

Inspiring young people in STEM program

Activity plan for aeroplane activity in a primary school

<p>Contact information Educator name(s): Mrs Brown Phone number: 0700 000 000 Email: brown.secondary@school.org.uk Best time to contact: phone after 15:30</p>	<p>Activity logistics Date: 01/10/17 Venue Address: Calderwood Secondary School Arrival time: before 09:00 Activity session time(s): 09:30 -11:00, 13:30-15:00 Age group: 14 years old No. participants: 40 x 2 = 80 total</p>
<p>Activity Summary Title: Design and test the flying capabilities of paper aeroplanes.</p>	
<p>Brief description: Discuss the basic of aerodynamics and its application in plane design – with a focus on weight, shape, wing design, using real life examples to elucidate. Each pupil will apply this knowledge to their own paper plane design, carry out three test flights and record their data, noting the average flight across the three tests. Pupils will then be given the chance to refine, adapt or completely rework their design. Repeat test flight procedure, this time also using a stop watch to record the length of time each flight takes. Use the longest distance measurement from the second test flight series and accompanying time recording to calculate speed at which aeroplane is travelling. Collate speed results across the class, plot the results and identify the fastest plane designs. Discuss similarities and differences in the design features</p>	
<p>Aims: To develop an understanding of the skills of scientific enquiry and practical use To recognise the role of creativity and inventiveness in the development of the sciences</p>	
<p>Learning outcomes: Pupils will understand how air resistance can affect the flight of airplanes and how this changes with different plane designs. Pupils will work through the scientific process, collate data, analyse and present the results.</p>	
<p>Curriculum links: Science: By contributing to investigations of energy loss due to friction, I can suggest ways of improving the efficiency of moving systems I can use appropriate methods to measure, calculate and display graphically the speed of an object, and show how these methods can be used in a selected application. Maths: I can apply my knowledge and understanding of measure to everyday problems and tasks and appreciate the practical importance of accuracy when making calculations.</p>	

I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.

In order to compare numerical information in real-life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.

Essential items checklist

1. Kit
2. Equipment
3. Worksheets
4. Risk assessment
5. Add my own.....

Equipment to bring

Examples of plane designs,
paper, tape measure, data
recording sheets, stop watch

Equipment from venue

Scissors, pens, calculators

Notes: Use this section to note any additional important information, e.g. parking, additional helper details, AV requirements
 Parking is on street nearby and free
 Bring volunteer PVG check and name badge
 Lunch will be provided