Get your students ready for the Science Alive! **STEM Day Out Paper Plane Challenge.** This is an opportunity for your students to test their engineering skills as they fold, flip and fly their way to victory in the Science Alive! Paper Plane Challenge. On the day they will build their own paper plane and then put it through its paces in the purpose-built paper plane arena.

At school activity

The purpose of this activity is to give students the opportunity to practice their paperplane and design and techniques. They can do this by using design and engineering processes. Design a paper plane, test the design, analyse the results, make improvements by changing just one variable such as wing length or nose shape and testing again. Once they have the design they believe will fly the farthest they should test their design against the others in the class. Set up some trials and have students gather some data about the distance each design flew for each trial. They couldgraph the longest and average distances flown for each of the paper plane designs and see which design is the best.

Objectives:

- Work collaboratively in a group to design, create and test a paper plane
- Work collaboratively to collect data
- Be introduced and/or build on the terms hypothesis, variable and average
- Follow directions in making a complex paper plane design
- Organise and graph collected data
- Older students may write-up experimental procedures, results and conclusions.

What you will need:

- 80gsm A4 paper

Teacher materials:

- Data sheet to record trials including name, date, plane type, distance flown for each trial 1-6, details of shortest flight, longest flight and average.

Online resource

A simple proven airplane design and plans/kits for experimental airplane
https://rolemodels-wise.sws.iastate.edu/uploads/1/3/f/13f4bb00c100eee7ae0d2506728eec3e83cc618b/Paper-Air-plane-Designs.pdf

Curriculum Links:

Science

Science Understanding - Year 7 Physical sciences

Change to an object's motion is caused by unbalanced forces, including Earth's gravitational attraction, acting on the object

Science Inquiry Skills – Years 7-9

- Planning and conducting
- Processing and analysing data and information
- Evaluating
- Communicating

Design and Technologies

Processes and Production Skills – Years 7-9