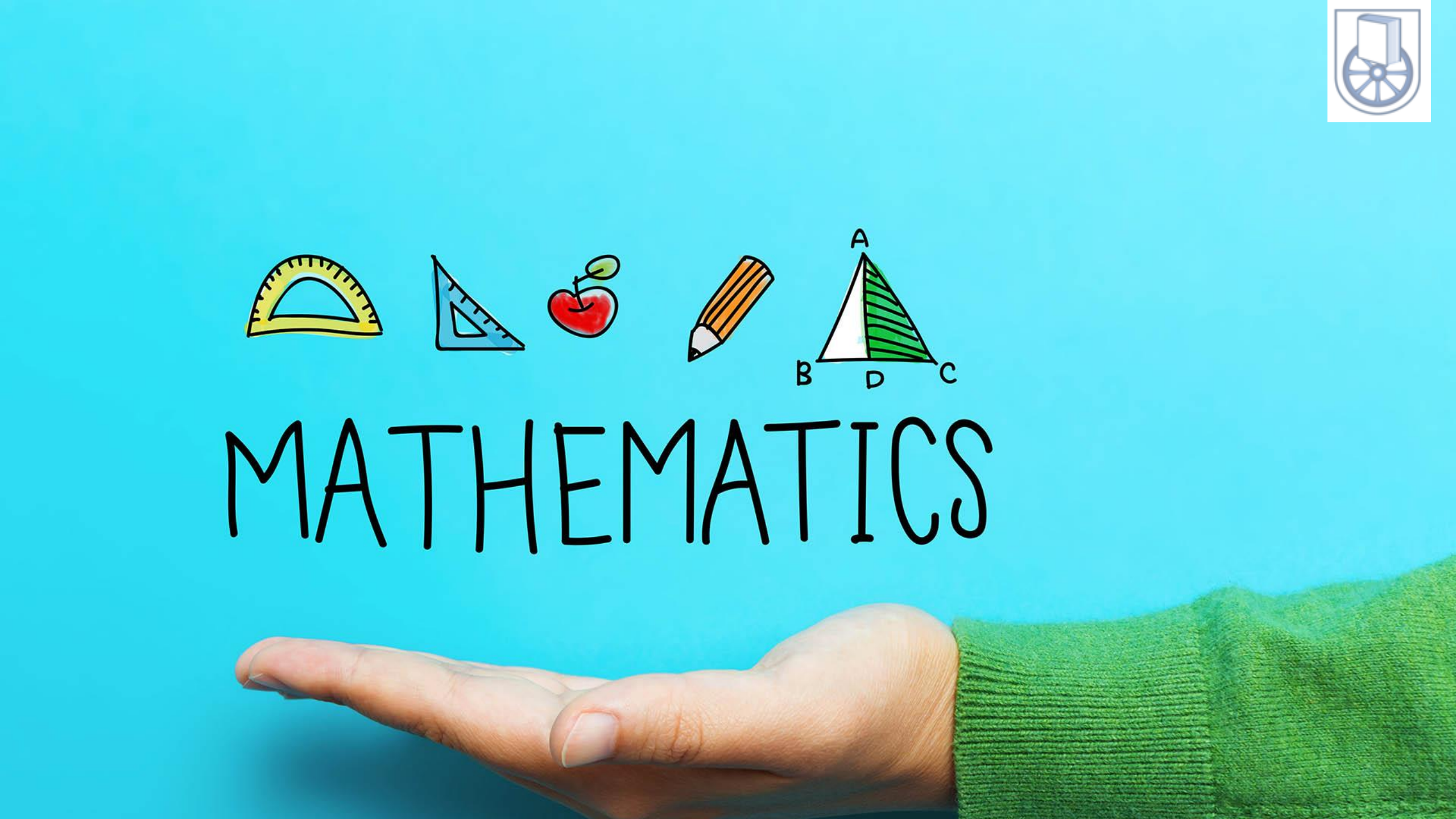
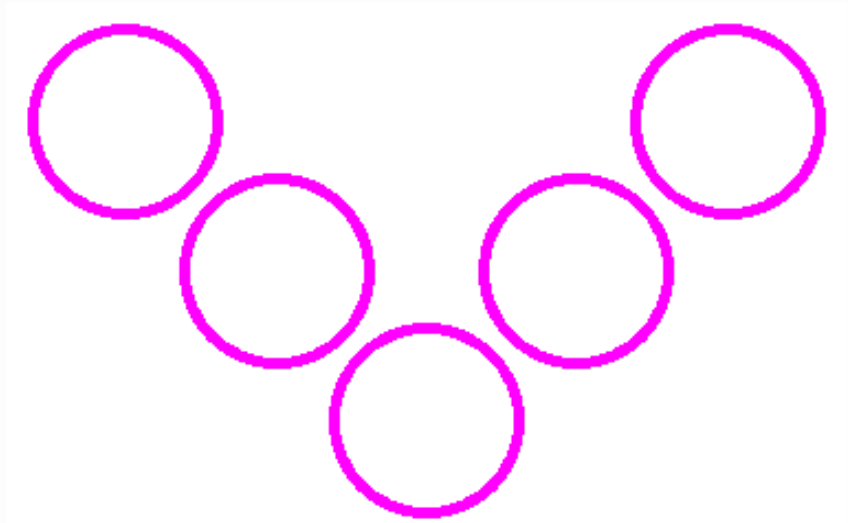

A
B
D
C
MATHEMATICS

To start, a little maths

Place each of the numbers 1 to 5 in the V shape below so that the two arms of the V have the same total.

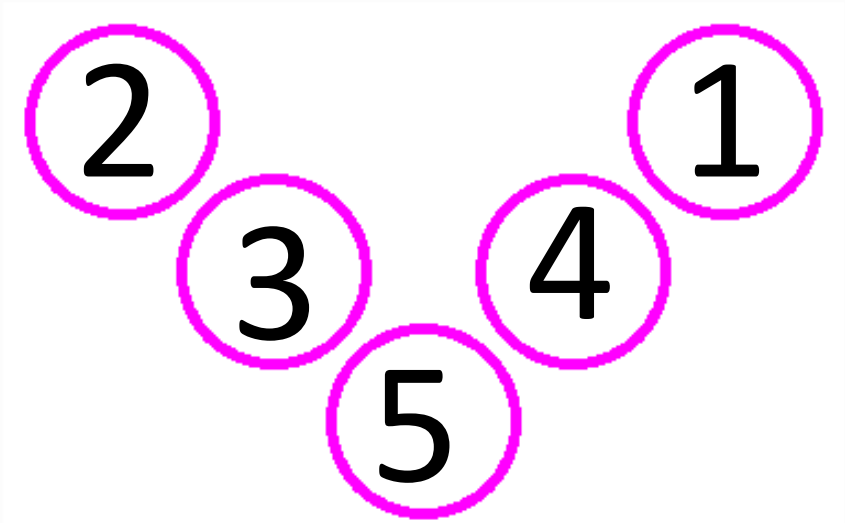


1 2 3

4 5

To start, a little maths

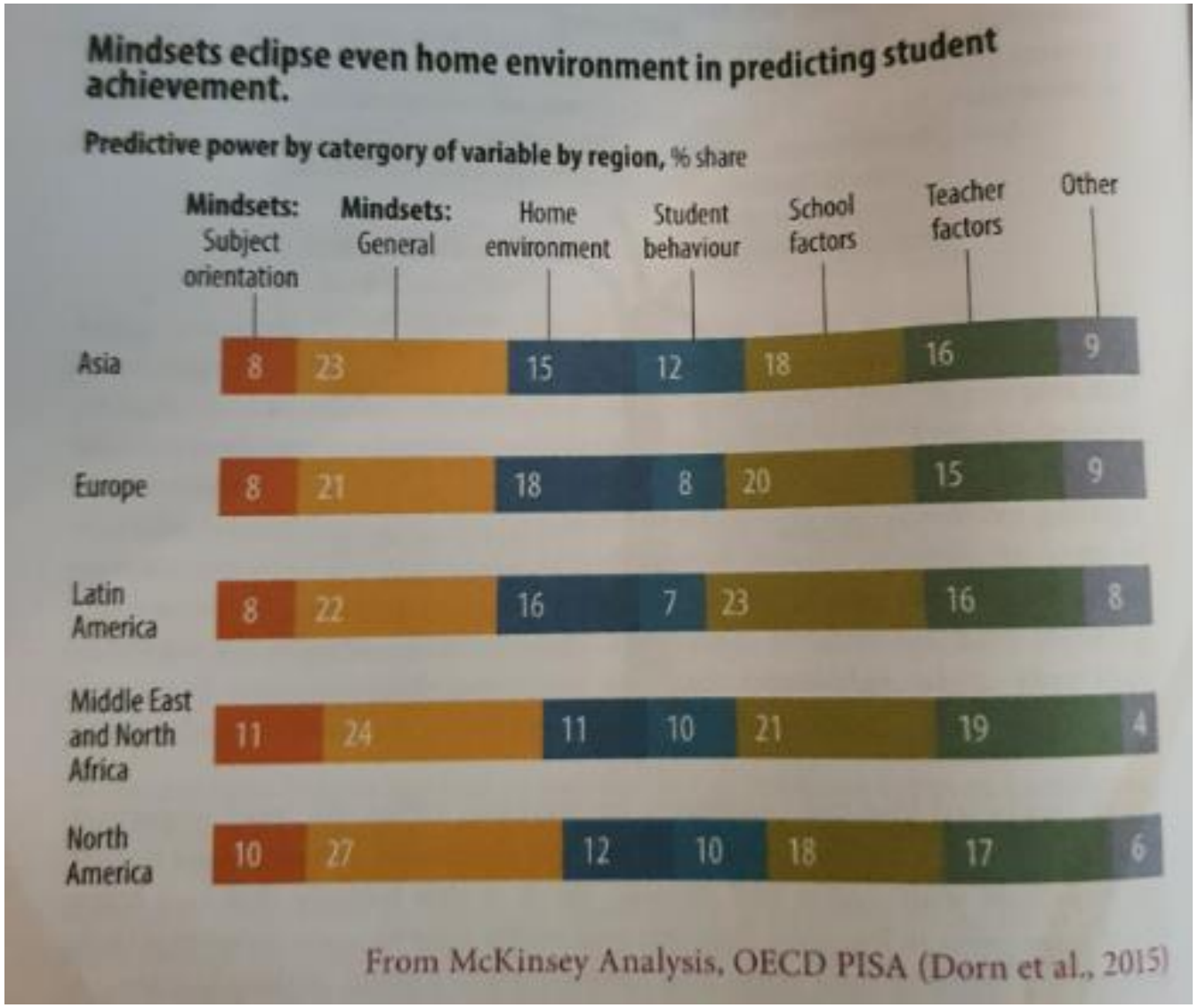
Place each of the numbers 1 to 5 in the V shape below so that the two arms of the V have the same total.



Aims for the session:

- Have a better understanding of what mathematics provision looks like at St Katherine's.

- Have a better understanding of how to support children outside of school.



29% - mindset

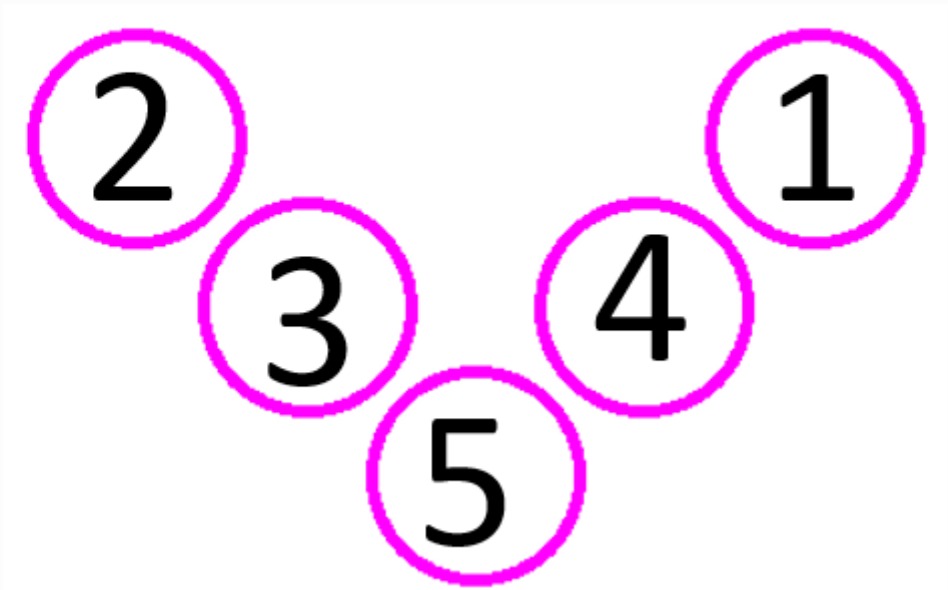
18% - home

8% - behaviour

20% - school factors

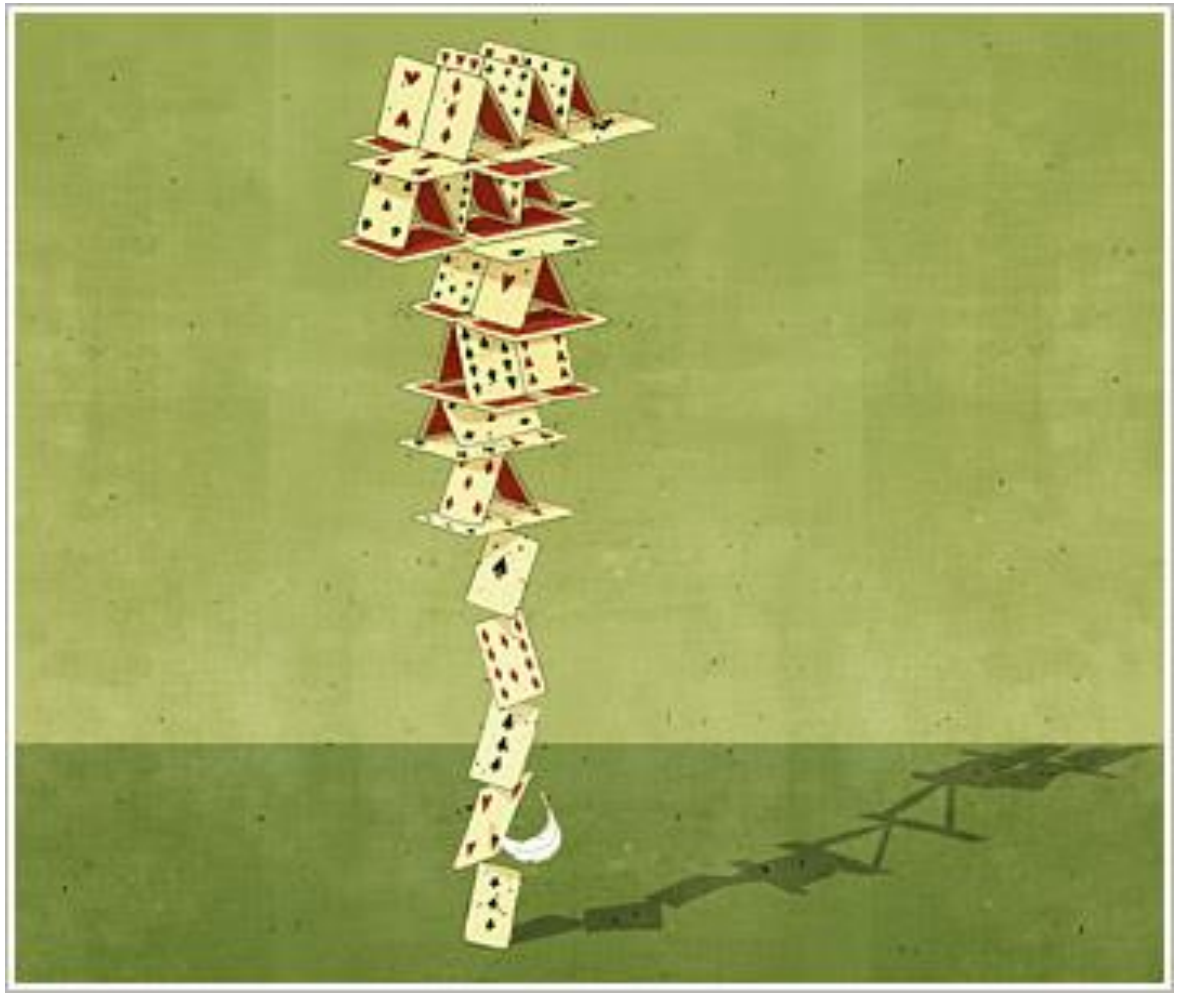
15% - teacher factors

Place each of the numbers 1 to 5 in the V shape below so that the two arms of the V have the same total.

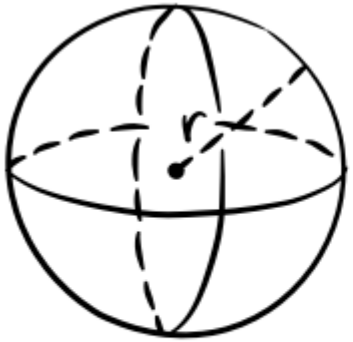


“I can’t do it…**yet**.”

- Everyone can be successful with maths
- Making mistakes is normal and a key part of learning
- There is often more than one way of approaching something
- Explaining why or how is really valuable



‘Moving on with teaching an idea that relies on one or more other ideas that pupils do not yet understand will only result in failure.’ Teaching for Mastery McCourt, M. 2019



$$V = \frac{4}{3}\pi r^3$$

Mathematical Proficiency

Proficiency should be the goal of the curriculum rather than 'covering the curriculum' or achieving thresholds of 'age-related' expectations. Often, pupils can be rushed through content, or their attainment can mask a lack of security of concepts. Both of these negatively affect pupils' use of maths in further study or work.

Practice

There is variation in both the quality and quantity of practice, and there is little agreement over what constitutes adequate practice. A lack of sufficient practice can lead to pupils not having enough opportunity to learn the content they have been taught. This means that their learning is less secure and it is likely to be harder for them to learn new content in the future. The goal of practice should be to learn knowledge to automaticity.

OFSTED report – Coordinating Mathematical Success (2023)

Core principles of maths provision at St Katherine's

- Every child can be successful
- Proficiency and practice
- The mathematical journey is important

Our **approach** to maths teaching

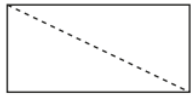
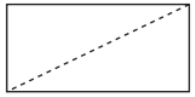
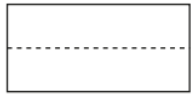
- Mastery
- White Rose and Mastering Number
- Concrete, Pictorial and Abstract
- Assessment

Find a half of an object or a shape

1 Draw a line to split each object in half.



2 Colour half of each rectangle.

Year 1

2 Here are some bar models.

a) Shade the bar models to show the fractions.

b) Write < or > to compare the fractions.

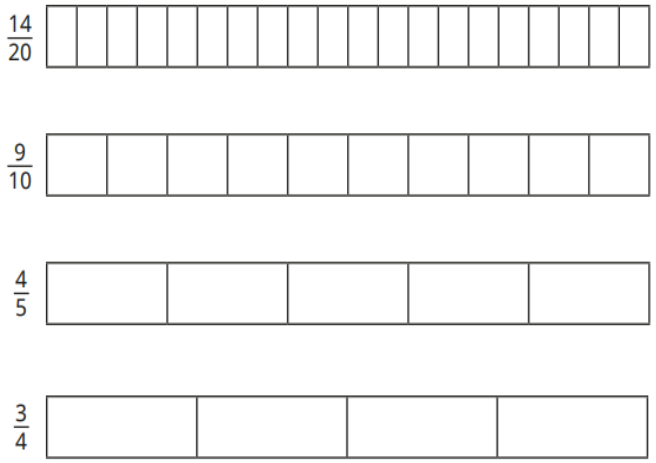
$\frac{1}{5}$ ◯ $\frac{3}{5}$ $\frac{4}{5}$ ◯ $\frac{1}{5}$ $\frac{0}{5}$ ◯ $\frac{1}{5}$

$\frac{4}{5}$ ◯ $\frac{3}{5}$ $\frac{2}{5}$ ◯ $\frac{3}{5}$ $\frac{5}{5}$ ◯ $\frac{4}{5}$

What do you notice?

Year 3

2 **a)** Shade the bar models to show the fractions.



b) Use the bar models to help you order the fractions from greatest to smallest.

$\frac{14}{20}$ $\frac{9}{10}$ $\frac{4}{5}$ $\frac{3}{4}$

greatest **smallest**

Year 6

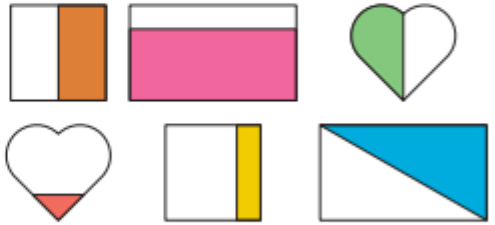
Colour half of each whole shape:

Check that pupils do not think that just dividing a shape into any two pieces is halving but understand that they need to be equal pieces.

Which of these show half of each whole shape?

Explain your reasoning.

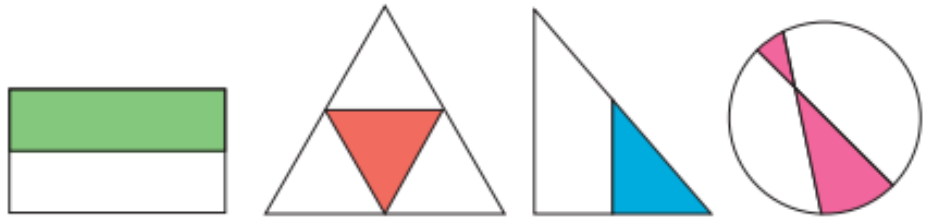
Children should talk about the two parts needing to be equal parts of the whole.



Year 1

True or false?

Explain why.



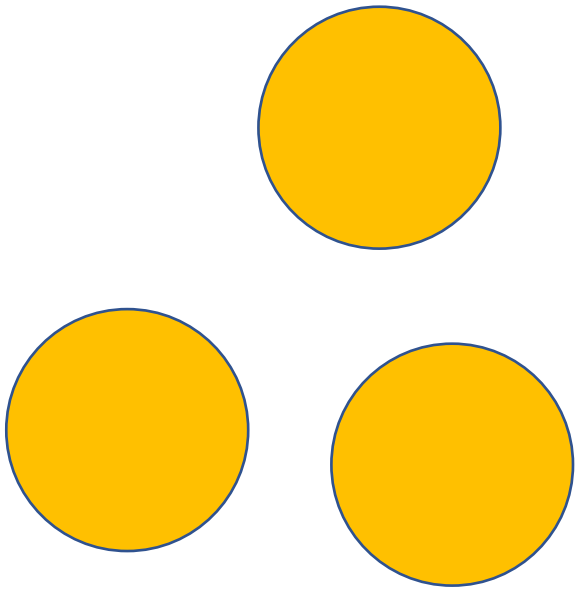
$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{2}$ $\frac{1}{4}$

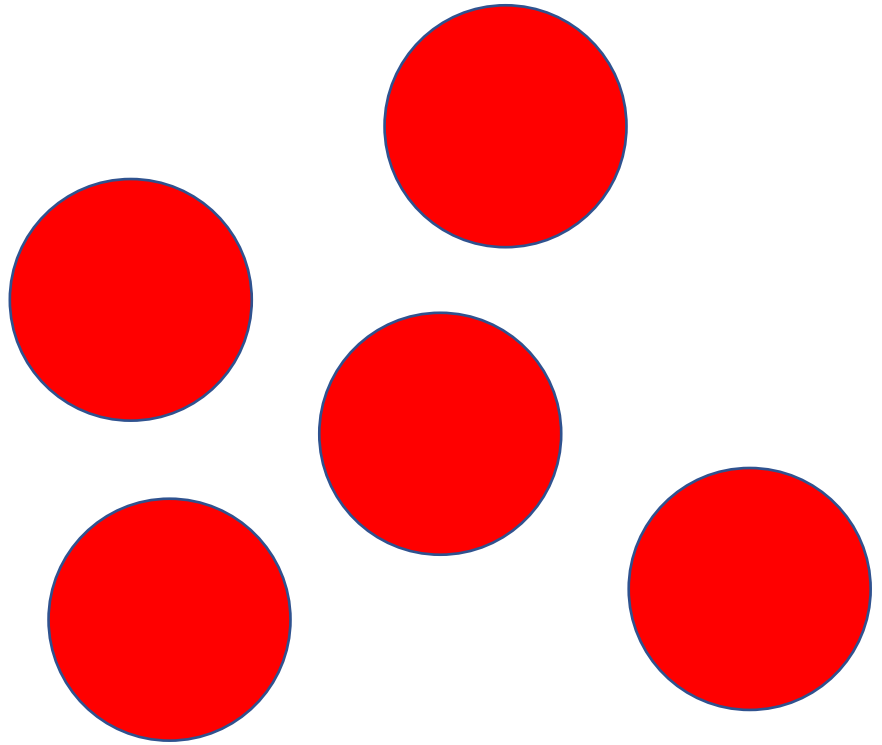
Year 3

Only a fraction of each whole rod is shown. Using the given information, identify which whole rod is longer

Explain your reasoning.

Year 6





There are **more** ____ counters than ____ counters;
there are **fewer** ____ counters than ____ counters.

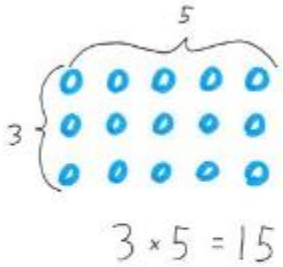
Drop 6 counters and compare the number of each colour.
Spot when there is an **equal number** of red and yellow counters.

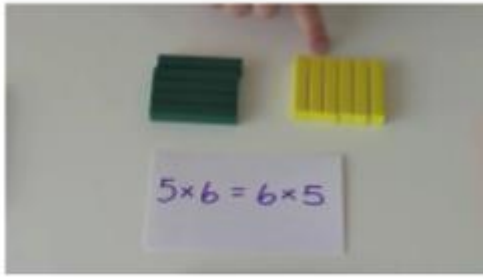
Play the game!


3 2 3
1
6
0 1 2 3 4 5
6
0


TIMES
TABLES

What comes in 2s?





PATTERNS WHEN MULTIPLYING IN 3S

- Multiples of 3 have a pattern of 3, 6, 9, 2, 5, 8, 1, 4, 7, 0 in the ones place.
- Every other multiple of 3 is even.
- The digits in multiples of 3 add up to a multiple of 3 (36 = 3 + 6, 111 = 1 + 1 + 1, etc.)
- All EVEN multiples of 3 are also a multiple of 6

X	1	2	3	4	5	6	7	8	9	10
1	1	2		4	5	6	7	8	9	10
2	2	4		8	10	12	14	16	18	20
3										
4	4	8		16	20	24	28	32	36	40
5	5	10		20	25	30	35	40	45	50
6	6	12		24	30	36	42	48	54	60
7	7	14		28	35	42	49	56	63	70
8	8	16		32	40	48				
9	9	18		36	45	54				
10	10	20		40	50	60				

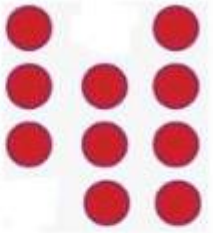
5 x 4

4 x 10 = 40
40 ÷ 2 = 5 x 4

5 x 2 = 10
10 x 2 = 5 x 4

What multiplication fact does this array show?

X =



4 x 4 = 16

Correct this array.

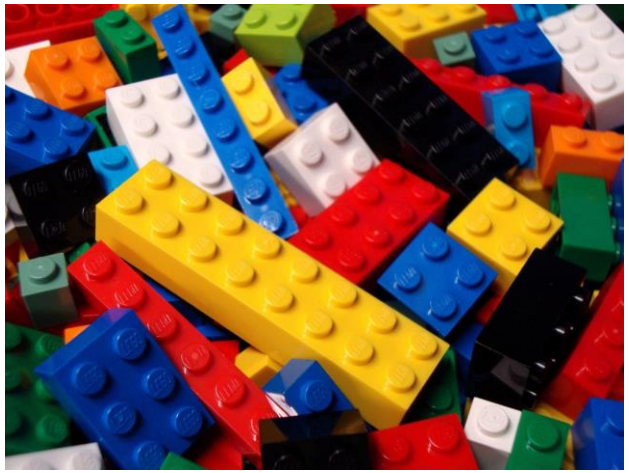
OR

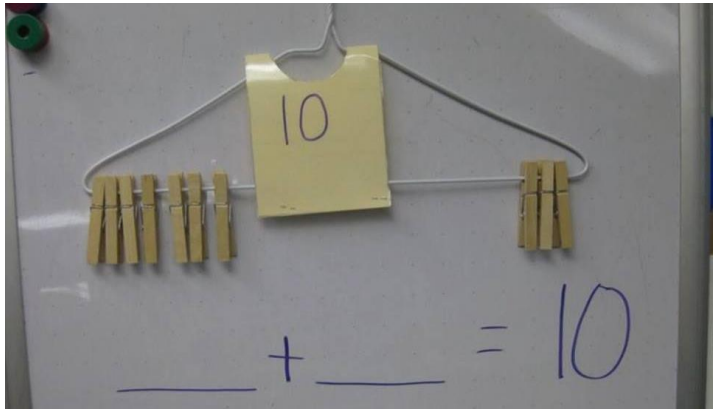
Explain why this array is incorrectly drawn.


8
1
16
9
7
15
10
2
14
11
6
13
12
3
5
4


Hundreds
Tens
Ones


© Train Up a Child




10
+
=
10

Manipulatives - MathsBot.com

White Rose EDUCATION

MathsBot.com

UNIVERSITY OF CAMBRIDGE
Faculty of Mathematics
NRICH