

# Paper Rockets

300+ Feet With 1 Sheet of Paper, 2 Pennies, and a little Scotch Tape

1. Start with a single sheet of paper (heavy copy paper works good)
2. Get a piece of scotch tape 11.5" long, put it sticky-side-up on the table (hold it down at the very ends), then stick the long side of the paper on the tape, so the paper is half on and half off the tape. It helps to have one person hold down the tape, while another person puts on the paper. Trim the last 1/4" of tape from each end.
3. Still sticky-side-up, roll the paper up lengthwise on a length of 1/2" PVC pipe, starting with the end furthest from the tape. Try to keep the paper as straight and tight as possible. It should roll onto the tape at the end, so you have an 11" long, half-inch diameter tube, taped cleanly on the seam. The better and cleaner it is taped the straighter and higher it will fly.
4. Slide the paper tube to the end of the PVC pipe. It helps a lot if the PVC pipe is cut squarely and cleanly. Now take 2 inches of tape and place it across the open end of the paper tube, so that each end wraps down onto the paper tube. Now do the same thing again, so that if you looked at the end of the tube the tape would make a cross / plus-sign.
5. Set 2 pennies on top of the plus-sign you just made, and do the same thing again, so that the pennies are taped on the end.
6. If you don't want to get fancy, you are done and can launch the rocket as is. It works best to launch on a smaller tube than the diameter of the paper rocket. Some options are:

| Rocket          | Launch Tube      |
|-----------------|------------------|
| 3/4" PVC Pipe   | 1/2" PVC Pipe    |
| 1/2" PVC Pipe   | 1/2" Copper Pipe |
| 5/8" Wood Dowel | 1/2" PVC Pipe    |

You get the idea. I originally did it with 3/4" PVC and a 3/4" launch tube, but about 1/3 of the time it was too tight and would blow up the rocket on the launcher because it would build up too much pressure before it would slide off the launch tube.

The launch tube only needs to be a few inches longer than the rocket.

I've also built these with duct tape at the top. It is stronger, but sloppier, creating more drag. Electricians tape shrinks and crushes the rocket.

**Feel free to email me with questions or ideas: Brian, [brian@winchesterhills.com](mailto:brian@winchesterhills.com)**