**Eggdrop Volunteer Handout**

Goal: To introduce students to Basic Principles of Physics by completing an egg drop challenge.

Students should be familiar with the following before completing the experiment. They should also include this information in the *Background Notes* section of their workbook.

* **Newton’s First Law (Inertia)**: An object at rest will stay at rest unless acted on by an unbalanced force. An object in motion continues in motion w/ same speed and in same direction unless acted upon by an unbalanced force.
* **Motion:** change in position of an object with respect to time. Typically described in terms of velocity, acceleration, displacement and time
* **Speed:** describes only how fast an object is moving
* **Velocity:** speed in a given direction
* **Acceleration:** rate of change in velocity with time. Rate at which something speeds up or slows down
* **Gravity:** natural phenomenon by which physical bodies attract with force proportional to their mass. Gravity accelerates objects toward the center of the Earth
* Need to create something that can absorb the energy the egg gathers as it accelerates towards the ground.
* Something that will cushion the egg at end of fall is a good place to start. (You want to decelerate slowly so it doesn’t crack or smash on the floor)

Question:

Can we design a system that will protect an egg from fall?

Hypothesis:

What structures work best when designing a system. Like what shape? What material?

Experiment Plan:

Sketch out the design for your structure and determine what materials they will use.

Results:

Have students describe what happened. Did the egg crack or stay intact? What part of the design worked and what didn’t? Any additional observations: Did the egg decelerate slower at the end, did it not fall as quickly? Remember to take pictures of their design **before and after the drop.**

Materials:

-Dozen of eggs   
-Dixie cups   
-Toilet paper   
-Straws   
-Toothpicks

-Popsicle sticks   
-Cotton balls  
-Sandwich bags  
-String/yarn  
-Tape  
-Rubber bands   
-Paperclips   
-Glue

-Rubber bands



