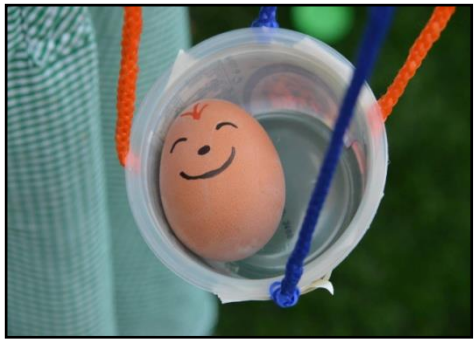
Pakistan Space and Upper Atmosphere Research Commission
World Space Week -2021
Theme: Women in Space

Egg Drop Parachute Challenge

Challenge:

Construct a parachute with basic household items and discover a safe way to deliver an egg to the ground when dropped.



Rules & Guidelines:

1. Egg parachute drop tutorial may be used for reference.
2. Any non-hazardous material and medium may be used for creation of parachute and safe landing of egg.
3. Parachute must contain SUPARCO and WSW logo.
4. The judgement will be based on creativity, design and relevancy.
5. Picture of an individual with egg parachute is must.
6. 2 minutes consolidated video of making and safe landing of egg is must.
7. Video must be submitted at wsw.sead.pakistan@gmail.com along with submission form before the deadline.
8. Last date for submission is **23 Oct 21**

How do I win?

To be eligible for winning the competition, the challenge and submission requirements must be met as per details mentioned above.

Judging Scorecard

The judging panel will rank the submitted entries using the following Judging Scorecard:

Metric	Weightage
Challenge fulfillment as per rules and guidelines	50%
Creativity, design, relevancy, material selection, practicality, sustainability and novelty	25%
Submission as per format and form	25%

Egg Drop Parachute - Tutorial

Parachutes help slow down a falling object to give it a soft landing. They are a great way to give a delicate object a safe ride from a high spot. If you've ever dropped an egg, you know that it easily breaks when it falls. In this activity, you'll learn how to harness the power of physics and air resistance to develop different parachute designs to discover a safe way to deliver an egg to the ground.

SUPPLIES & TOOLS:

1. Plastic or foam cups (7 or 9 ounce)
2. Facial tissues
3. Plastic garbage bag
4. Strings (lightweight)
5. Eggs (raw)
6. Masking tape
7. Scissors
8. Measuring tape or yardstick
9. Hole punch
10. Stopwatch or timer
11. Paints, colors

DIRECTIONS:

1. Prepare the egg cradle. Use a hole punch to make four holes in the top of a cup. Then take a few tissues and roll them up before putting them in the bottom of the cup.

2. Make a parachute to test out of a plastic garbage bag. Use scissors to cut a square out of the bag that is 20 inches on each side. Use a hole punch to punch one hole in each corner of the piece of plastic garbage bag.

3. Cut four pieces of 20-inch long string. Tie a piece of string to each corner of the garbage bag square, then attach the four loose ends of the strings to the cup.

4. Place an egg in the cup on top of the balled-up tissues. Then add a few more crumpled tissues and put masking tape across the top of each cup. Predict if the egg has a chance of surviving a fall from 10 to 12 feet.

5. Test your parachute by dropping it from a height (be careful) as you hold it from the top center of the parachute. (If any eggs break on the landing, make changes to the design to prevent any breaks the next time.)

6. After you've finished your experiment, challenge yourself to improve your design or try three different sized parachutes to see which one works the best! Time each parachute's flight and record the data. (We recommend trying sizes: 10' x 10,' 20' x 20,' and 30' x 30' but allow kids to experiment!)

"Egg Drop Parachute Challenge" Submission Form

1. **Participant Details**

a. Name of Participant	
b. Name of Institution	
c. Age & Gender	
d. Contact Address, No. & Email	

2. **Egg Parachute Details**

a. Material Used	
b. Why do you think some parachutes fell faster than others?	
c. The largest parachute falls the slowest and should cause the least amount of damage to the egg. (True/False). Why?	

3. **Checklist**

☐ The submission is as per format

☐ The submitted work is an un-plagiarized creation of the submitter