

The Institute for Personal Robots in Education Presents:

Making the Robot Color Arena (a.k.a Fort Scribbler)

The Robot Color Arena is a standardized environment used for several IPRE assignments. You are free to create other environments for your robots, but if you follow these directions your arena will be of the same size/shape/construction as the environment we used when developing the “Color Arena” assignments and activities.

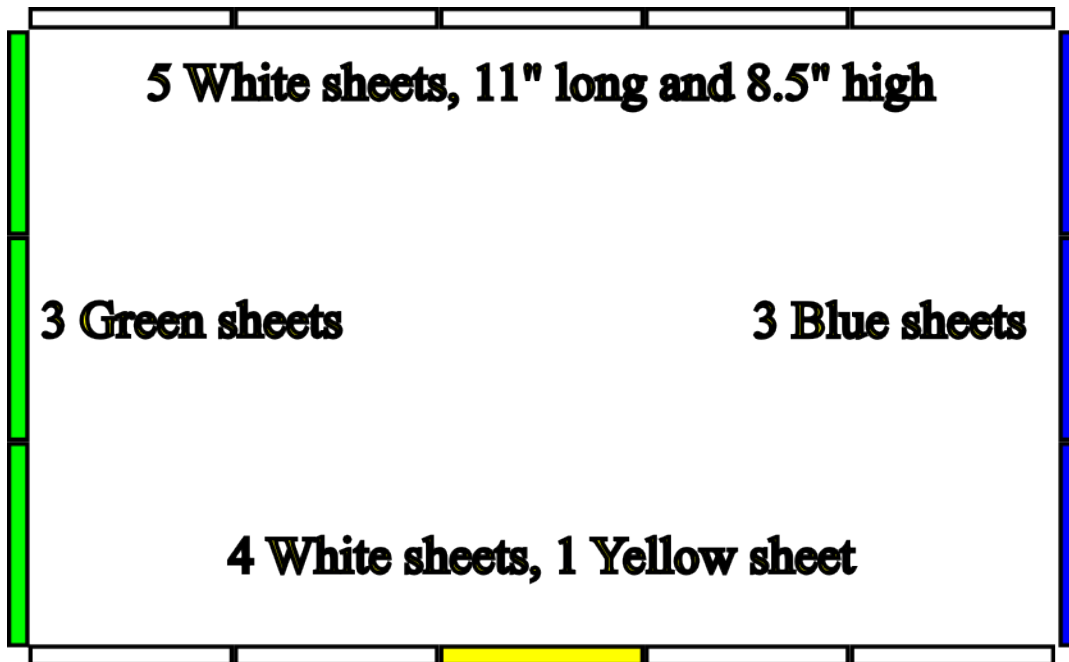
Step 1: Acquiring the necessary materials

Things you will need:

- xx sheets of 8.5x11 white paper (such as computer paper)
- x sheets of 8.5x11 blue paper (such as construction paper)
- x sheets of 8.5x11 green paper
- x sheets of 8.5x11 black paper
- x sheet of 8.5x11 red paper
- Tape (I suggesting masking tape)
- Enough supports to hold up the walls (I suggest cardboard boxes)

Step 2: Building

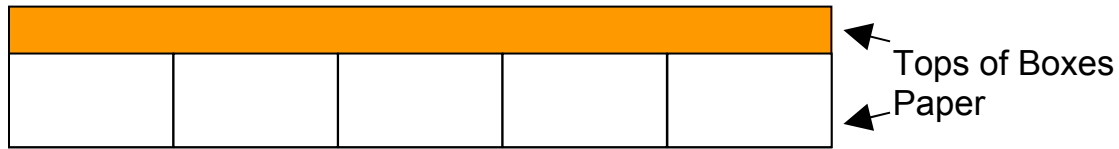
In the end, your arena will look like this from the top:



It is best to begin by building the walls. One side is **5 sheets** of **white** paper lying lengthwise and taped together. Since paper can't support itself vertically very well, this is where the cardboard boxes (or a wall or a table or what have you; something tall, flat, and not likely to be moved, basically.) come in handy. Simply tape the pieces of paper to the boxes, and you've got walls that won't fall down. It does not matter if your supports are taller than the paper!

Note: If you use cardboard boxes, make sure to weigh them down/tape the boxes together. This way, if the robot hits the edge of the arena, the walls won't move.

Frontal Wall View:

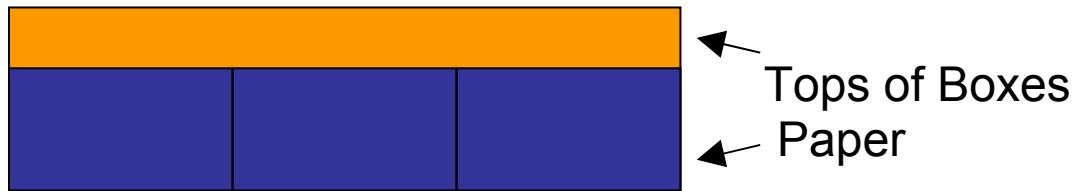


There, now you have made the first wall! Let's move on to the short walls

First Short Wall:

This is remarkably similar to the previous step, aside from 2 key differences. Firstly, you will be using **3 sheets** of paper, and secondly, the paper will be **blue**. Otherwise, it's the same deal.

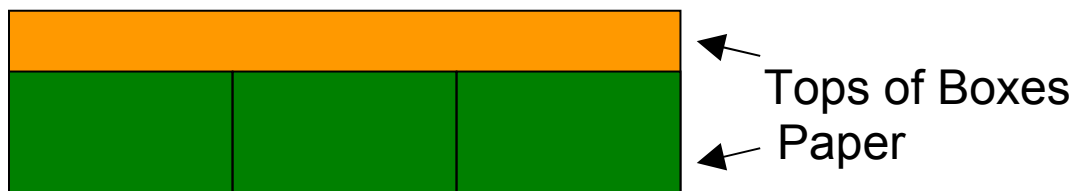
View:



Second Short Wall:

This is the same as the first, except that here you use the **green** paper.

View:



Now, for a change of pace, we shall build... another wall! For this one, you'll need **4 sheets** of **white** paper, and **1 sheet** of **Yellow** paper. Instead of sticking all 4 together, we need to make a gap in the middle for the yellow paper. (This is a special target on the back wall.) Thus, tape 2 pieces of white paper, one yellow paper, and then tape the other two white papers.

Your entire arena should be 5 by 3 (units of 11" paper).