Name Period Date

**Marshmallow Puff Tube**

**Starter: Explain why a person doesn’t just stop falling in mid-air once the force of gravity becomes balanced by the force of air resistance.**

**Tube Assembly**

Cut a rectangle from the file folder about 29.5 cm by about 19 cm.

Place one of the long edges of the file folder inside the other, and tighten to form a tube that fits around the cylinder shape of a marshmallow – snug enough so that there’s no air space around the marshmallow, but not so tight that the marshmallow won’t be able to move. It may be easier to make the tube if you first pull the folder over the edge of a table to establish an initial curvature.

When the tube is rolled to the appropriate size, tape it so that it maintains this size. Then place tape along the entire length of the seam on the tube to seal it.

**To do and notice**

1. Roll the marshmallow in flour, then shake it or tap it to remove any excess. The flour will help prevent any sticky spots on the marshmallow from sticking to the tube.

2. Place the marshmallow in the end of the tube. Hold the tube horizontally, put your mouth over the empty end, and blow hard into the tube. Measure how far the marshmallow and record it below:

  **Distance marshmallow traveled at end of tube**

3. Again place the marshmallow in the end of the tube, but this time put your mouth around the end of the tube where the marshmallow is located. Blow hard against the marshmallow itself, so that it has to travel the length of the tube before exiting. Be sure to keep the tube horizontal, and keep blowing the whole time the marshmallow is in the tube. Measure how far the marshmallow traveled this time and record it below:

 **Distance marshmallow traveled at beginning of tube**

**Notes from discussion**

**Conclusion**

Explain why one marshmallow travel farther than the other using your knowledge of Newton’s 1st and 2nd Laws.