

Profile: Emyr (Key Stage 2)

Activity | Boxes

The focus of this activity is a game using place value and subtraction with numbers up to 1000. The game is played in pairs where pupils take turns to generate single digits using a set of cards. As each digit is generated, the player decides where to place it to form a valid inequality using either two-digit or three-digit numbers, and then replaces the card. The winner of the game is the player whose pair of numbers has the greater difference. In playing the game, pupils develop a strategy for where to place a digit by considering the likelihood of getting a higher or lower number, and explain their strategy.

Activity | Using the library

As part of their work on using the library, pupils make and investigate a hypothesis about the relationship between word length and reader age in two fiction books. They choose two books appropriate for different ages and give a reason for which book they think will have the longer words. They decide how to collect and present data, which they then record and analyse by finding the mode and range of the data, and explain their findings.

Activity | Consecutive numbers

The focus of this activity is to identify and explain patterns that arise when adding together consecutive numbers.

Activity | Building triangles

In this activity, pupils aim to identify patterns in a sequence, find a rule in words for the pattern, use this rule to predict later entries in the pattern, and prove their rule for a specific entry. They use matchsticks or straws to develop patterns of increasing numbers of equilateral triangles laid edge-to-edge in a straight line, and then attempt the same activity using squares.

Game 1

Justin

Emyr

1	7	<	8	3
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score = 66

2	4	<	6	5
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score = 41

Game 2

7	5	2	>	4	1	0	9	5	4	>	1	3	5
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score = 342

score = 819

Game 3

How I decided where to put my cards

I drew the cards from the pack in this order
6, 8, 2, 0, 3, 6.

8	6	6	>	2	0	3
---	---	---	---	---	---	---

score = 663

I put the 8
here because
I thought
getting a 9
was unlikely

I put the 1st
6 here because
I thought there
was a good
chance of getting
7, 8 or 9 to put
in the 1st space

I put the 2
here because
I thought 0
or 1 was
unlikely

I put the 0
here because
it was
impossible to
get a smaller
number.

I put the 3 here because the last
number was unlikely to be bigger
than 3.

Using One Library

I think Charlie and the Chocolate Factory is going to have longer words because it has to describe more things about the factory and it is for older children to read.

Starting school

Number of letters in words	1	2	3	4	5	6	7	8	9	10
Sample A - 20 words										
			9	1	4	5			1	
↓										
Number of letters in 100 words	2	7	39	18	14	10	4	3	2	1

Charlie and the Chocolate Factory

Number of letters in words	1	2	3	4	5	6	7	8	9	10
Sample E - 20 words										
			5	5	3	3	2	1	1	
↓										
Number of letters in 100 words	1	16	31	14	12	15	8	2	1	

Results

Starting school has a mode of 3 letter words.

The range is 9.

Charlie and the Chocolate Factory has a mode of 3 letter words. The range is 8.

I am surprised that there is not much difference in my results. I need to look at lots more groups of words to be sure.

Consecutive Numbers

$$1 + 2 = 3$$

$$2 + 3 = 5$$

$$3 + 4 = 7$$

$$4 + 5 = 9$$

$$5 + 6 = 11$$

$$6 + 7 = 13$$

$$7 + 8 = 15$$

$$8 + 9 = 17$$

$$9 + 10 = 19$$

They are all odd and they go up in 2's

$$1 + 2 + 3 = 6$$

$$2 + 3 + 4 = 9$$

$$3 + 4 + 5 = 12$$

$$4 + 5 + 6 = 15$$

$$5 + 6 + 7 = 18$$

$$6 + 7 + 8 = 21$$

$$7 + 8 + 9 = 24$$

$$8 + 9 + 10 = 27$$

$$9 + 10 + 11 = 30$$

They go up in 3s and are all multiples of 3. They are 3 x the middle number.

$$1 + 2 + 3 + 4 = 10$$

$$2 + 3 + 4 + 5 = 14$$

$$3 + 4 + 5 + 6 = 18$$

$$4 + 5 + 6 + 7 = 22$$

$$5 + 6 + 7 + 8 = 26$$

$$6 + 7 + 8 + 9 = 30$$

$$7 + 8 + 9 + 10 = 34$$

They are all even and they go up in 4s. They are not multiples of 4. But I notice that if I take away 10, they are all multiples of 4.

$$1 + 2 + 3 + 4 + 5 = 15$$

$$2 + 3 + 4 + 5 + 6 = 20$$

$$3 + 4 + 5 + 6 + 7 = 25$$

$$4 + 5 + 6 + 7 + 8 = 30$$

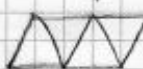
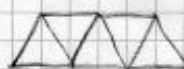
$$5 + 6 + 7 + 8 + 9 = 35$$

$$6 + 7 + 8 + 9 + 10 = 40$$

$$7 + 8 + 9 + 10 + 11 = 45$$

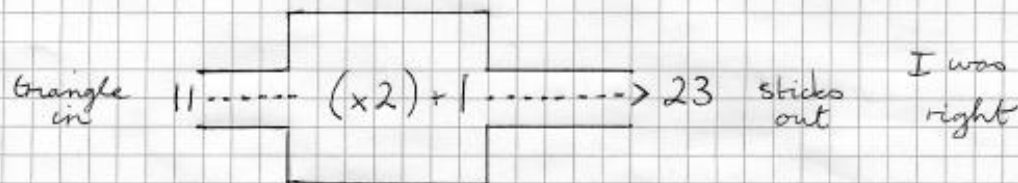
They go up in 5s and are all multiples of 5. They are 5 x the middle number.

Building Triangles

Triangles	1	2	3	4	5
					
Number of sticks	3	5	7	9	11

Number of triangles	Number of sticks	Number of triangles	Number of sticks
1	3	7	15
2	5	8	17
3	7	9	19
4	9	10	21
5	11	11	23
6	13	12	25

I have found out that you need to double the number of triangles and add 1.

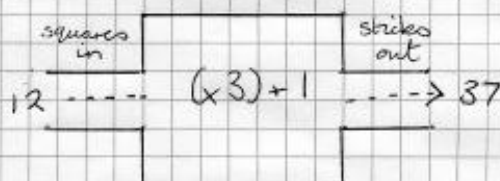


I can now predict the number of sticks needed for any number of triangles.

I did the same pattern with squares.

Number of squares	Number of sticks
1	4
2	7
3	10
4	13
5	16
6	19

I think you need to multiply by 3 and add 1



 $\rightarrow 37$

I was right

For 100 squares I would need $100 \times 3 + 1 = 301$ sticks