

Cleared for Takeoff Instructions

1. Go into the hallway in groups of three or four and fly your paper airplane.
2. When all the paper airplanes in your group have flown, take two measurements, in inches:
 - a. The first measurement: How far down the landing strip your plane flew.

 - b. The second measurement: How far off the landing strip your plane landed (measure in a straight line perpendicular from the landing strip).

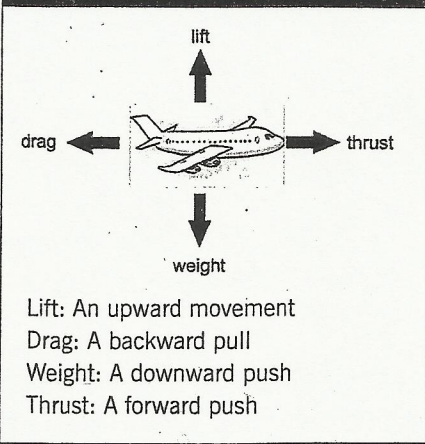
3. Since we are interested in the flight accuracy of your paper airplane, the distance away from the landing strip should be subtracted from the distance down the landing strip. Please record your flight data, and leave your paper airplane where it landed in the hallway.

4. You have permission to fly your paper airplane a second time if you have a negative number for your flight data. This could occur if you subtract your two measures and the distance off the landing strip is greater than the distance down the landing strip. If your plane lands behind you or flies a short distance down the landing strip and veers off quickly to the right or left, a negative number could also result.
5. Once you have collected your flight data, return to the classroom and record your data on a post-it.

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Airplane Tips and Folding

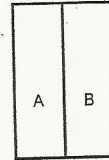
Fig. 1 This information, produced in the form of a poster, helped students visualize the four forces of flight.



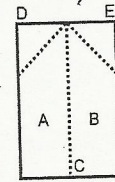
NOTES:

Fig. 4 These instructions were given to students so that planes would be folded consistently before flight data were collected.

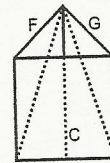
Step 1: Fold the paper in half the long way (hot-dog style). Open the sheet so you see a side A, a side B, and a center line.



Step 2: Fold corners D and E down to meet center line C.



Step 3: Fold sides F and G to meet center line C.



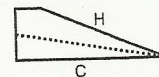
Your plane should look like this:



Step 4: Fold sides A and B together along center line C.



Step 5: Fold wing B in half, side H to line C. Then fold wing A with side G to line C.



Step 6: This is the finished plane.



