

Tools

Materials:


## 1. Cleaning Markings on the Pipe:



## Safety First!

Work in a well ventilated and well lit area
When cutting/scraping/sanding the pipe safer to use a mask \& eye protection
Gently scrape the markings using a knife/cutter or fine grade sandpaper.
I prefer to scrape, I find it is the fastest method ... and the least messy
(You could also use steel wool, scotch-brite and acetone to remove the markings)

## 2. The Marking Jig:



Using cello tape and the strip of paper, make a paper tube. Roll the strip of paper over the Pipe - not too tight - just loose enough so that it easily slides over the pipe. This becomes your marking Jig. You can now slide the paper tube to the required position and draw a line (on the pipe) along the edge of the paper.

## 3. Cut The Pieces:



Mark 43mm from one end of the pipe. Use the Marking jig (the paper tube you just made) to draw a line all around the pipe. Cut using a Hack Saw (Or a PVC pipe cutting tool). The line drawn all around will help you to keep 'on line' and to make the cut nice and square. Use sandpaper (OR a file, OR a knife) to clean the rough edges.

Continue marking and cutting pieces of pipes.
Sizes and number of pieces are mentioned below:

43 mm Long $=14$ pieces (Let us call these 'S')
109 mm Long $=8$ pieces (Let us call these ' M ')
241 mm Long $=4$ pieces (Let us call these ' L ')
465 mm Long $=1$ piece (Let us call this 'XL')
Totally you'll have $14+8+4+1=27$ pieces

After cutting all the pieces you'll be left with about $\mathbf{1 0 0} \mathbf{m m}$ length of the pipe.
Keep it safe - It'll be used later in case you decide to make the 'wheel-assembly' (Step-10)

The lengths and number of pieces are calculated after trying/designing several assemblies. It is important that you stick to the lengths mentioned here. One length of 10ft Pipe will be fully consumed Nothing wasted!

## 4. Ease of Assembling/Dismantling:



IMPORTANT:

Make cuts of about 12 mm length at both ends of each of the 27 pcs.
This makes pushing the pipes into the fittings \& removing them easy.

Without these cuts, if you push the pipe tightly into a fitting (even without glue), It'll really be difficult for kids to pull it out. So these cuts are a MUST.

Clean all cuts using fine grade sandpaper or a file.

## 5. Clean and GO!



## Clean and wash:

Wash all the pieces thoroughly (to remove any dust, dirt, particles etc).
I soaked the pieces in mild detergent solution for about 5 mins and scrubbed them with a soft old toothbrush, washed them clean, and dried using a paper towel.

## Start Off:

Now that you have 27 pieces of pipes and 28 pieces of fittings ....
Your 55 piece Kit is Ready to use.


## 6. Assemble the Wheels




MY FINISHED WHEELS




