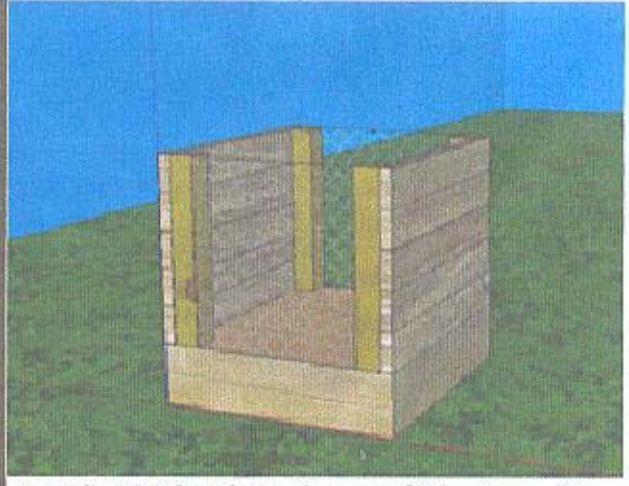
The Green Box

Aspiring members of the Davidson Robotics team were asked to create a "better box". The box was required to be no larger than 24"x24"x24". The Green Box was designed to be an innovative compost box. Compost boxes, or bins, are used to decompose organic materials. When decomposed, these materials can be used as ferilizer for a garden. Compost is prefered by many gardeners because it is much cheaper and does not contain toxic chemicals. The Green Box ensures that you are receiving the best possible compost. Its compact design makes it perfect for small, backyard vegtable gardens or herb gardens.

How to Compost

42

Once you are finished constructing The Green Box, you can start composting. The Green Box should be kept outside, in direct sunlight. To begin creating your own fertilizer, simply place garden and kitchen waste products in The Green Box. Plastics, glass, animal byproduct, nonbiodegradable materials, toxic materials, cooked food, and materials high in acid should be avoided. For the best compost you should try to create an equal mixture of materials high in nitrogen (coffee grounds, fruits, vegtables, grass cuttings, etc.) and materials high in carbon (fall leaves, dead plants, cardboard, hay, etc.). It is prudent that you keep your pile very moist. The pile should feel as damp as a sponge. For best results, turn the compost once or twice a week. Many people choose to add red worms to aid in the decomposing processs. You can add soil or starter compost to the compost pile to help, but this is not necessary. Containers can also be placed on the sides of The Green Box to collect the liquid that drains from the compost pile. This liquid can be used as a liquid fertilizer. To see if compost is ready, check the teperature. Compost that is warmer than the surrounding air is ready to be used in a garden. The compost from The Green Box can be added to your garden just as store bought fertilizer is added to to a garden. Compost provides the same amount of nutrition as feritlizer bought in stores but does not contain dangerous compost. The Green Box is the perfect way to support sustainable development. Happy composting!



Google 3D Sketch Up image of The Green Box

Constructing The Green Box

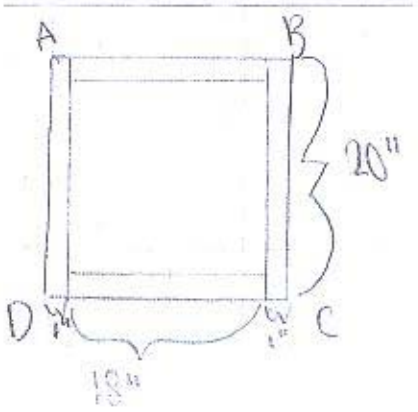
Materials

The materials needed to construct The Green Box are listed below.

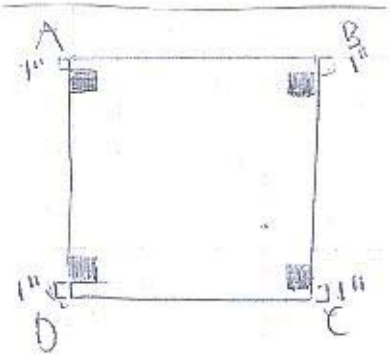
- 1 1"x20"x20" piece of birch ply wood
- 2 1"x4"x20" pieces of cedar
- 2 1"x4"x18" pieces of cedar
- 10 1"x3"x20" pieces of cedar
- 4 2"x2"x15" pieces of lumber
- 2 pieces of chicken wire cut to 15"x20"
- nail gun and nails
- heavy duty stapler and staplers
- professional wood glue

Instructions

1. Start with 2 pieces of 1"x4"x20" cedar, 2 pieces of 1"x4"x18", and professional wood glue.
2. Create a square out of the wood. Both 1"x4"x20" should lie parallel to each other. Both 1"x4"x18" should also lie parallel to each other. Follow the diagram shown below.

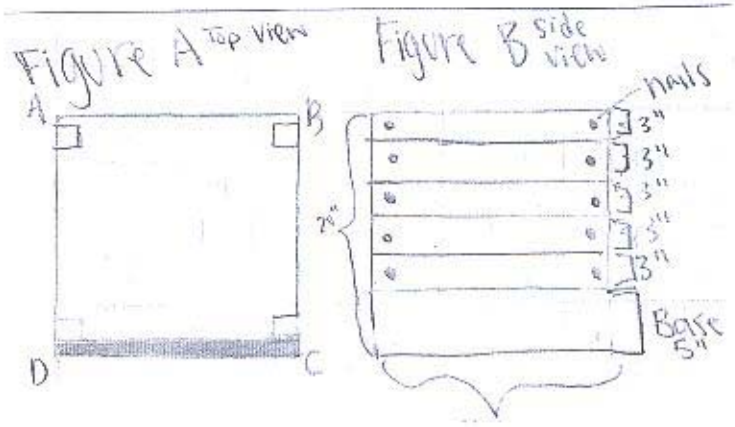


3. When the wood is in place, use the professional wood glue to fuse the pieces of wood together.
4. Allow time for glue to dry.
5. Glue the 1"x20"x20" piece of birch plywood to the wooden square that you just created.
6. Allow time for glue to dry.
7. Refer to diagram below. The filled in squares represent the places where the 2"x2"x15" of lumber should be glued. These will act as support beams

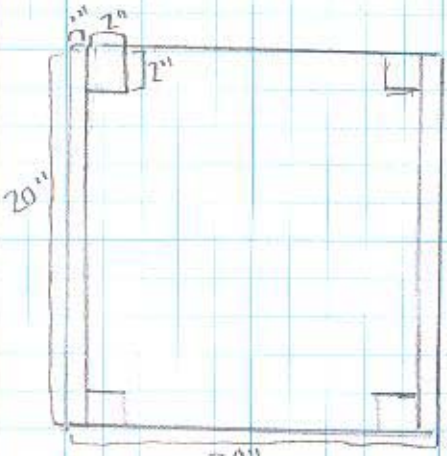


8. Allow glue time to dry.

9. Take 5 pieces of 1"x3"x20" cedar. These pieces should be nailed (using the nail gun) to the support beam on side DC (refer to Figure A below). There should be no space left between the boards. Figure B shows what this side of the cube should look like when completed.

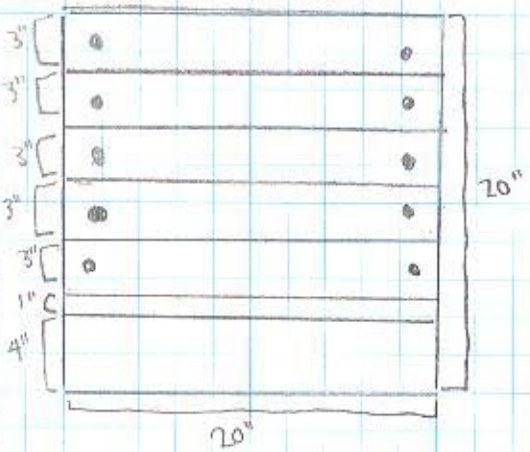


10. Repeat step 9 on opposite side (side AB).
11. Take 1 piece of chicken wire. Using the heavy duty stapler, staple the chicken wire to the support beams on one of the exposed sides (side AD or side BC). Make sure the chicken wire is firmly in place and will not move or bend when pressure is applied.
12. Repeat step 11 on remaining side.

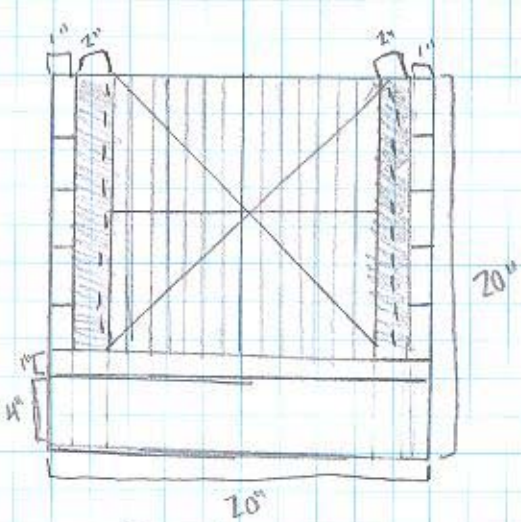


Top View

"THE GREEN BOX"
Scale: 1:10



Front View



Side View