

# The Egg Drop



Mrs. Brown  
4th Grade

# Ask

Create a device to bring astronauts safely back to Earth.

## **Criteria**

*(How will I know if it is successful?)*

- Falling is greater than 1 second.
- Astronaut is not damaged.

## **Constraints**

*(What resources are limited?)*

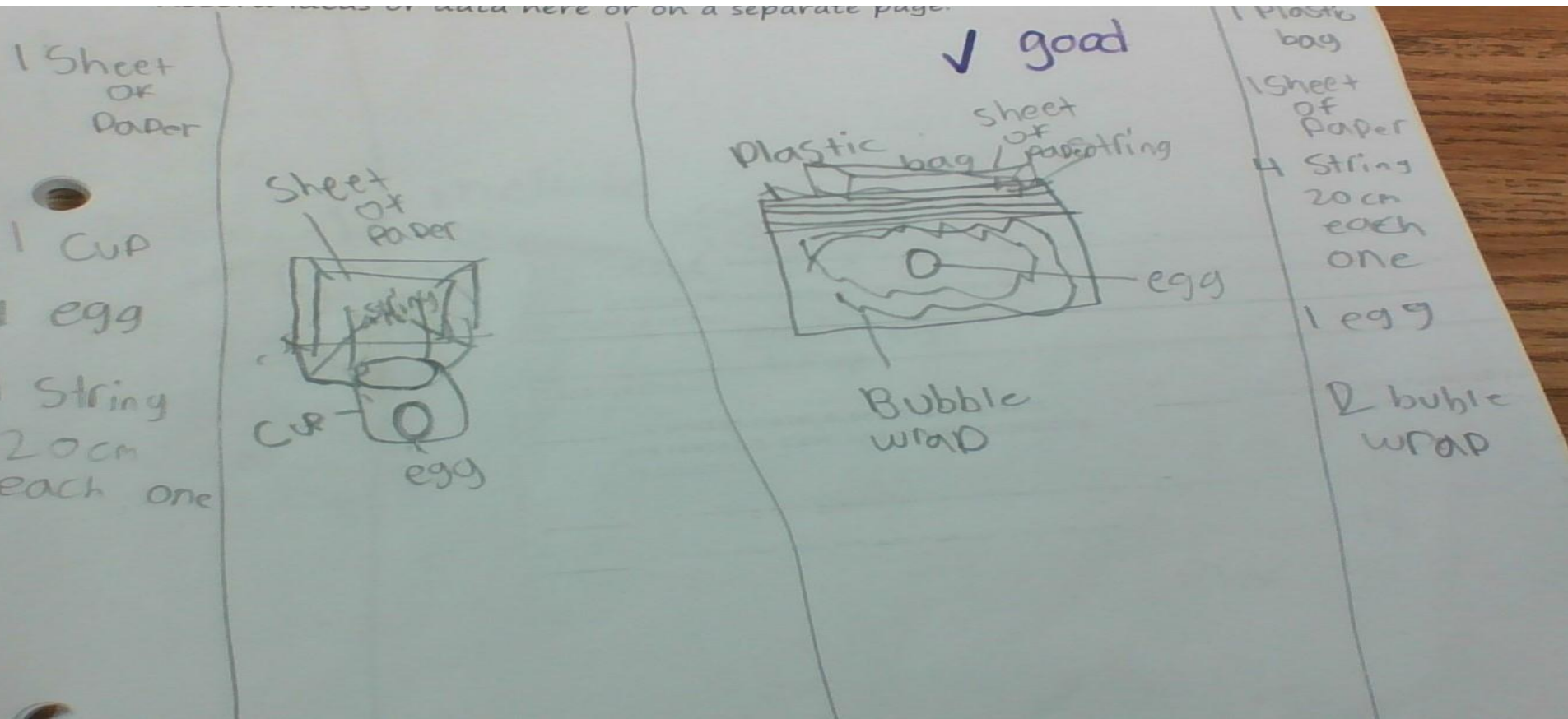
- Time: created and tested by January 28nd.
- materials/money: \$5
- other:

## Ask

Parachute have to have a circle shape.  
([nasa.gov](https://www.nasa.gov))

Put a lot of soft stuff and put the egg in  
the middle ( [sciencing.com](https://www.sciencing.com) )

# Imagine



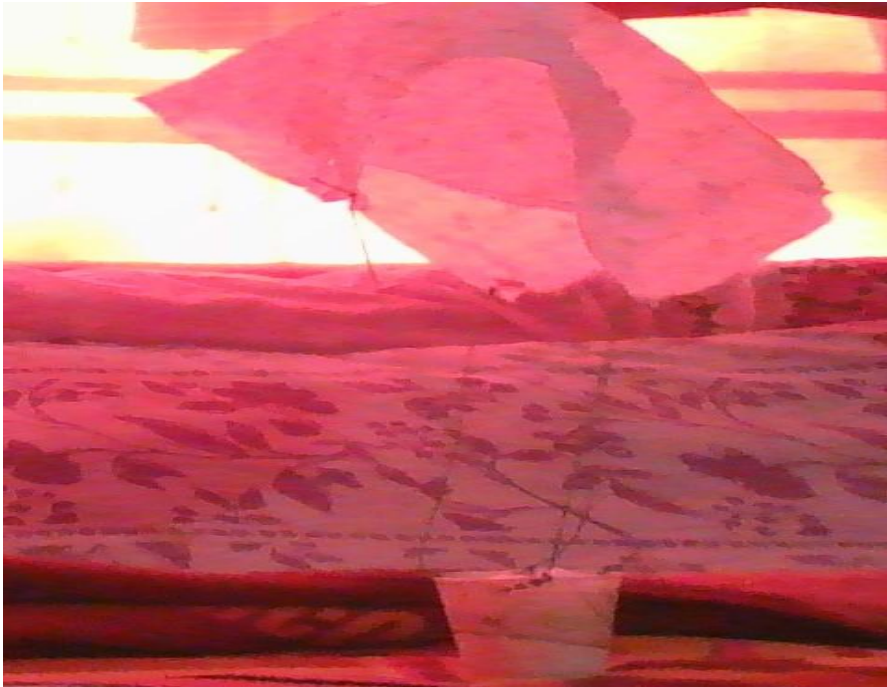
# Plan



## Materials

- 1 cup
- 1 plastic bag
- 2 bubble wrapper
- 1 egg
- 4 string 20 cm each one

**Create** : First I grab a cup. Then I cut four holes in the cup. Then I put the string in the holes and tie the string to the cup. Then I tied the top string to the plastic bag. Then I put bubble wrapper inside the cup. Then I put the egg at last.



# Test

*Think back to your original problem, and decide how you will measure the success of your solution.*

*Perform at least 3 trials, and record the results in chart form. (One chart is provided, but you may create your own to fit your data best).*

Variable I am measuring:	Trial 1	Trial 2	Trial 3
Falling Time (greater than 1 sec).	1.57 seconds.	1.77 seconds.	1.69 second.

# Improve

*Based on your first test, choose 1 variable you want to change.*

*Once you've changed that variable, perform at least 3 trials again, and record the results in chart form. (You may create your own to fit your data best).*

*Do this as many times as needed to get the best results possible to meet your criteria.*

Variable I am measuring:	Trial 1	Trial 2	Trial 3
Falling time (Greater than 1 second)	1.66 second.	2.53 second.	1.97 second.



# Improve

- *What steps did I take to improve the solution?*

I took out the thin string and add stronger string.

- *How did I use my test results to make changes?*

I saw that my result in my first trial was not so good because the thin string was very weak that's why I took out the thin string and add strong string.

# Improve continued

*How well did my solution solve the problem, based on the original criteria?*

It did not solve it very well because the string was too weak.

*•What other ideas do I have for improvement, if I were to attempt this design again?*

I will add another parachute and stronger string.