Paper Airplane Challenge: *Who can fly the most cargo?*

Challenge: Make a paper airplane that can carry cargo and glide more than 4 meters through the target. (not be hurled, but actually glide). The group that designs the plane that flies at least 4 meters through the target and carries the most cargo will win a prize.

Materials:
1 Piece of construction paper, card stock OR printer paper
Tape
Washers (cargo)
Target (hula hoop hanging from ceiling)

Directions: Construct a paper airplane. Fly your airplane three times and record the distance of each flight to the nearest meter. Take your three measurements, add them together, and divide by three to get your average flight length.
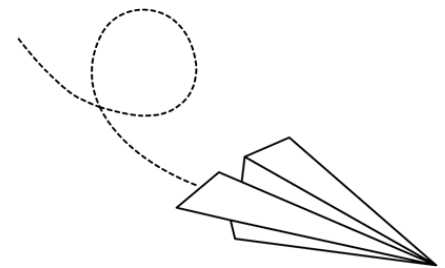
First Plane Design:

Flight #	Length in Meters	Fly Through Target?
1		
2		
3		
Average		

1. Did your airplane fly far enough (4 meters or more)?

2. Did your airplane fly through the target?

If your airplane flew through the target, congratulations!!! Go to the next step and add weight to your plane.

If your airplane did not fly through the target, redesign and try again.

Add weight to your plane (you decide how much). Fly your airplane three times, and record the distance of each flight to the nearest meter. Take your three measurements, add them together, and divide by three to get your average flight length.

Plane Design with weights:

Flight #	Length in Meters	Fly Through Target?
1		
2		
3		
Average		

1. Did your airplane fly far enough?

2. Did your airplane fly through the target?

If your airplane flew through the target, congratulations!!! Keep adding weight and keep trying to fly the plane through the target. The airplane that can fly through the target with the most cargo wins!

If your airplane did not fly through the target, redesign and try again.

Questions:

1. How many washers did your plane hold while still being able to fly through the target?

2. Did you have to make modifications to make your plane successful? What modifications did you make?

3. If you were to redesign your plane, what would you do differently?

4. Draw your new design.