AIMING FOR AWESOME

1918 2018

Ejection seat

Student Booklet

Royal Academy of Engineering

THIS IS ENGINEERING

ROYAL AIR FORCE Youth STEM

The aim of this resource is to give students the opportunity to investigate the impact of science, technology, engineering and mathematics (STEM) on ejection seats.

Emergency exit

The first use of an ejection seat in a practical application by a British pilot involved the Armstrong Whitworth A.W.52 flying wing experimental aircraft in May 1949.

In aircraft, an ejection seat is a system designed to rescue the pilot or other crew of an aircraft in an emergency. In most designs, the aircraft canopy comes off and the seat is propelled out of the aircraft by an explosive charge or rocket motor, carrying the pilot with it. Once clear of the aircraft, the ejection seat deploys a parachute. In two-seat aircraft, the seats are ejected at different angles to avoid a collision.

Before ejection seats, pilots would have to remove the aircraft canopy manually to climb and jump out.

TIME TO THINK

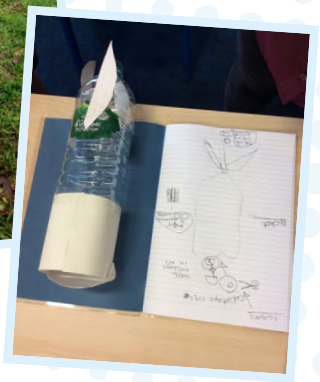
Ejection sears can save lives. However, they are not used in commercial passenger aircraft.

In pairs, discuss why ejection seats are not used in this way.

TIME TO MAKE

Design an ejection seat for an RAF pilot on a bottle rocket.

Your RAF pilot should be attached to a bottle so that when the rocket is launched, the pilot detaches from the rocket and deploys a parachute to land safely.



Ejection seat

Royal Academy of Engineering

The Royal Academy of Engineering is harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone.

In collaboration with our Fellows and partners, we're growing talent and developing skills for the future, driving innovation and building global partnerships, and influencing policy and engaging the public.

Together we're working to tackle the greatest challenges of our age.

What we do

Talent & diversity

We're growing talent by training, supporting, mentoring and funding the most talented and creative researchers, innovators and leaders from across the engineering profession.

We're developing skills for the future by identifying the challenges of an ever-changing world and developing the skills and approaches we need to build a resilient and diverse engineering profession.

Innovation

We're driving innovation by investing in some of the country's most creative and exciting engineering ideas and businesses.

We're building global partnerships that bring the world's best engineers from industry, entrepreneurship and academia together to collaborate on creative innovations that address the greatest global challenges of our age.

Policy & engagement

We're influencing policy through the National Engineering Policy Centre – providing independent expert support to policymakers on issues of importance.

We're engaging the public by opening their eyes to the wonders of engineering and inspiring young people to become the next generation of engineers.

ROYAL AIR FORCE Youth STEM

The RAF Youth STEM programme is designed to engage and inspire young people by building their interest in engineering and technical career pathways.

From cyber specialists to aerospace, aviation, electronics, and mechanical disciplines, the RAF is committed to widening participation in STEM, extending opportunities to all, and encouraging greater diversity in this critical area of national skills shortages.

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Registered charity number 293074