Autumn 2 - Year 2

Addition, Subtraction and Shape

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. The £10 Shop Challenge

Create a pretend shop.



Items must total:

- £10
- £20
- £50

How many different shopping baskets can you make?

2. Shape Architect

Design a dream house using only 2D and 3D shapes.

Explain why each shape was chosen.



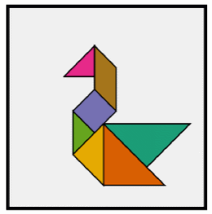
3. The 100 Difference Challenge

How many subtraction calculations can you find that equal 100?

Can you find 50 examples?

What patterns appear?

4. Tangram Master



Create:

- Animals
- Vehicles
- Buildings

Using tangram or your own homemade tangram shapes (7 pieces).

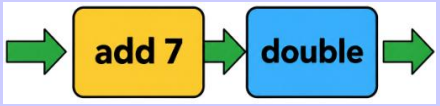
Can you create your own puzzle?

5. Number Machine Investigation

Invent a machine.

Example:

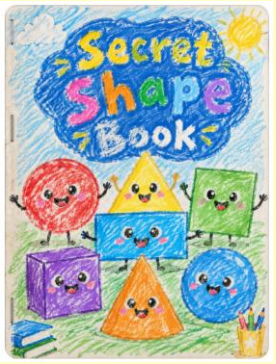
- Add 7
- Double



Can someone work out your rule?

6. Secret Shape Book

Choose one shape.



Create a fact file including:

- Properties
- Real-life examples
- Diagrams
- Challenges

Become the class expert!

Year 2 Bonus Challenge
The 100 Square Secret Codes

Use a hundred square.

Choose a number.

Can you discover what happens when you

- Add 9 repeatedly
- Add 11 repeatedly
- Move diagonally
- Move in an L-shape

Record every pattern you notice.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Grand Challenge: Can you invent a secret code using a hundred square and teach somebody how it works?



Ultimate Whole-School Challenge

The Christmas Tree Code Challenge

One morning, a strange pattern appears on a Christmas tree:

★

★ ★

★ ★ ★

★ ★ ★ ★

The first row has 1 star. The second row has 2 stars. The third row has 3 stars.

Bronze Mission

Count:

- How many stars are in a tree with 5 rows?
- How many stars are in a tree with 6 rows?
- How many stars are in a tree with 10 rows?

Can you find a quick way?

Silver Mission

What if the tree had:

- 15 rows?
- 20 rows?
- 50 rows?

Can you find a pattern?

Record your thinking.

Gold Mission

A mathematician says:

"I can work out the number of stars in ANY Christmas tree without drawing it."

Can you discover their method?

Test it.

Convince somebody it works.

Grandmaster Mission 🏆

Can you answer:

- How many stars would be in a tree with 100 rows?
- 1,000 rows?
- Could there be a tree with exactly 95 stars?
- Could there be a tree with exactly 183 stars?

How do you know?