

Year 5 Maths Trail

Teachers' notes

H3

H4

H5

This trail is designed to support National Curriculum mathematics learning, and covers a range of subject areas, including calculation, measurement, geometry, and statistics.

It is based on the real mathematics and numbers involved in the mechanics and the history of the planes in Hangar 3/4/5.

The trail can be done individually or in groups, and all that is needed to complete it is a print-off of the questions and a pencil, though clipboards may also be useful. The answers for each question are below.

1. Choose five planes and fill out the table below.

The contents of the table will depend on the planes chosen.

2. Use the information in your table to make a bar chart on the lines below.

The graph should accurately represent the data they collected in Question 1.

3. Find the North American Harvard. What is its maximum speed in km/h? If it is travelling at that speed, how far can it travel in 1 hour and 30 minutes?

Maximum speed of 330 km/h; can travel 495 km in 1 hour and 30 minutes.

4. How many of the stripes on the wings of the Bristol Beaufighter are white? Write this as a fraction of the total number of stripes. Can you simplify this fraction?

6 white stripes, $\frac{6}{10}$, simplified as $\frac{3}{5}$.

5. Go to the Lockheed Hudson. In the diagram below it has just taken off for a flight. Calculate the missing angle to find the angle of take-off.

Missing angle is 34 degrees.

6. Find the Bristol Sycamore HR14 helicopter. It can hold 750 litres of fuel in total, but uses 150 litres of fuel in an hour. How many hours can it fly before it needs to be refuelled?

$750 \div 150 = 5$ hours before refuelling.

7. What year did the Boeing B17 Flying Fortress first fly?
How old is the Flying Fortress?

First flew in 1935: it is 87 years old (as of 2022).

8. Have a look at the Avro Vulcan. How many bombs are underneath?
How many bombs will the crew take with them if they only take these fractions of the total number of bombs?

21 bombs in total

$\frac{1}{3} = 7$ bombs $\frac{4}{7} = 12$ bombs

9. Find the Junkers Ju87G-2. What is its wingspan rounded to the nearest whole number?
If the area of the wings is 28 m², what is the width of the wings?

Wingspan of 13.8m, rounded to 14m, so the wings are 2m wide.

10. Go to the Supermarine Spitfire I. Add the co-ordinates to the grid below to show the start and end locations of its journey. If each square is 15 miles, how far has the Spitfire travelled?

Co-ordinates in (b,4) and (h,4). It has travelled 60 miles.