

AIMING FOR
AWESOME

2018

1918



Ejection seat

Student's
Guide



ROYAL
ACADEMY OF
ENGINEERING



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

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

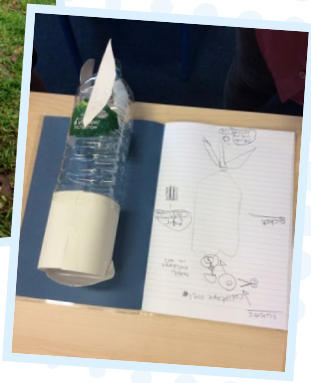




TIME TO MAKE

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.





ROYAL ACADEMY OF ENGINEERING

Royal Academy of Engineering

As the UK's national academy for engineering, we bring together the most successful and talented engineers for a shared purpose: to advance and promote excellence in engineering.

We have four strategic challenges:

Make the UK the leading nation for engineering innovation

Supporting the development of successful engineering innovation and businesses in the UK in order to create wealth, employment and benefit for the nation.

Address the engineering skills crisis

Meeting the UK's needs by inspiring a generation of young people from all backgrounds and equipping them with the high quality skills they need for a rewarding career in engineering.

Position engineering at the heart of society

Improving public awareness and recognition of the crucial role of engineers everywhere.

Lead the profession

Harnessing the expertise, energy and capacity of the profession to provide strategic direction for engineering and collaborate on solutions to engineering grand challenges.



The RAF 100 Youth & STEM programme has been 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 using our centenary celebrations to extend opportunity to all and to encourage greater diversity in this critical area of national skills shortages.



Royal Academy of Engineering
Prince Philip House, 3 Carlton House Terrace, London SW1Y 5DG

Tel: +44 (0)20 7766 0600
www.raeng.org.uk

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