

# TARWATER ELEMENTARY SCHOOL STEM LAB

Activity ID: S-6

Activity Name: Egg Drop

## MATERIALS:

Materials Provided in Bin:

Item:	Quantity:	Notes:
Lesson Plan		
Tape	12	
Popsicle sticks	Multiple	Tongue depressors, too
Scissors	8	4 large and 4 small
Plastic Bowls	20	
Balloons	16	
Pipe Cleaners	Multiple	
Newspapers	4	
Straws	Multiple	
Rubber Bands	Multiple	

Materials Teacher/Parents Need to Provide:

Item:	Quantity:	Notes:
Eggs ( hard boiled and raw)		Start with hard boiled eggs for simplicity then move to raw for final drop

## WHAT ARE WE DOING?

Egg drop devices simulate parachutes and other similar features seen in nature, such as the helicopter seeds that are dropped from some trees. The process of slowing descent to resist the force of gravity has been used in a number of instances in history, and continues to be an important science – especially currently around emergency aid and transportation of goods to inaccessible areas. Students will work in groups to design and build an egg drop device. The students will be given a budget of 10 points used to purchase materials to protect the egg.

**Tape & Scissors: 1 point for both**

**Plastic bowl: 2 points**

**Balloon: 2 points**

**1 sheet of newspaper: 1 point**

**Popsicle sticks, tongue depressors, pipe cleaners, rubber bands: 1 point each**

## VIDEOS / LINKS:

Lesson Plan Source:

<https://stem.neu.edu/programs/ayp/fieldtrips/activities/eggdrop/>

Mythbusters Egg Drop:

<https://www.youtube.com/watch?v=ZOMW3hplSpl>

## SAFETY NOTES:

**Gravity** is a force which tries to pull two objects toward each other. Anything which has mass also has a gravitational pull. The more massive an object is, the stronger its gravitational pull is.

**Air resistance**, also known as **drag**, is a force that is caused by air, the force acts in the opposite direction to an object moving through the air. It is where air particles hit the front of the object **slowing it down**. The more surface area, the more air particles hit it and the greater the resistance.

**Impact** is a high force or shock applied over a short time period when two or more bodies collide. Impact can be lessened by Shock Absorbers.

**Shock Absorber** is a device designed to absorb and lessen the impact of a falling object.

## STEPS:

1. Students work in teams to draw a design
2. Students 'buy' materials
3. Test egg drop devices
4. Review designs and ways to improve further attempts

## QUESTIONS TO ASK STUDENTS:

1. Does the falling speed of the device impact how well the egg survives?
2. If your egg survived, what would you change if there were two eggs instead of one? Meaning, there would be more weight and thinner cushion distribution.
3. If your egg did not survive, what one change could you make that might help it survive next time?
4. What things in nature are similar to this egg drop experiment? What things that humans use are similar to the egg drop experiment? How do these things work? For example, the helicopter seeds that some trees use to disperse their seeds with the wind.

## CLEAN-UP:

Into the Bin = Lesson plan

Back to Lab/Classroom=

Trash/Recycle = Materials and eggs

**IF RUNNING OUT OF A SUPPLY IN THE BIN, PLEASE  
CONTACT LAURIE JONES IN THE OFFICE (X4307)  
[JONES.LAURIE@CUSD80.COM](mailto:JONES.LAURIE@CUSD80.COM)**