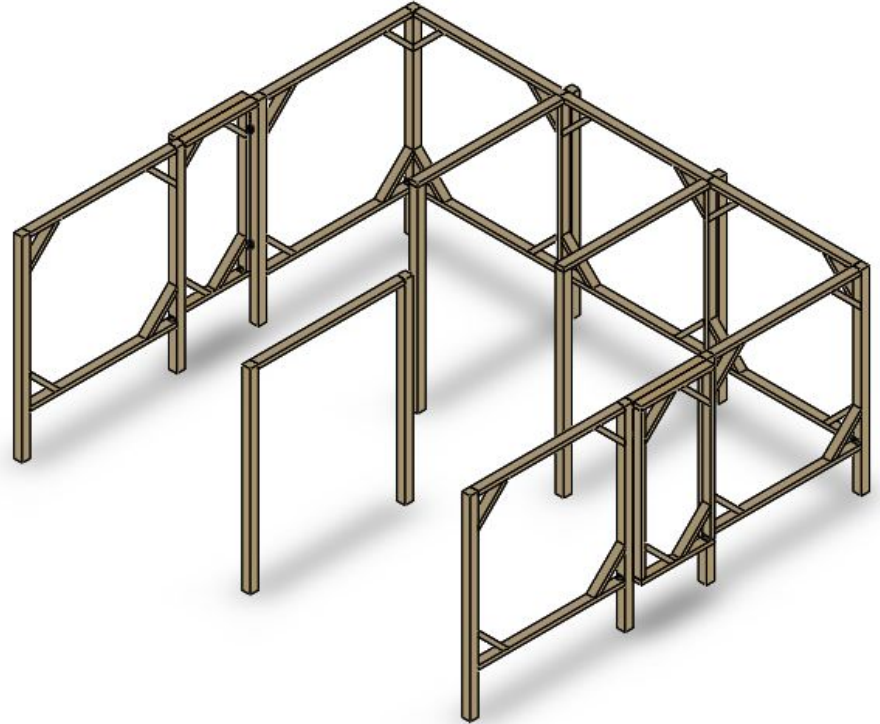
- Once the run has been completed, take a look around to ensure all parts are properly screwed in and secured
- Look out for gaps among the wood where predators can potentially squeeze through.
- Test the run by leaning on random spots or pushing on the run to ensure it is structurally sturdy.
- **If there are weak spots on the run, contact our team:**
- **Marisol Sanchez (817) 210-5053**  
[msanchez@wpi.edu](mailto:msanchez@wpi.edu)
- **Nate Fakhanel (518) 860-8205**  
[nfankhanel@wpi.edu](mailto:nfankhanel@wpi.edu)
- **Vivek Wong (626) 757-4525**  
[vcwong@wpi.edu](mailto:vcwong@wpi.edu)
- **Cray Johnson (843) 822-6741**  
[chjohnson@wpi.edu](mailto:chjohnson@wpi.edu)



# Adding Hardware Cloth

Materials:

- Completed Run Frame
- Hardware cloth
- Screws
- Washers
- Screwdriver
- Ground picks





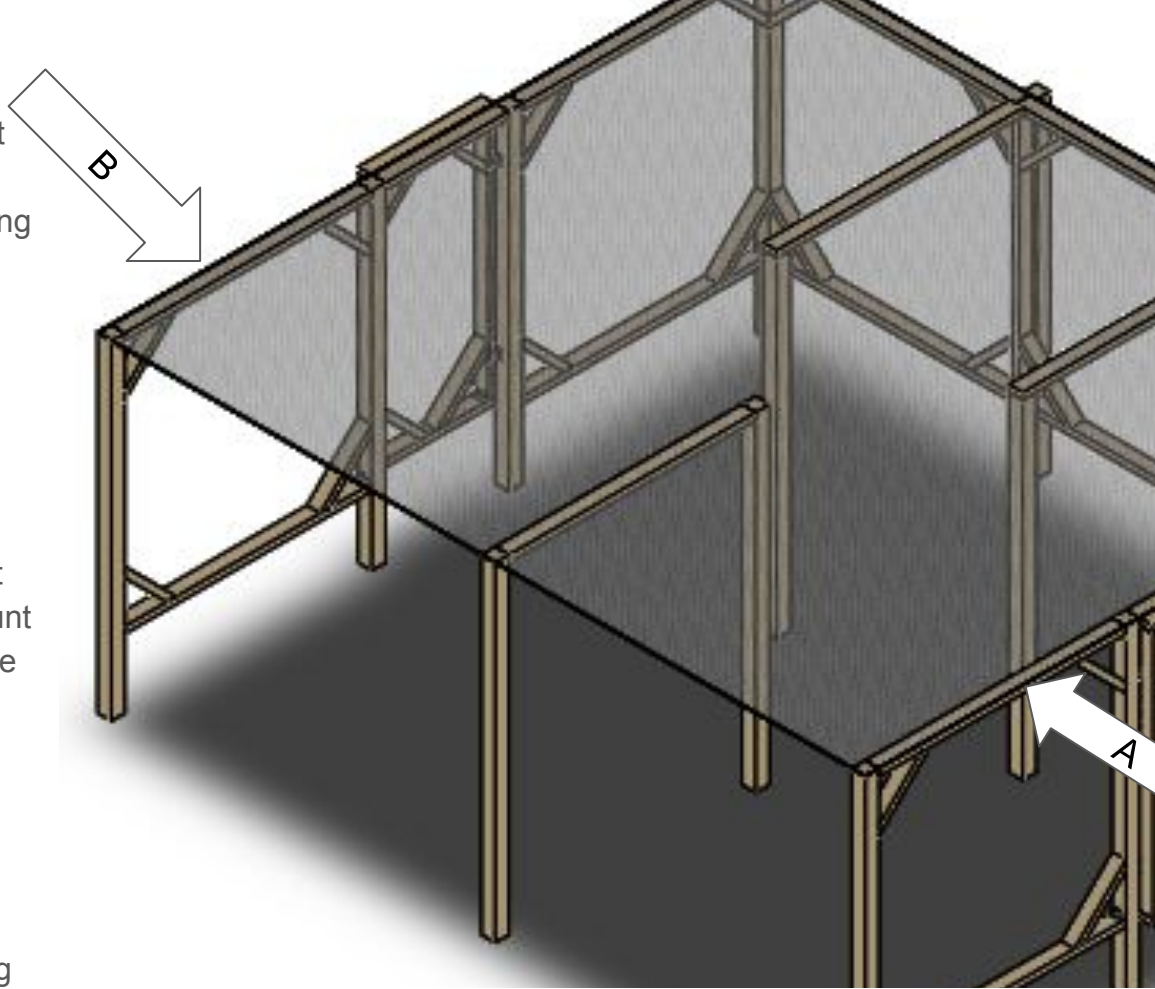
# Washer-Screw Method

- Place a washer over the hardware cloth hole (as shown in the picture)
- Place a screw in the washer and screw into the wood
- Place washers about 6-8 inches apart as needed
- Ensure that the washers are placed towards the edge of the wire
- **WARNING:** Hardware cloth can be extremely sharp, especially when cut. **DO NOT** do this without gloves on. After cutting the cloth, ensure to bend the edges of the wire so they do not poke out and hurt someone. Do this after every cut. **OR** Ensure that cuts are made so that wire does not stick out.



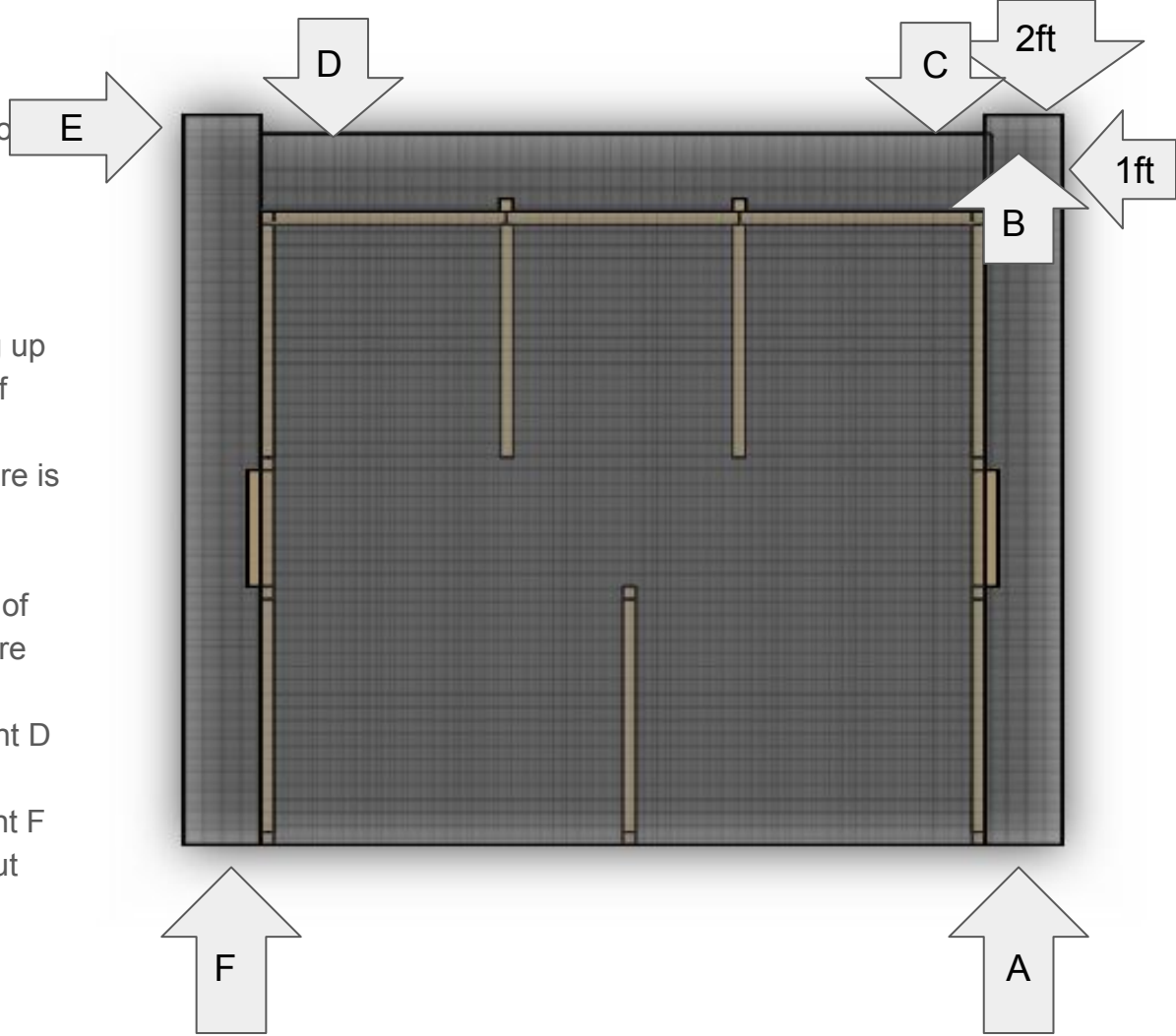
# Step One: Roof

- Unroll the hardware cloth and attach the 3 foot width end to side A along the outer side of the beam (as pointed to by the arrow). Secure using the washer-screw method. Ensure to evenly place washers with screws about 6-8 inches apart along the edge of the beam on side A.
- The hardware cloth is only 3 feet wide, so this will need to be repeated various times across the roof to ensure that the roof is properly covered.
- Unroll the hardware cloth from Point A to Point B. Once at Point B, pull the hardware cloth taunt and use clippers to cut off the excess hardware cloth.
- Secure the hardware cloth on the end of the beam at Point B.
- Repeat across the roof as needed.
- Ensure the the 3 foot wide hardware cloth slightly overlaps across the roof to ensure optimal protection. You may tie the overlapping hardware cloth with zip ties if you wish.



## Step Two: Skirting

- Skirting will be used to prevent predators from digging.
- Begin at point A. Lay down the 3 foot wide hardware cloth and roll out until Point B. Ensure you have 2 feet of the cloth on the ground, with the remaining one foot coming up from the ground to rest against the run itself (See next page for a picture). Cut out the hardware cloth for the door entrance so there is 1 foot coming up from the ground does not interfere.
- Roll out the cloth about 1 foot from the end of the run as seen by Point B. Cut the hardware cloth. Secure to the ground using picks.
- Roll out hardware cloth from Point C to Point D using the same procedure as mentioned.
- Roll out hardware cloth from Point E to Point F using the same procedure. Ensure to cut out the cloth for the door entrance.
- Secure cloth to the ground using gardening picks and cover slightly with dirt to hide





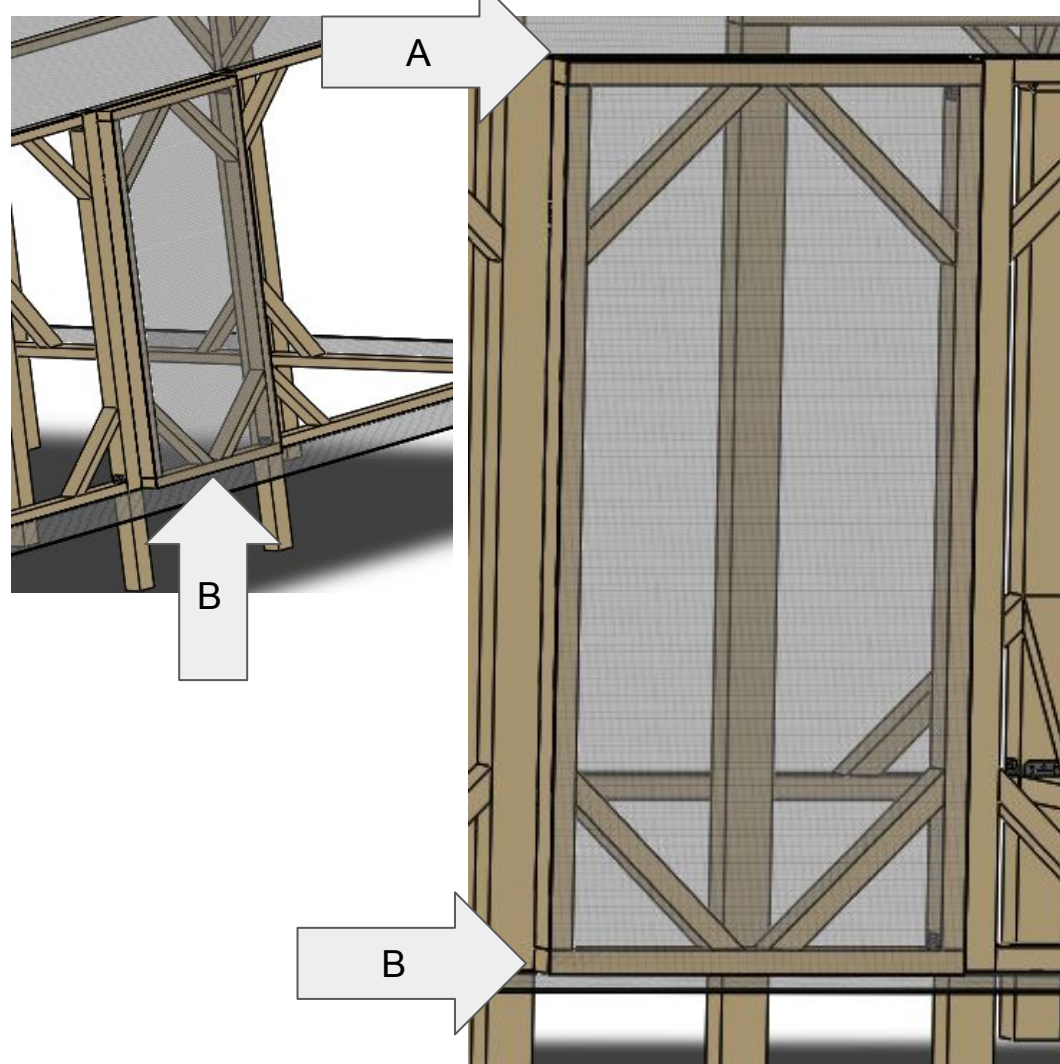
## Step Two Cont.

A picture of the raised one foot of wire being secured to wood



## Step Three: The doors

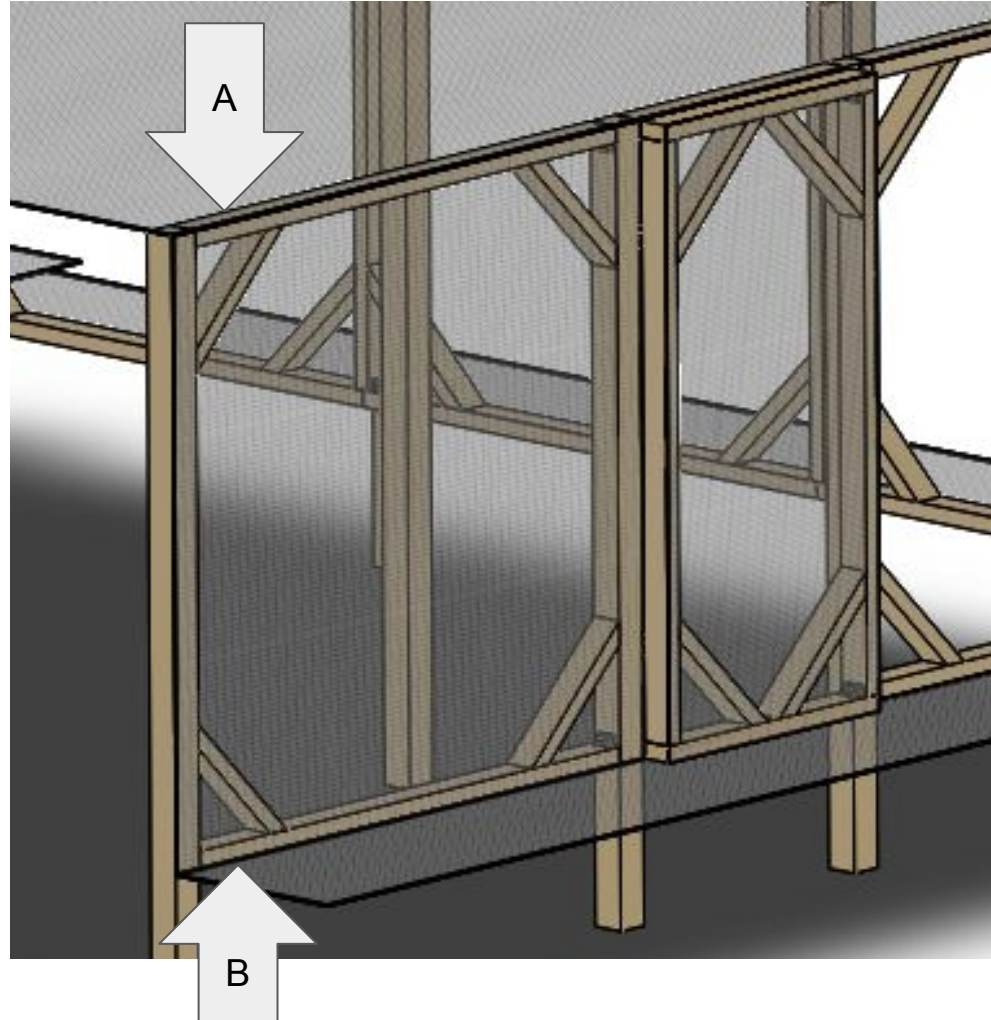
- The door is 3 feet wide, so the hardware cloth should fit snugly on the door frame.
- Start by attaching the hardware cloth on the top of the door frame at Point A. Use the washer-screw method to securely attach.
- Pull the cloth taunt towards Point B and securely attach at the base of the door using washers and screws.
- Cut the remaining cloth using clippers.
- Repeat this on the other door.





## Step Four: The side walls

- Hardware cloth will be secured on the outside of the run.
- First attach the 3 foot wide hardware cloth starting at Point A. Attach the 3 foot wide side of the cloth across the beam at Point A using the washer-screw method. Pull the cloth taunt and towards Point B. Securely attach the cloth at the base of Point B using washers and screws. Clip off the remaining hardware cloth.
- Each panel will require doing this procedure twice across (3 foot wide rolls, means twice across for 6 foot wide panels).
- Repeat this procedure for the entire run



# Step Five: Ensuring all parts are secured

- Once all the hardware cloth has been added to the run, take a quick check around the run to ensure that wire is not sticking out and harmful for others.
- Clip off any wire pieces that may be poking out.
- Ensure that there are no holes throughout the run and the cloth is secured and taut.

