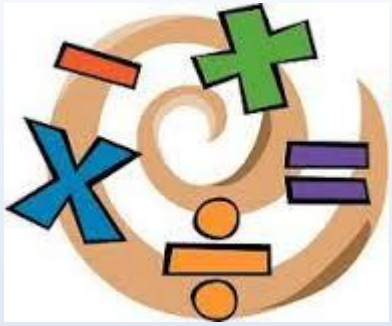
How do we teach Mathematics in our school?

Learning @ Home event 2019



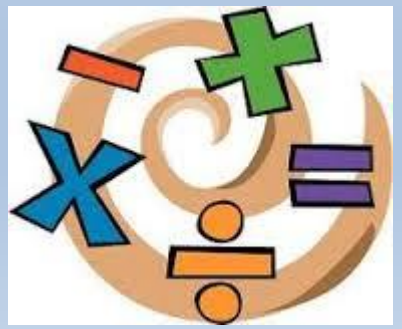
Numberless

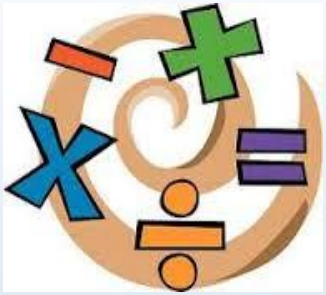
If all the numbers in the world were rubbed out, removed, taken away:

I wouldn't know how old I was,
I wouldn't know the time of day,
I wouldn't know which bus to catch,
I wouldn't know the number of goals I had scored,
I wouldn't know how many scoops of ice-cream I had,
I wouldn't know the page on my reading book,
I wouldn't know how tall I was,
I wouldn't know how much I weighed,
I wouldn't know how many sides there are in a hexagon,
I wouldn't know how many days are in the month,
I wouldn't be able to work my calculator.
And I wouldn't be able to play hide-and-seek!

Aims of today

- To gain an insight into how Maths is taught here at Beaver Road Primary School.
- To take away some ideas to support your children at home.
- To take part in a variety of maths activities.





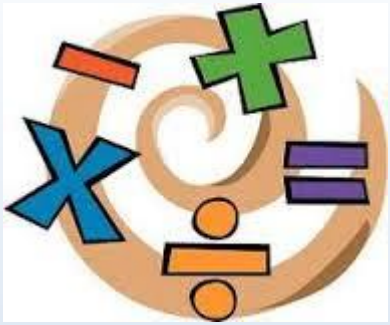
The Maths Curriculum

Children should:

- Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations and developing an argument, justification or proof using mathematical language.

- **Solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.



Teaching for Mastery

Involves the development of **three** forms of knowledge:

Factual – I know that

Procedural – I know how

Conceptual – I know why

Maths at Beaver Road

= + x %

subtract

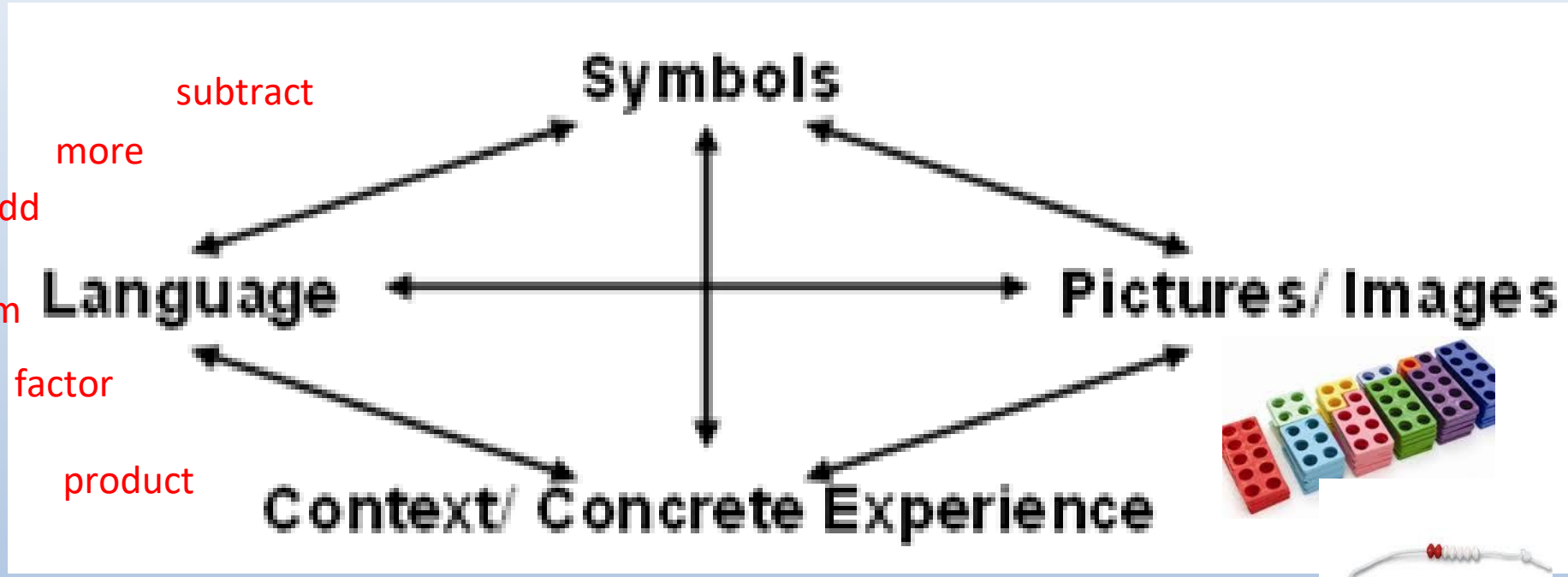
more

add

sum

factor

product



Number Sense!

Children need to understand our number system, starting with counting numbers, building an understanding of how our numbers work and fit together. This includes exploring place value and comparing and ordering numbers then applying this understanding in different contexts.

Number Sense!

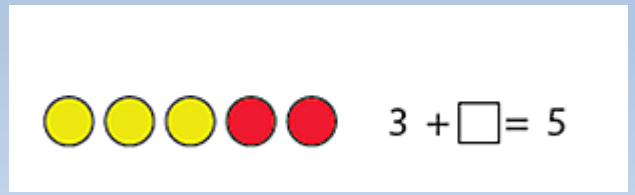
Six means six
Wherever you start..

Six without counting
Subitising

Six and its close friends
5+1ness of 6 consecutive numbers

Give me six
Create a set out of bigger number not a given set- spoons!

Six as a springboard
400 + 200, 0.4 + 0.2



All (six) eggs in one basket
Additive composition

Place Value – The Key

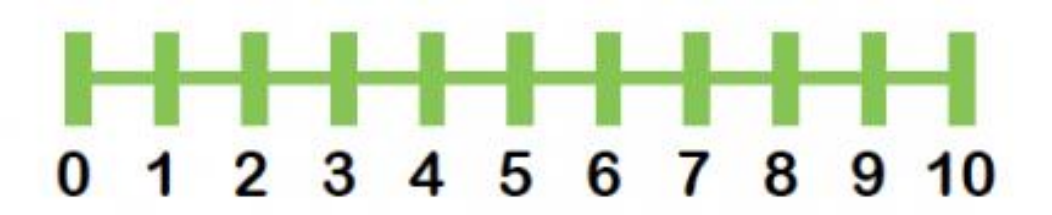
Place value is at the heart of the number system.

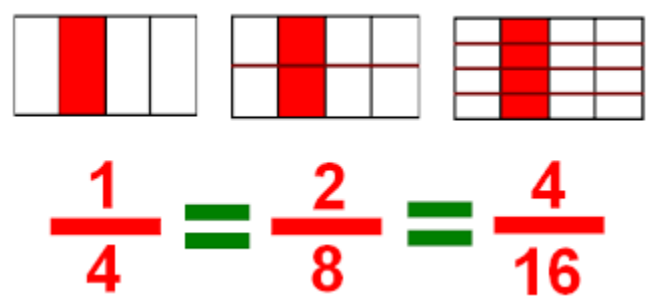
We only really have 10 numbers but their place in our value grid makes them what they are.

A secure understanding of this will enable children to use and understand different calculation methods.

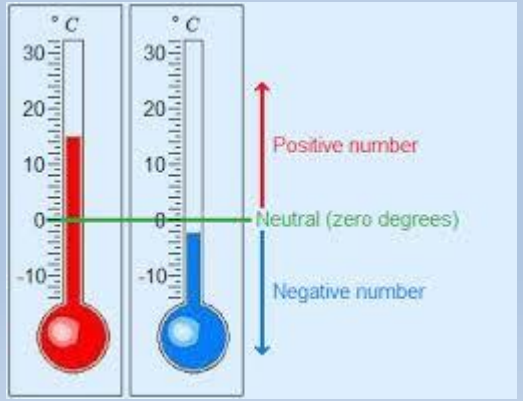
Keep Counting!

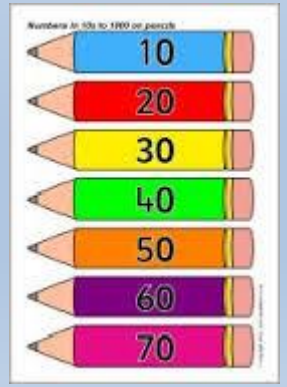
- Backwards and forwards in 1s, 10s, 100s, 1000s. Use a number line.
- Counting in decimals.
- Counting in fractions.
- Counting into negatives.

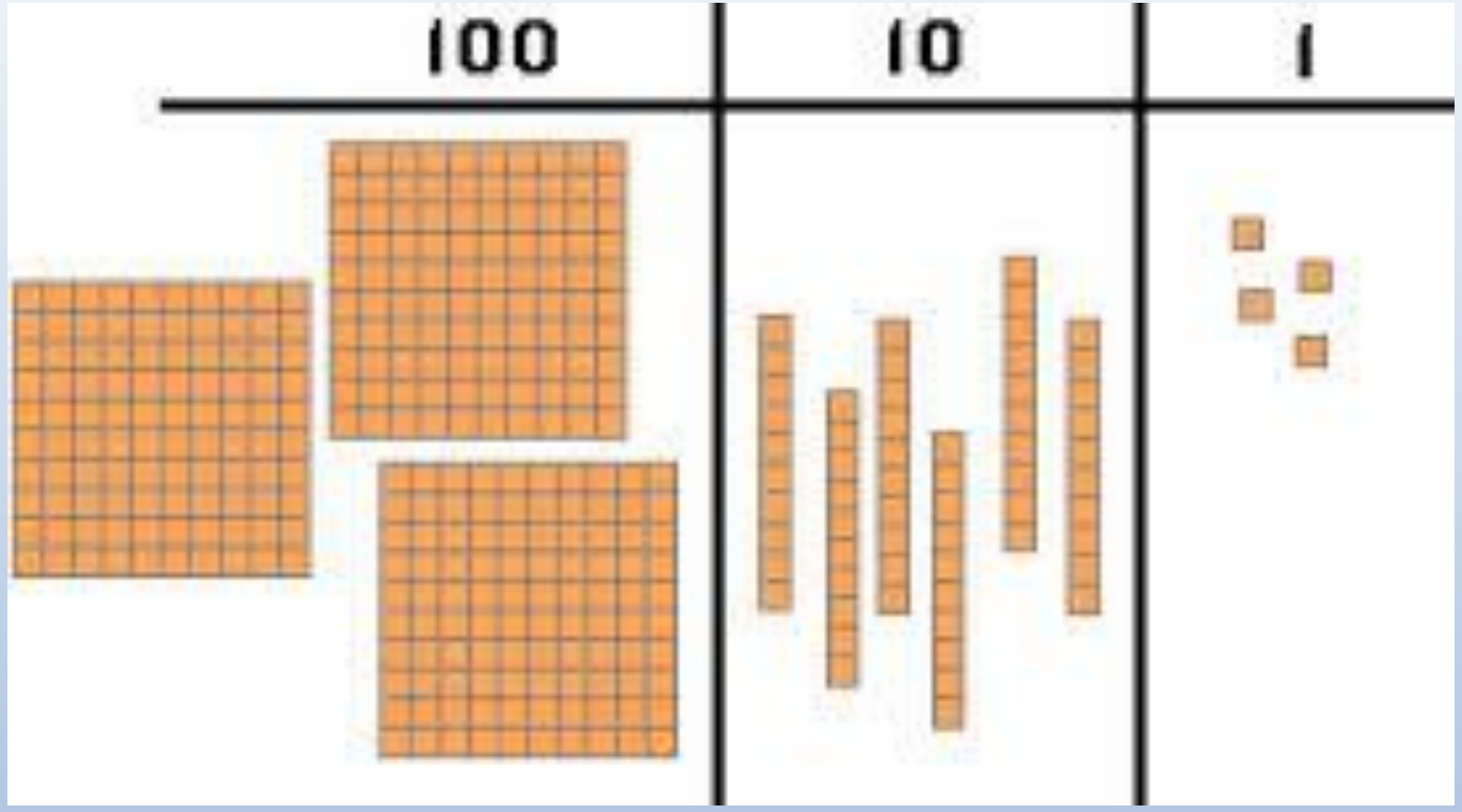


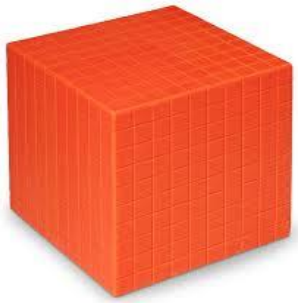
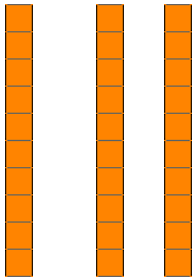
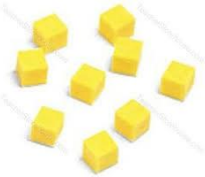


Decimal	*Words*	*Fraction*
0.1	1 tenth	$\frac{1}{10}$
0.01	1 hundredth	$\frac{1}{100}$
0.001	1 thousandth	$\frac{1}{1000}$






100
10
1

thousands	hundreds	tens	ones
1	2	3	9
	 		

Recalling Facts

It is important that children recognise number bonds, different pairs of numbers with the same total.

7 + 3

10

6 + 4

6 + 2

8

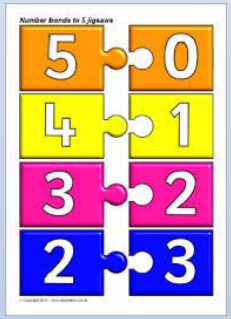
5 + 3

6 + 3

3 + 2

5

1 + 4



6 + 1

7

3 + 4

5 + 4

9

6

3 + 3

Partitioning

432 + 325

400 + 300 = 700
30 + 20 = 50
2 + 5 = 7

700 + 50 + 7 = 757

757 – 432

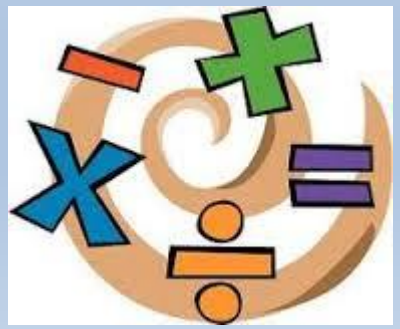
700 – 400 = 300
50 - 30 = 20
7 - 2 = 5

300 + 20 + 5 = 325

72 x 8

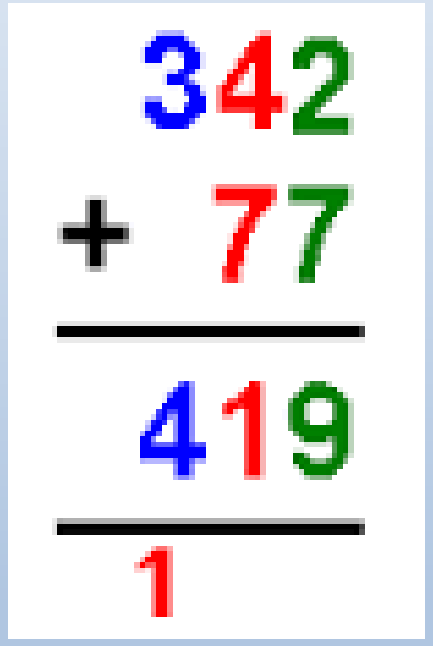
70 x 8 = 560
2 x 8 = 16

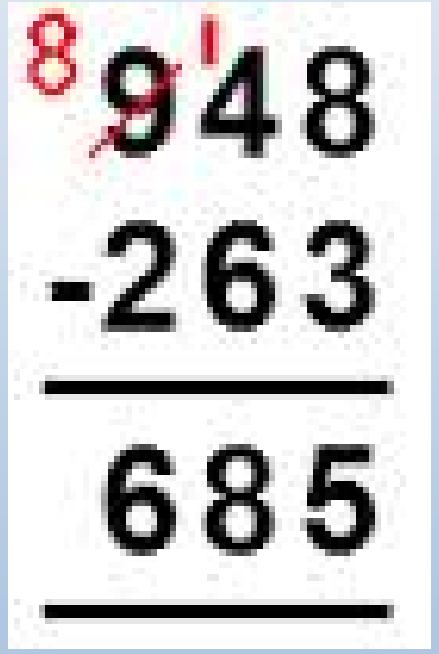
560 + 16 = 576



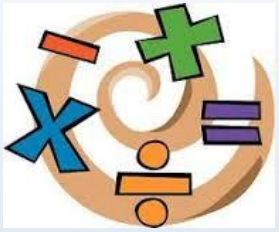
Column Methods

- Children with a secure understanding of place value will better understand the column method for addition and subtraction.





- Understanding place value will help children see the relationship between the columns.



How you can help at home?

- For Juniors access websites such as Topmarks, Timestables Rockstars, Sumdog, Mangahigh (all listed in booklet).
- A focus on **mental calculations.**
- Develop the ability to **estimate**.
- Encourage maths in a **real life context!** Anything goes!
- Ask children to **explain** how they have calculated something using a method that suits them.
- Work with children to practise **written calculations.** Let them explore. Workshops to follow.
- Ensure children are confident with their **addition bonds and multiplication tables (up to 12x12)** – and make sure they can use the related inverse facts too!

Us helping you…

Times Tables Rockstars

https://ttrockstars.com/login

Manipulatives/Models

https://mathsbot.com

Videos on concepts

https://corbettmathsprimary.com/content

Addition and Subtraction Calculation strategies

MATH WorkShop FOR PARENTS

Multiplication and Division Calculation strategies

BEAVER ROAD PRIMARY SCHOOL

MATHEMATICS

Parent Support Booklet

Autumn 2019

LKS2 Maths vocabulary and definitions to help you support your child

KEY WORDS	DEFINITION
3-D	A shape with three dimensions: length, width and height
acute	An angle measuring less than 90 degrees
analogue	12- hour time written as a.m (morning) or p.m (afternoon) usually shown by a clock with hands
anti- clockwise	The opposite direction to which the hands move round the clock
area	The material needed to cover a space.
axis	The horizontal (x axis) or vertical (y axis) lines used in plotting coordinates
capacity	The quantity that can be held in a container. Can also be known as volume.
clockwise	The direction in which the hands move around the clock
column method	Writing numbers in columns according to their place value to make them easier to add, subtract etc
common factor	Numbers that are factors of more than one number

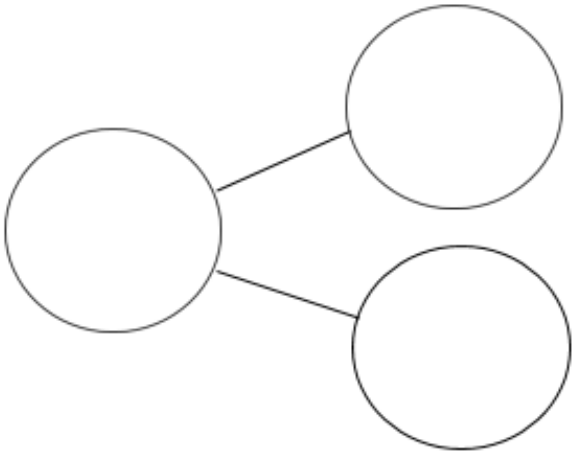
Focus

- Our focus for this year is mathematical reasoning and fluency of number
- During lessons, children will be expected to:
  - Explain
  - Use precise and correct vocabulary
  - Prove their answers
  - Recall key number facts
  - See the Maths in different contexts

Maths Stories

The Story of 64

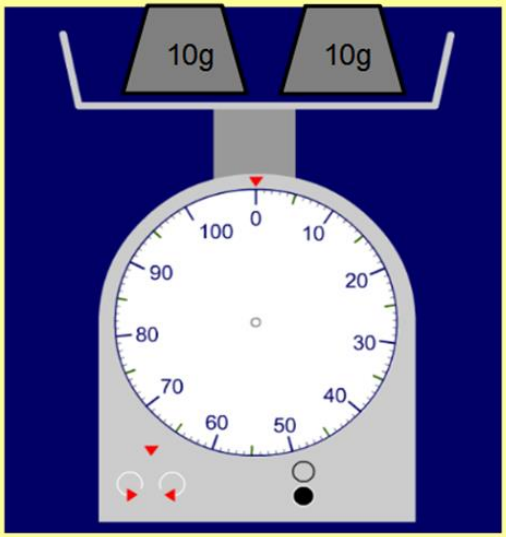
15 + 6 =

Build it and draw it:	Write in words:
Put it in a part part whole model: 	Use it in a story:

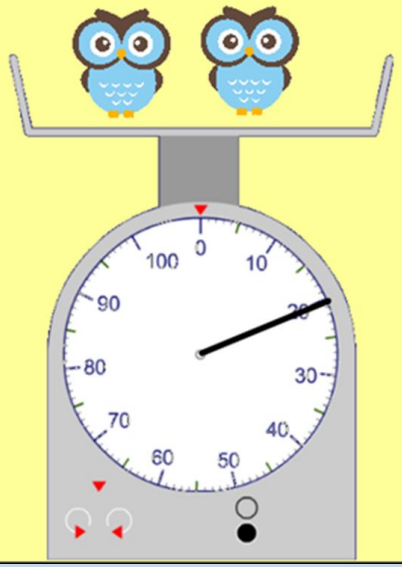
What else do you know?

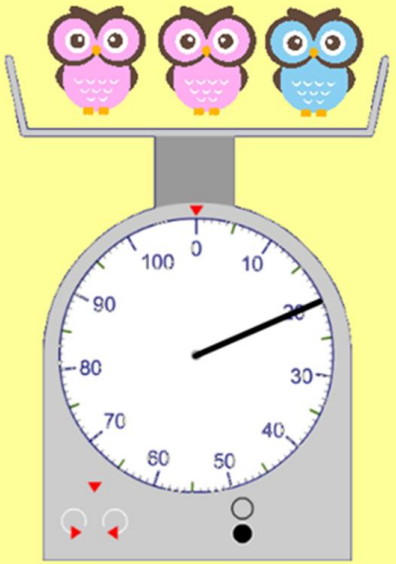
If 3 x 2 = 6 what else do you know?

Which question is more challenging and why?



Which is heavier the blue owl or the pink owl?
Explain your reasoning.





What do you notice?

What do you notice about multiples of 2?

How could you
investigate that you
are correct?

What do you notice about …..

Odd One Out

2, 4, 5, 6, 8

Which one is the odd one out?

Why is it the odd one out?

45, 89, 90, 180, 225

Which one is the odd one out?

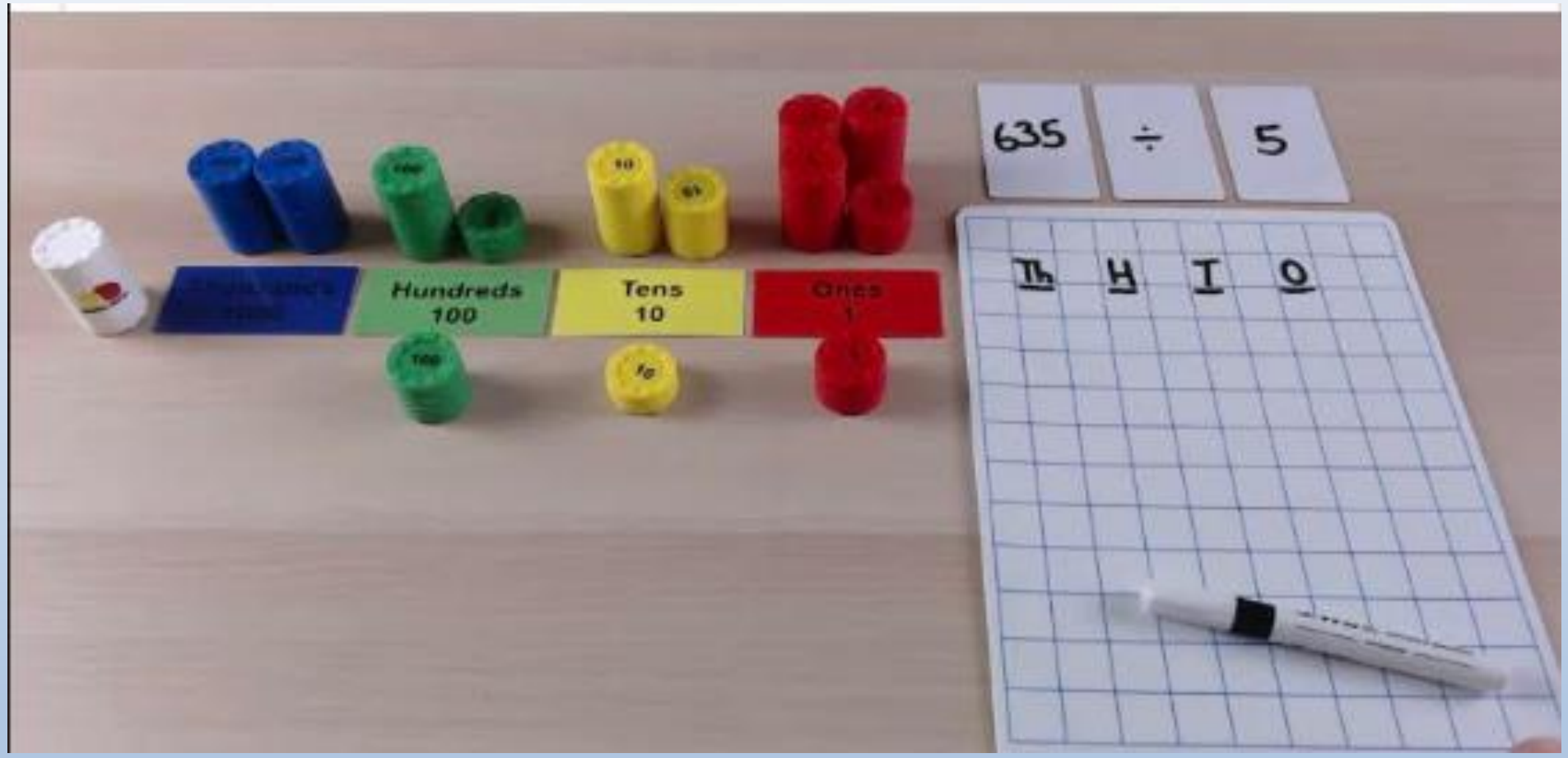
Why is it the odd one out?

Which line is going to be longer?

A : $\frac{1}{2}$

B : $\frac{1}{3}$

What else could you use?



Thinking is at the heart of Mathematics and therefore should be at the heart of mathematical teaching and learning.

Thank you for your time today.
Calculation workshops to follow!
If you don't mind, we would appreciate your feedback.