3-6: REMOTE MATHS
EDITION 14

NUMBER AND ALGEBRA - INVESTIGATIONS

Mathematical language: odd, even, properties, total, altogether, claim, number, bigger, multiply, add, sum, doubling.

INVESTIGATION 1

PART 1: ODD AND EVEN NUMBER PROPERTIES: MAKING CLAIMS

A claim is something that is thought to be true.

Claim: *When adding two odd numbers together, the total is always an even number.*

- Prove that this is always true.
- What happens when you add two even numbers together?
- Finish this claim: *When additing two even numbers together the total is always an _____ number.*
- What happens when you add one odd number and even number together?
- Finish this claim: *When adding one odd and one even numbers together the total is always an _____ number.*

PART 2: NUMBER MAZE   *Sourced from ReSolve*

Using the knowledge about the properties of odd and even numbers that you have developed, explore this [Number Maze](#).

Instructions for the Number Maze

- You need to move from 5 at the start through to 14 at the end.
- You can use horizontal, vertical and diagonal movements.
- Add together the numbers of each box you pass through.
- The aim is to finish with an odd total.

Extending prompt: How many different paths can you find through the maze?

5	32	4	29	26
13	6	18	27	3
14	15	10	38	12
22	42	9	16	2
8	19	12	40	14

INVESTIGATION 2

PART 1: TESTING CLAIMS - ALWAYS, SOMETIMES, NEVER *Adapted from Nrich*

In this investigation you will be exploring whether claims are always, sometimes or never true.

- Read the following claims and decide if they are always true, sometimes true or never true.
- How do you know?

Extending prompt: For the 'sometimes' cards, rewrite them so that they are always or never true.

If you add 1 to an odd number you get an odd number.	When you add two numbers you will always get a bigger number.
When you multiply two numbers you will always get a bigger number.	The sum of three numbers is odd.
Multiples of 5 end in a 5.	Doubling a number results in an even number.

PART 2: WRITING CLAIMS

Have a go at writing your own 'claim statements' about one of the following processes:

- Adding
- Subtracting
- Multiplying
- Dividing

Write three versions of your claim:

- One that is always true
- One that is never true, and
- One that is sometimes true.

Test them out on a family member at home!

Look out for more tasks next week!

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