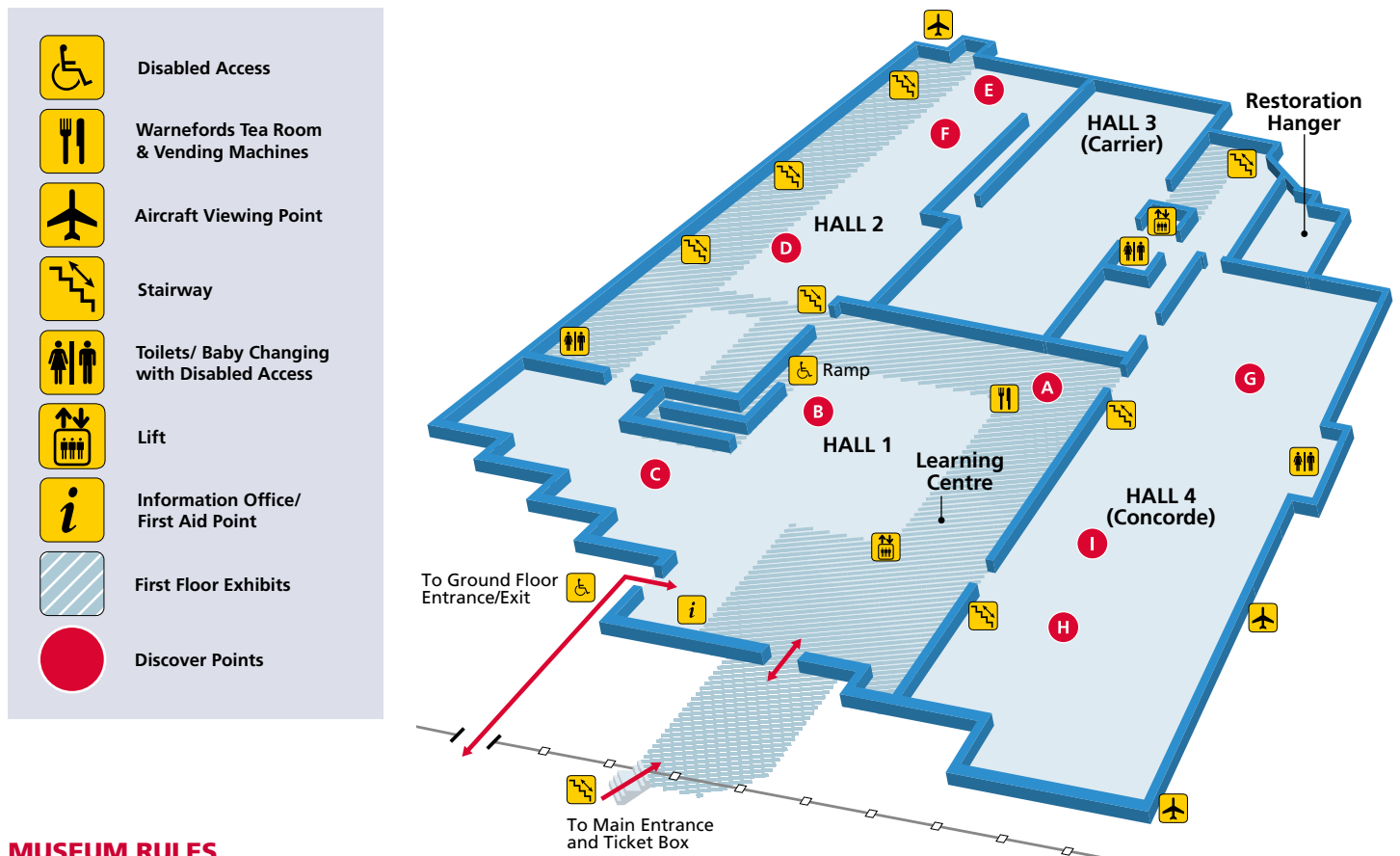




RECORD BREAKERS AND INNOVATORS

Throughout history, the Royal Navy and the Fleet Air Arm have often been pioneers, with a number of aircraft and individuals sitting in the record books as 'Firsts', 'Fastest', and many other titles! In this trail you will discover some of these stories, as well as people and aircraft that have played roles in aviation more generally.

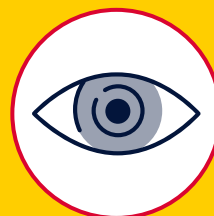


MUSEUM RULES

- Please only eat and drink in designated museum spaces.
- Please do not run
- Please stay in your small groups as you go around the museum
- If you are using the Learning Centre as a lunch space, the door code is **C4590Z**

HINTS & TIPS

- As you go around the museum, you will see our amazing volunteers. Make sure you ask them lots of questions!
- Try using the 'See, Think, Wonder' Model as you go around the museum. What do you **SEE**? What do you **THINK** is going on? What does it make you **WONDER**?



HALL 1

Learn about the birth of Naval Flying and those who impacted these innovations. Explore our Pioneers gallery, take a look at our early aircraft, and put yourself in the shoes of those who flew them!

A PIONEERS OF FLIGHT GALLERY



See: For hundreds of years the Royal Navy have known that climbing up high above the sea means you can see more, and further. The higher you get, the further you can see.



Think: Crows Nest. How did Sailors see further from on board ships?

How is your view of Hall 1 different from the balcony than on the floor?



Wonder: What different ways can you think of that the Royal Navy put 'eyes in the sky' to see further?



Biplane No 27. 8-cyl. E.N.V. Engine. 1910.

B SHORT S-27



See: The Short Brothers, who built this aircraft, started life selling hot air balloons. In 1908 they heard about the Wright Brothers and decided to start building heavier-than-air machines instead.



Think: Connections. The Short Brothers got the designs of the 'Wright Flyer' and were allowed to build it in the UK. What similarities and differences can you see between the S-27 and the Wright Flyer in the adjacent photo? You can also take a look at the Wright Flyer model in Hall 4.



Wonder: What do you think it would have felt like to fly an aero-plane like this, with almost no protection?

C RNAS ARMoured CAR REPLICa



See: When pilots became shot down and stranded over land, the Royal Naval Air Service realised that they needed ways to go rescue them, in addition to other jobs. And so the Armoured Car Division was created!



Think: Innovation. These armoured vehicles were the first armoured vehicles used in World War 1. Can you think of what the modern day equivalent would be?



Wonder: Can you compare this car to your own car? What are the similarities and differences? Why?



HALL 2

Discover the aircraft of the World War 2 era, and how these developed into the jets that we see today. Learn about the ingenious ways that these aircraft managed fly from aircraft carriers, and the skilfulness of the pilots who flew them.

D UNIFORM OF LT CLAIRE DONEGAN



See: Up until 1994, Women weren't allowed to serve in the Royal Navy. In 1998, Lt Donegan qualified as a pilot for the Fleet Air Arm. She was the first female pilot in the Royal Navy.



Think: Women's Roles. In the display next to the uniform of Lt Donegan, you can learn about the Women's Royal Naval Service (WRNS). Before 1994, this was how women could serve in some roles of the Royal Navy. Can you explore the area and find out what jobs women could do?



Wonder: Imagine you are a woman before 1994, who wanted to be a Royal Navy pilot but can't. How might you feel?



E SEA FURY



See: Aircraft carriers were an important innovation in the Royal Navy. They enabled aircraft to take off and land from anywhere on the oceans around the world.



Think: Shape and Size. Why do you think aeroplanes on aircraft carriers often have folding wings?



Wonder: Folding wings are a unique innovation to the Navy, and wings can fold in different ways—how many types of fold can you see?

F THE VAMPIRE & ERIC 'WINKLE' BROWN



See: Eric 'Winkle' Brown was the Royal Navy's most decorated pilot, achieved several aviation 'firsts', held 3 world records, and flew 487 different types of aircraft—more than anyone else in history.



Think: Firsts. The Sea Vampire on display here was flown by Eric 'Winkle' Brown for the first ever landing of a jet aircraft on an aircraft carrier deck. Why do you think this was so difficult and hadn't been done before?



Wonder: Eric 'Winkle' Brown was a test pilot for much of his career, which was one of the reasons why he had so many 'firsts'. What qualities do you think you would need to make a good test pilot?



HALL 4

This hall is all about invention and innovation, from new types of Navy aircraft to aircraft designed to push and test the boundaries of science. Take a moment to look at the science behind how some of the aircraft that you see today, have been developed.

G CONCORDE 002



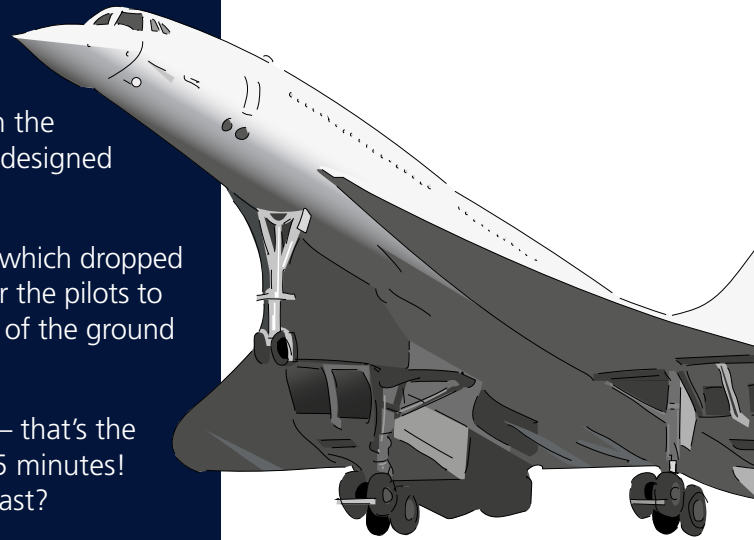
See: Concorde 002 was the first Concorde made in the UK. This Concorde was a prototype (a test aircraft) designed to test the design for future Concorde aircraft.



Think: Droop nose. This aircraft has a droop nose, which dropped down when it landed. Why might it be important for the pilots to drop the nose when coming in to land? (Hint: much of the ground can they see with the nose up?)



Wonder: Concorde has a max speed of 1354mph – that's the same as travelling from the museum to London in 5 minutes! What do you think it would feel like to travel that fast?



H SEA HARRIER



See: The Sea Harrier is a navy VSTOL Aircraft, which stands for 'Vertical and/or Short Take Off and Landing'. It is innovative because it is able to take off and land without a long runway.



Think: Aircraft Carriers. The Sea Harrier has several adjustable nozzles which push air downwards to lift the aircraft upwards. Why might it be useful to be able to travel straight up and down without the need of a long runway?



Wonder: How many other aircraft can you spot in the museum with the ability to take off directly upwards?

I FAIREY DELTA & HP115



See: Jet aircraft were developed to fly at supersonic speeds, faster than the speed of sound. This was, and still is, very dangerous, so a lot of work goes into testing every single part of a new aircraft.



Think: Testing. These aircraft were built to provide design information and test elements of Concorde's design. Why do you think it is important to test an aircraft out before flying it?



Wonder: The astronaut Neil Armstrong was a test pilot before he went into space, and flew HP115 once he got back. How would you feel being a test pilot, testing a brand new aircraft?

