

Happy landings



Location

Ground floor, Flight zone exhibition

In a nutshell

What does it take to help 270 tonnes of aeroplane land safely? Find out with at our actual landing gear exhibit.

What to do

Students can discuss what physical properties the landing gear would need such as being able to be compact enough to fit into a small section of the plane, light enough to not add too much weight to the plane but strong enough to withstand large forces on a regular basis. Look at the design and consider the challenge engineers face designing and building for a particular purpose.

Time Required

KS1 & KS2 2 minutes per student.

What's happening?

The landing gear of a passenger aircraft is a great achievement of engineering. Light enough that it only forms 5% of the planes final weight and compact enough that it squeezes into the smallest possible area of the plane; this landing gear is still strong enough to absorb the huge impact of landing whilst making any runway feel comfortable regardless of its state.

Curriculum links

KS1/2	<p>Science - Uses of everyday materials (Yr 2)</p> <ul style="list-style-type: none"> - identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses <p>Science - Forces (Yr 5)</p> <ul style="list-style-type: none"> - recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect <p>English - Spoken language</p> <ul style="list-style-type: none"> - ask relevant questions to extend their understanding and knowledge - articulate and justify answers, arguments and opinions <p>English - Reading – word reading</p> <ul style="list-style-type: none"> - (Yr1) apply phonic knowledge and skills as the route to decode words - (Yr2) continue to apply phonic knowledge and skills as the route to decode words until automatic decoding has become embedded and reading is fluent <p>English - Reading – comprehension</p> <ul style="list-style-type: none"> - (Yr1) discussing word meanings, linking new meanings to those already known - (Yr2) discussing and clarifying the meanings of words, linking new meanings to known vocabulary <p>Mathematics - Number – number and place value</p> <ul style="list-style-type: none"> - (Yr1) read and write numbers from 1 to 20 in numerals and words - (Yr2) read and write numbers to at least 100 in numerals and in words - (Yr 5) read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - (Yr 6) read, write, order and compare numbers up to 10 000 000 and determine the value of each digit <p>Design & Technology - Key stage 1</p> <ul style="list-style-type: none"> - explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products <p>Design & Technology - Key stage 2</p> <ul style="list-style-type: none"> - understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
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Relates to:

Workshops & Theme Days	Shows	Trails	Other exhibits
<ul style="list-style-type: none"> • Fantastic forces (KS2 upper) • Pushes and pulls (KS1) • High Flyers day (KS2) 	<ul style="list-style-type: none"> • Field Day Forces (KS2) • Launch it! (KS2) 		<ul style="list-style-type: none"> • Bernoulli blower • Launch it! • Will it fly • Hot air balloon

