



Autumn 1 - Year 3 Mathematical Explorers

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. Consecutive Numbers Investigation

Choose three consecutive numbers.
Add them together.

Try lots of examples.



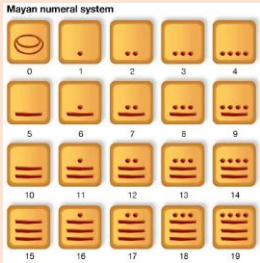
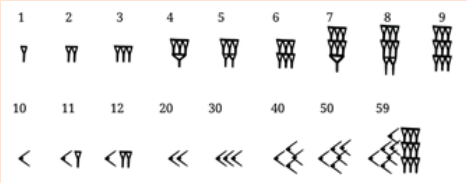
What do you notice?

Can you explain why it always happens?

2. Create a Number System

Invent your own symbols for numbers.

Can someone else read and solve calculations using your system?



3. Magic Squares

Can you create:

- a 3x3 magic square?
- a different one?
- your own rules?

2	7	6	→15
9	5	1	→15
4	3	8	→15
↙15	↓15	↓15	↓15

Investigate what changes and what stays the same.

4. The 1,000 Challenge

Using the digits 0-9 only once each:

Can you create calculations as close to 1,000 as possible?

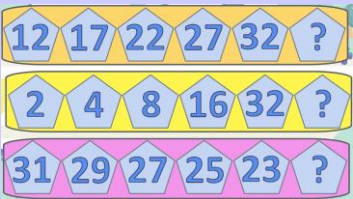
How many different solutions can you find?

5. Pattern Designer

Create your own number pattern.

Can someone work out the rule?

Can you create one that has more than one rule?



6. Addition Investigation

Select any number.

Add:

- 9
- 99
- 999

What do you notice?

Can you explain the pattern?



Year 3 Bonus Challenge

Four Fours Challenge

Using exactly four 4s, make as many numbers as possible.

Examples:

$$4 + 4 + 4 + 4 = 16$$

Can you make:

- 1
- 2
- 3
- 10
- 25
- 100

Challenge Question: What is the largest number you can make?



Ultimate Whole-School "Impossible" Challenge

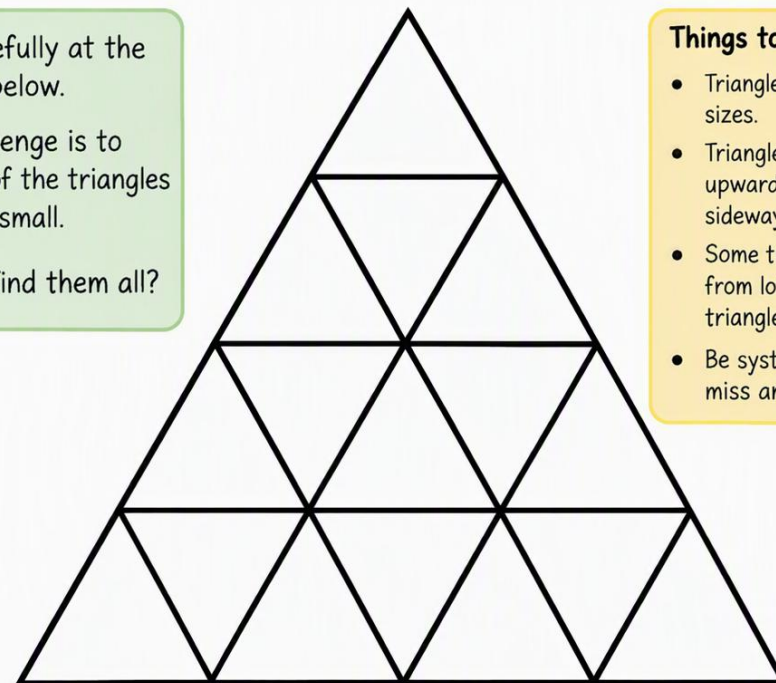
How Many Triangles?

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?