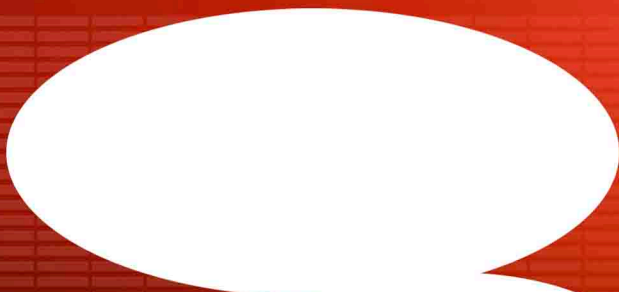




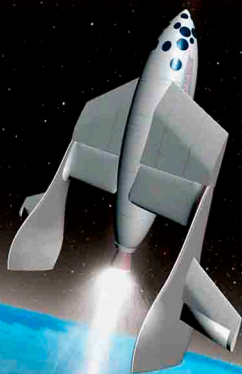
FLIGHT EXPERIENCE

the eXhibition the eXperience

science & technology challenge
Level 2



Name:



Science is all about exploring and making your own discoveries. Technology is often about using your imagination to solve real problems.

To complete this challenge you have to find the exhibit mentioned in each question, and then circle the letter beside the answer you think is right.

1 How did the Montgolfier brothers get their idea?

- T. From watching ash rise above a fire.
- U. From watching a paper bag warmed by sunlight lifting up.
- V. From watching birds gliding in the sky.

2 Watch the 'Top Gear' video beside the suitcase. What do you call the force from the jet engines that push the aircraft forward?

- A. Thrust.
- B. Lift.
- C. Gravity.

3 Can you find the large casing that you walked through which went around one of the jet engines on an aircraft?

Which local company built this casing?

- G. Dunvilles
- H. Massey Ferguson
- I. Bombardier

4 Find the propellers in the gallery. You can see that the blades are angled to grip and push back on the air. Why aren't helicopters used in space?

- F. They cannot fly there without the force of gravity.
- G. There is no air in space for the rotor blades to push against.
- H. They would just spin around in a circle.

5 Find the display that shows some modern "extreme aircraft". Which bird pictured in the gallery is like the stealth F-117 "Nighthawk" - it flies so silently that its prey cannot hear it approach?

- W. bat.
- X. seagull.
- Y. owl.

6 Why did James Martin need to invent his version of the ejection seat?

- Q. Aircraft started flying so high that parachutes wouldn't work.
- R. As aircraft flew faster pilots could no longer just jump out with their parachute.
- S. If a plane was being shot at it was the quickest way to escape.

7 Can you find the strange kind of aircraft that starred in a James Bond film? Which local inventor improved and made this aircraft much safer?

- U. Harry Ferguson.
- V. Rex McCandless.
- W. James Martin.

Turn over to find out how well you did in the challenge

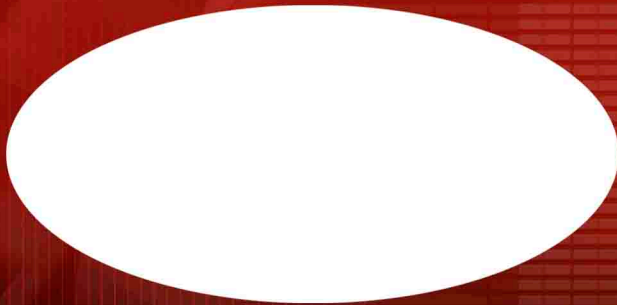
Write in the 7 letters you circled for the right answers in the boxes below.



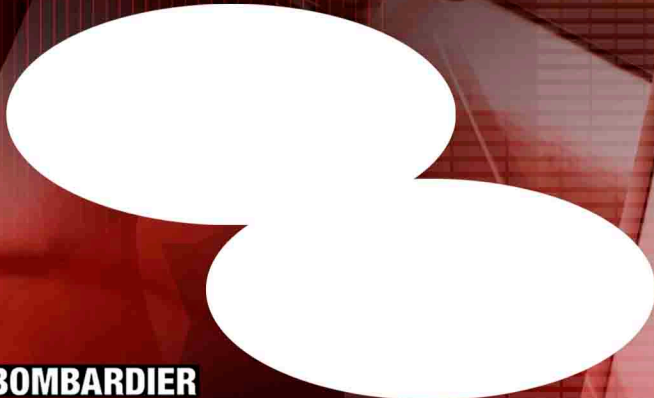
Now, can you use these letters to spell something that engineers have to overcome when they design aircraft?



What one thing did you learn today about aircraft that most surprised you?



Write down 2 questions that you have about any of the exhibits in the gallery



Did you know?...

The Wright brothers first became fascinated by flying as boys when their father gave them a toy helicopter.

Lilian Bland was so keen to test her new aircraft engine she couldn't wait until the fuel tank arrived – she used a whiskey bottle and an ear trumpet borrowed from her deaf aunt in place of the tank.

Irish coffee was first made by chef Joe Sheridan at a port for flying boats in Limerick in 1943. To lift the spirits of some passengers whose flight had been turned around due to bad weather he added some whiskey, sugar and cream to coffee.

Jet engine designs are tested to the extreme – dead chickens are fired into the blades at 180 mph to simulate the effects of a bird hitting the blades at take-off or landing.

The pilot of a Eurofighter can aim his weapons by simply looking at the target he wants to hit and then fire them by speaking to the computer.