



PAPER AEROPLANE



KEY FACTS:

The farthest flight by a paper aircraft is 69.14 meters (226 feet 10 inches), achieved by Joe Ayoob and aircraft designer John M. Collins (both USA), at McClellan Air Force Base, in North Highlands, California, USA on 26 February 2012. The plane was constructed from a single sheet of uncut A4 paper. Joe Ayoob flew the aircraft designed by John M. Collins.

LESSON ACTIVITY:

Give students the following grid, ensuring that any edges are guillotined after printing to ensure symmetry in the line $x = 0$. Then ask students to draw the following lines:

$$x = 0$$

$$x = -5$$

$$y = -x + 23$$

$$y = 7$$

$$x = -14$$

$$x = 14$$

$$y = -x + 7$$

$$y = x - 10$$

$$x = 5$$

$$y = x + 23$$

$$y = x + 7$$

$$y = -x - 10$$

Once they have been drawn, ask them to fold their paper along the lines. This is the blueprint for the paper aeroplane pictured on the right. This set a record for the longest flight time for a paper aeroplane.



Watch how it is made here:

<https://www.youtube.com/watch?v=3DG2H2-d-jQ>

After completing the activity, give students a second grid but this time they need to fold a paper aeroplane. Once they have created their design, they need to unfold it and create the instructions for others to follow.

QUESTIONS THAT AROSE FROM THIS ACTIVITY:

How is $x = 7$ and $y = 7$ different? How do you know which line is which?

How do you calculate gradient when the difference in x is not 1?

How do you find the y -intercept of a line when it crosses the y -axis beyond the scale of the grid?

