Name _____ Partner(s) _____ Date _____

Poppers

Purpose: To use the Law of Conservation of Energy to determine the work put in to some home made poppers and to determine the velocity of the poppers as they leave a surface.

Materials: 1 popper, meter stick or other distance measuring device.

Procedure: Turn the popper inside out and place it on a flat surface. Depending on the quality of your popper you might need to hold it with your fingers to prevent premature popping. Step back and watch the popper fly as it turns right side out again. Note the height the popper reaches. If it hits the ceiling, repeat the procedure but lower the starting point until it doesn't hit the ceiling. Repeat at least 8 times. Measure the mass of the popper on a balance.

Data & Results:

Mass of popper _____

height	potential energy	work in	kinetic energy	velocity

Sample Calculations:

potential energy

work

kinetic energy

velocity

Summary:

1. What is the law of conservation of energy?
2. How did you use the law of conservation of energy to calculate the work done turning the ball inside out?
3. How did you use the law of conservation of energy to calculate the kinetic energy of the ball as it started the upward journey?
4. How did you calculate the velocity of the ball as it left the surface?
5. What are the sources and sizes of your errors?