Germination Chamber
dimensions 16' x 8' x 4'

STEP 1: Assemble materials

ITEM	NOTES	QUANTITY
2x4s	8' long	46
foam board 1"	4x8' pieces	14
plywood, PT 1/2"	4x8'. for floor only	2
2 ½ inch exterior screws	for construction	1 box
Plastic washers	For screwing foam to wood	1 box
Hinges	For the door	2 or 3
Foam spray	To fill gaps	2 cans
Metal wire shelving	6' high, 4' long, 18" deep	3
Metal wire shelving	6' high, 3' long, 18" deep	1
LED shop lights	4' long	2 or 3
Remote thermometer	To be able to read interior temp from outside	1
Small space heater	Get one with a fan!	1
InkBird thermostat	Heater on/off control	1
circulation fan	for air flow throughout	1
Outdoor power strip and cords		1
Driver/drill		
Serrated knife to cut foam		
Tape measure and pencil		
Chop saw or other		

Identify your final destination and build in place, if possible.

Keep in mind when you're choosing a location that you'll need to be able to get a drill up above the ceiling to screw down the ceiling foam board pieces! Don't place it too close to any barriers.

STEP 2: Build base

(not our photo!)

Build bottom frame at dimensions of 4'x16', with at least 5 interior cross pieces.
Fill in the base with 1" foam board (try to cut pieces such that they will fit right in and hold there)
Top with ½" PT plywood.
Flip the whole base on its side and use a few shorter screws, if you have them around, to tack the foam to the plywood from the top, holding the foam to the board.

STEP 3: Construct frame

Build the frame of the structure (short sides, long sides, roof, and door frame) using 2x4s.
As you can see in the photos, we constructed each side down on the ground and then stood them up to attach.
We put a 2x4 laying flat across the bottom edge for maximum stability when screwing into the floor boards all around, and lay a 2x4 across the exterior edge of the uprights at the top.
We recommend doing the short sides first, then the long sides. Leave enough of an opening for your door where you want it when framing that side! And remember you might be carrying multiple trays in at once, so make a nice wide door.
Leave the support cross pieces of the ceiling for last - we secured them to the uprights and to the exterior edge.

STEP 4: Cover exterior with foam board

Use your screws plus a plastic washer to attach foam to the uprights from the outside. You may need someone inside helping you locate your uprights, if you didn't space them exactly evenly. Attach foam to the roof as well.

STEP 5: Build your door

Construct a door out of 2x4s and foam board
Mount with hinges
Secure with a makeshift wooden spin latch

STEP 6: Interior
Seal any gaps well with spray foam.
Assemble shelving units and move them in along the back wall.
Hang lights on top of shelving units.

STEP 7: Power and set up
Drill one hole in foam board to run power cords through for lights and heater. (Consider sealing with spray foam once everything is in place.)
Mount your power strip inside.
Mount probe for remote thermometer inside.
Mount or station small fan for air circulation (optional).
Position or mount heater.
Mount InkBird on the wall and place probe in a 3" pot of soil. Set your desired soil temperature.