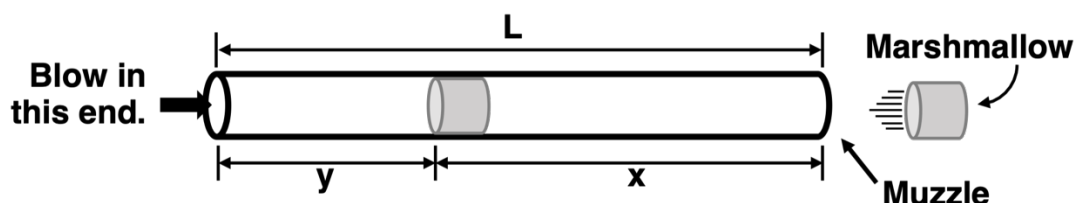


Marshmallow Launcher

Students are investigating the variables that affect the distance a marshmallow travels when launched by a marshmallow launcher. The launcher is constructed from hollow PVC pipe. The pipe is cut to varying lengths and loaded with a marshmallow. Blowing in one end of the pipe launches the marshmallow out the other end. The students are using pipes of varying length (L) and placing the marshmallow varying distances from the muzzle of the launcher (x). The variable y is the distance from the trailing edge of the marshmallow to the end of the PVC tube into which air is blown. These two variables are shown in **Figure 1**.

Figure 1



Students set up lanes in a hallway and mark distances across the lanes at 5-meter intervals. They shoot the marshmallows down each lane from the same starting position. They repeat the procedure five times within each lane using a unique length of pipe and/or a unique starting position of the marshmallow within the pipe. **Table 1** shows the values of x and y that are used in each lane. The locations where the marshmallow lands are shown in **Figure 2**.

Table 1

Lane	L	x	y
1	10 cm	2 cm	8 cm
2	20 cm	2 cm	18 cm
3	10 cm	5 cm	5 cm
4	18 cm	13 cm	5 cm

Figure 2: Landing Location of Marshmallows

