



Autumn 1 - Year 4 Mathematical Investigators

This is your Bingo Card for my half termly 'Maths Missions'!
These challenges should encourage children to **think like mathematicians**: investigating, generalising, proving, spotting patterns, creating systems and explaining reasoning. This is an optional extra for children who want to do further Maths challenges after completing the home learning set by their class teacher. Tick them off as you go! 😊

1. Four-Digit Challenge

Using four different digits:
Create:

- the largest number
- the smallest number

Find the difference.
Try again.

What patterns emerge?



2. The Target Number Investigation

Choose a target number between 500 and 1000.

How many ways can you make it?

Use all four operations where possible.



3. Number Reversal Investigation

Choose a 4-digit number.

Reverse the digits.



Subtract the smaller from the larger.

What happens?

Investigate at least 20 examples.

4. Design a Maths Escape Room

Create three maths clues that someone must solve to escape.

Test it on somebody.



5. Near Miss Challenge

Can you create calculations that equal:

- 999
- 1000
- 1001

using the same four digits?

6. Become a Data Collector

Collect real-life data for a week.

Present it in at least two different ways.

What conclusions can you draw?





Year 4 Bonus Challenge

The Twenty Consecutive Numbers Challenge

Can you place the numbers 1-20 into a grid so that:

- every row has the same total
- every column has the same total

Then make your own harder version.

Challenge Question: Can you explain why your solution works?

This introduces ideas from algebra and magic squares.

Consecutive numbers



Ultimate Whole-School "Impossible" Challenge

How Many Triangles?

It looks simple... but it's trickier than you think!

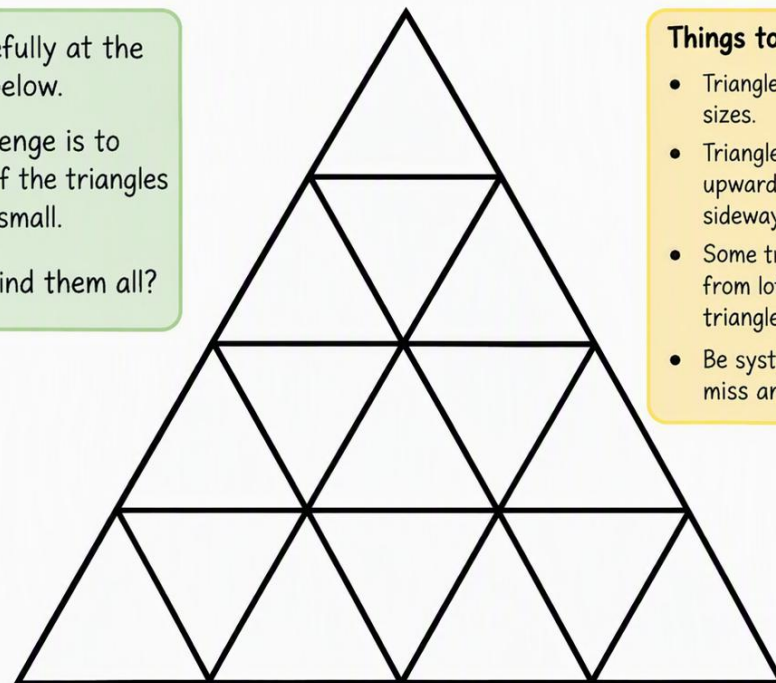
Look carefully at the triangle below.

Your challenge is to count all of the triangles – big and small.

Can you find them all?

Things to remember:

- Triangles can be different sizes.
- Triangles can point upwards, downwards or sideways.
- Some triangles are made from lots of smaller triangles.
- Be systematic – don't miss any!



How many triangles can you find?

Can you prove your answer?

Can you find a strategy to make sure you don't miss any?