

## Preparing The Model

:: Prior to attending the demonstration, the visiting engineer should make the following preparations (Figure 6):

- (1) Cut the bottom off the water bottle.  
Remove the straw and cut a hole, approximately 1/2-inch square, next to the edge of the cap.
- (2) Use four strips of tape to mount the whistle over the drinking straw hole.
- (3) Make a one-way "flap valve" by folding a strip of tape back on itself such that only 1/4 to 3/8 - inch of adhesive surface is exposed, and tape this adhesive surface to the underside of the bottle cap, right next to the edge of the cap.
- (4) If possible, test the model in a sink or bucket of water at home, to make sure that there isn't excessive "blow—by" around the edges of the flap valve or base of the whistle.
- (5) Once satisfied that the flap valve is working properly, stick the last strip of tape to the top of the cap, over the flap valve window. This will conceal it from the students and prevent the flap valve from functioning during the first part of the demonstration.
- (6)

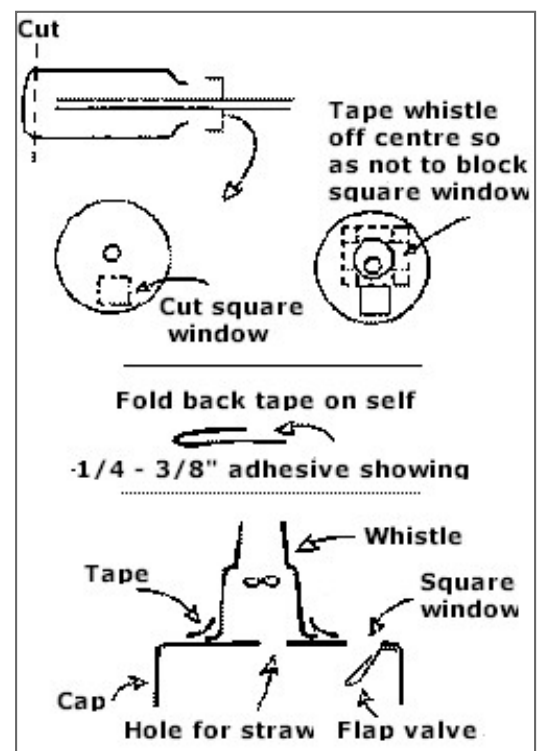


Figure 6

- (7) Be sure to let the teacher know that you'll want to work with teams of 4-5 students at a time (small enough to gather around the bucket or sink and still see what's going on). Also verify that a water supply will be handy—you may have to fill the bucket ahead of time.

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**:: The Demonstration ::**

