

PAPER HELICOPTERS

MATHS: STRANDS AND STRAND UNITS

Number:	<i>Operations</i>
Algebra:	<i>Equations (translate word problems into number sentences)</i>
Shape and Space:	<i>2D shapes, 3D shapes. Lines and Angles: Identify, describe and classify vertical, horizontal and parallel lines</i>
Measures:	<i>Length, Area</i>
Data:	<i>Represent data in rows or columns</i>

1) Shapes

What shapes can you find in the helicopter template?

2) Lines

- How many vertical lines are there in the template?
- How many horizontal lines are there in the template?
- How many pairs of parallel lines are there in the template?
- Is there a line of symmetry in the template? If there is can you draw it in?

3) Angles

- What shape are the angles of the helicopters on the template?
- How many of these angles are there in each helicopter?
- What size are these angles?

4) Area

- What is the area of the helicopter blades?
(Is it easier to calculate this before it is assembled?)
- If you were asked to design a paper helicopter with each rotor blade having an area of 36 cm^2 how many different shaped blades can you make? What would their measurements be? (Hint: one design could be $6\text{cm} \times 6\text{cm}$. What shape would these blades be?).

5) Perimeter – estimate and measure

The children can estimate, and then measure, the perimeters of their helicopters.

6) Averages

Repeat each science activity a few times for each helicopter, dropping the same helicopter from the same height each time.

Record these in a chart.

Take the average number of spins for each helicopter.



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7) Ratio

Using the template in the book, or their own design, can the children make two helicopters with their sizes in the ratio for example 3:1?

How would they go about this? (*Graph paper might be useful for this activity*).

8) Data

The children can suggest different ways to record, either manually or on computer, their results; they may suggest a chart with different lengths of rotor blades and number of spins; different lengths of 'stem' and number of spins; different number of paper clips and number of spins, etc.

Do they come to any conclusions? e.g. do longer blades spin faster?

Can they think up other questions, and then try to answer them from their chart of results



9) Helicopter problem

"Food flown to Tory Island. Essential food supplies were taken to Tory Island by an Air Corps helicopter on Saturday after the island had been cut off for nearly a week by severe weather."

This heading sometimes appears in newspapers, especially in the winter.

How long would it take a helicopter to fly from Falcarragh on the mainland in Co. Donegal to Tory Island which is 14 kms off the coast, if the helicopter travels at 140 kms per hour?

10) Website

For a fun maths website see:

www.scholastic.com/kids/homework/maggie_math.htm

"Maggie's Earth Adventures: Math: Dude's Dilemma"

Maggie's dog Dude is trapped on a rooftop! Answering maths questions correctly will help power the helicopter to rescue him.

(Addition, subtraction, multiplication and division are involved)