Maths Information Evening

Tuesday 19th September 2023

What do lessons involve at Preston Hedge's?

Arithmetic

Reasoning

Whiteboard work

Book work

What content is covered in lessons?

- Arithmetic
- Fractions
- Decimals and percentages
- Measure
- Shape
- Statistics

Methods of calculation

Year Group	Addition	Subtraction	Multiplication	Division
R	Concrete objects and pictorial representations	Concrete objects and pictorial representations	Concrete objects and pictorial representations	Concrete objects and sharing
1	Pictorial representations and Number lines	Pictorial Representations	Pictorial Representations and Arrays	Pictorial Grouping
2	Number Lines and (Expanded) Column Method	Number Lines	Repeated Addition	Number Line
3	Column Addition (Carrying)	Column Subtraction (Borrowing)	Short Multiplication	Bus stop
4	Column Addition	Column Subtraction	Short Multiplication	Bus Stop
5	Column Addition	Column Subtraction	Long Multiplication	Bus Stop and Long Division
6	Column Addition	Column Subtraction	Long Multiplication	Bus Stop and Long Division

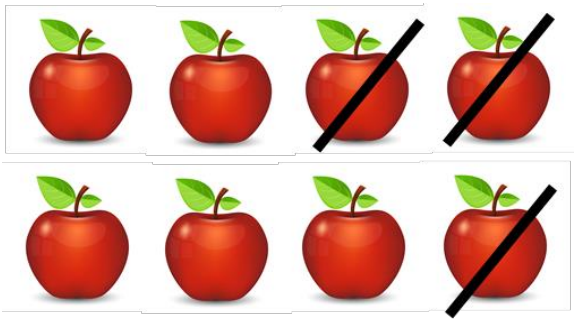
EYFS and KS1 – Addition & Subtraction

- Concrete

If I had 6 bears and got 2 more, how many would I have in total?

6 + 2 = 8

I had 8 apples and then I ate 3, how many do I have left?



- Pictorial representations (drawing it out)

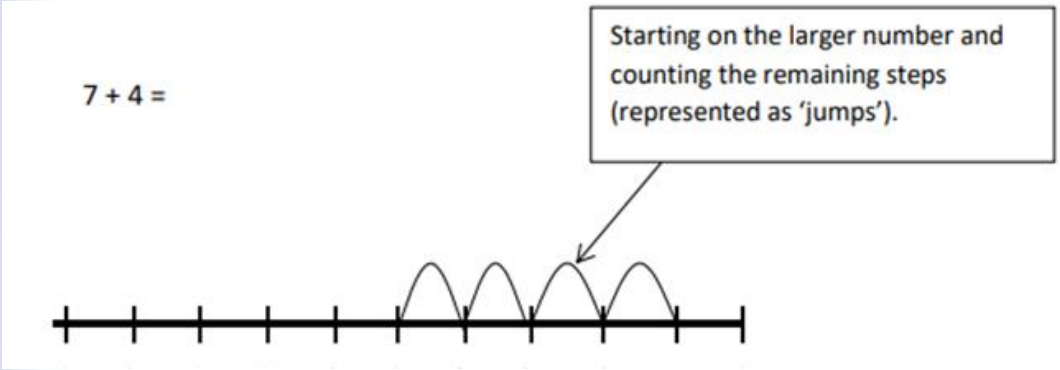
3 + 2 = 5

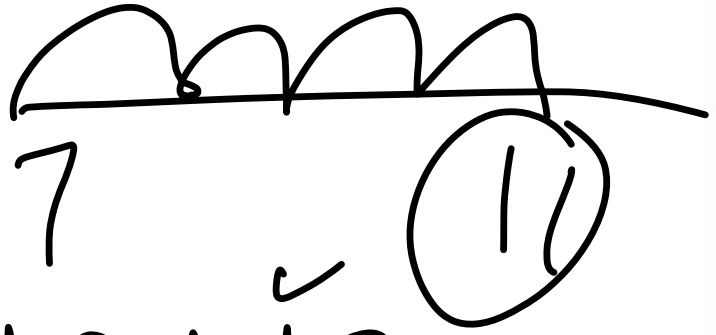
KS1 – Addition & Subtraction

Number lines

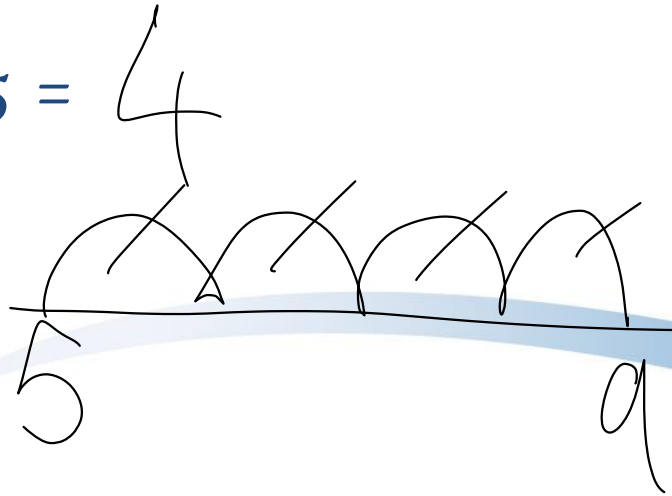
7 + 4 =

7 + 4 = 11

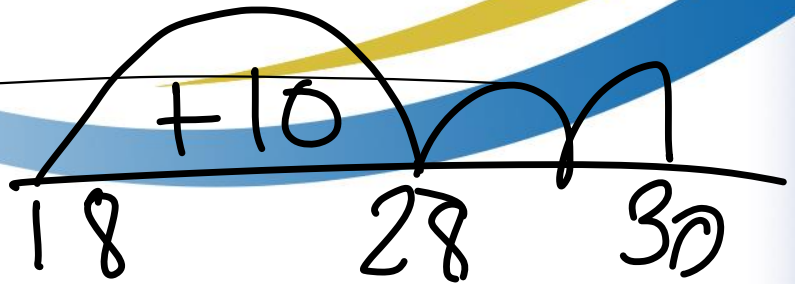




9 − 5 = 4



18 + 12



KS1 – Addition and Subtraction

- Expanded column method

65 + 24 =

```
  65
+ 24
----
   9
  80
----
  89
----
```

37 - 13 =

```
  37
-  13
----
   4
  20
----
  24
----
```

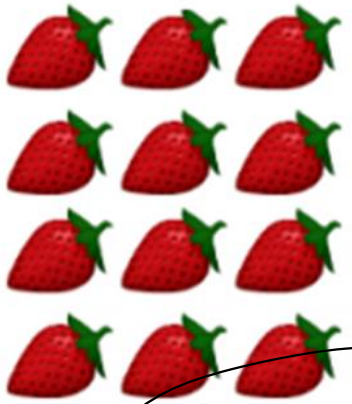
KS1 – Multiplication & Division

- Pictorial representations:

4 x 3 = 12

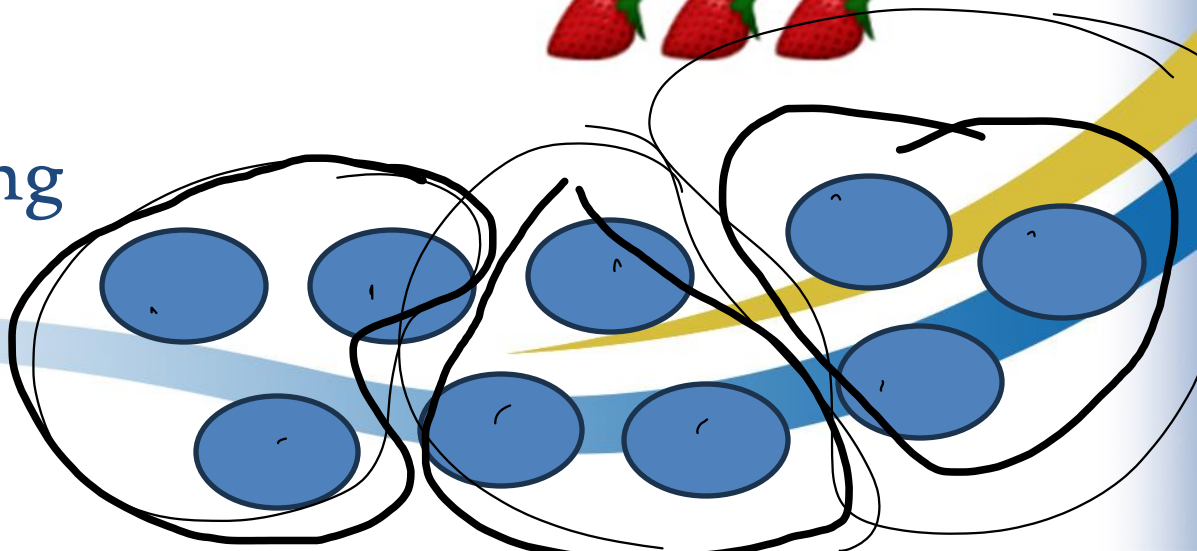
- Arrays:

4 x 3 =12



- Pictorial grouping

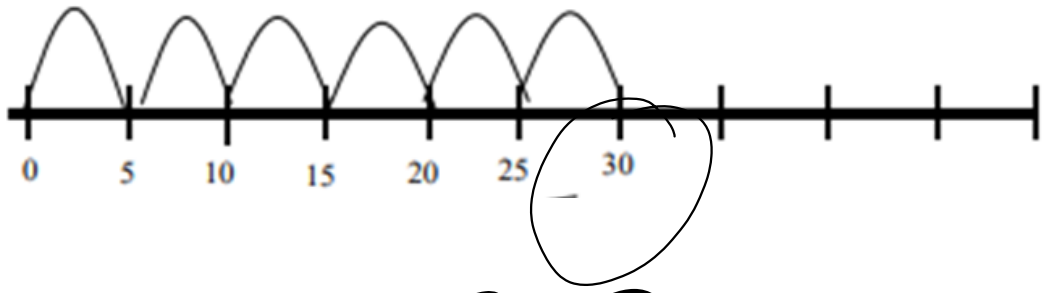
9÷ 3 = 3



KS1 – Multiplication & Division

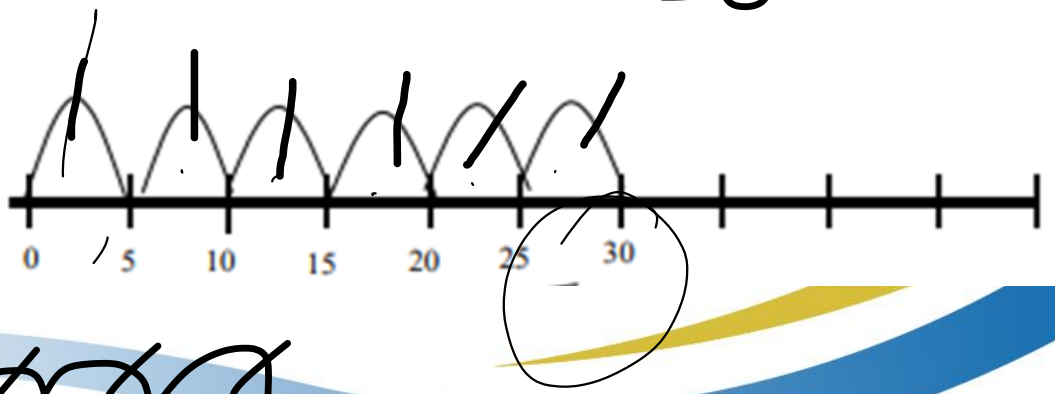
- Number line using repeated addition fo multiplying:

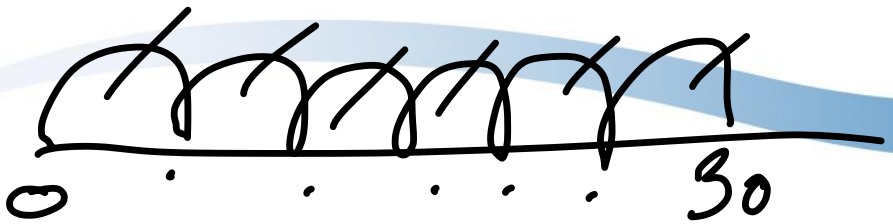
  6 x 5 = 30



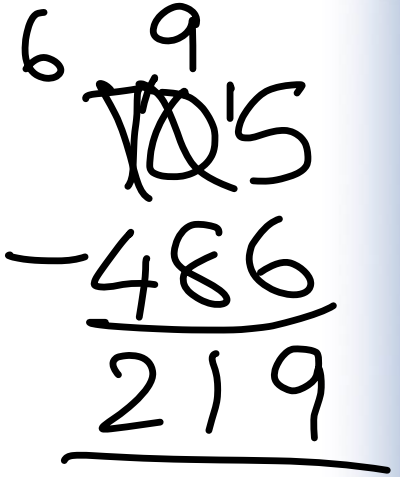
- Number line for division:

30 ÷ 5 = 6





KS2 – Addition & Subtraction



- Formal column method

Children start off with no carrying and then move onto numbers involving carries in addition and borrowing in subtraction:

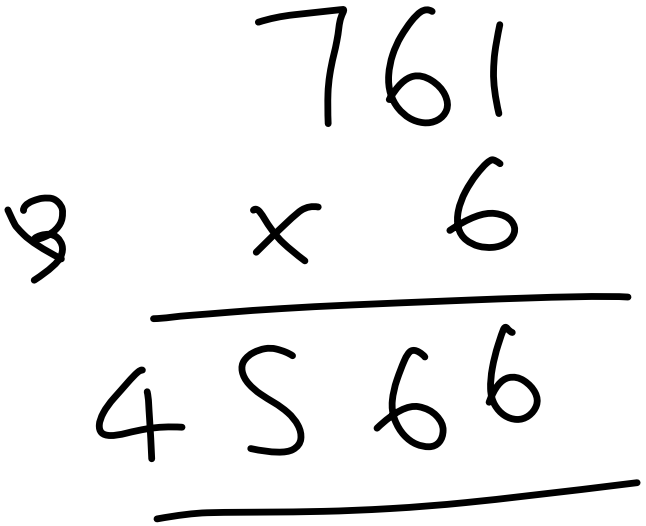
705 - 486 =

- Once children are confident with borrowing and carrying we move onto adding multiple numbers, adding and subtracting numbers with varying amounts of digits, and calculations involving decimals.

KS2 - Multiplication

- Short formal method

  761 x 6 =

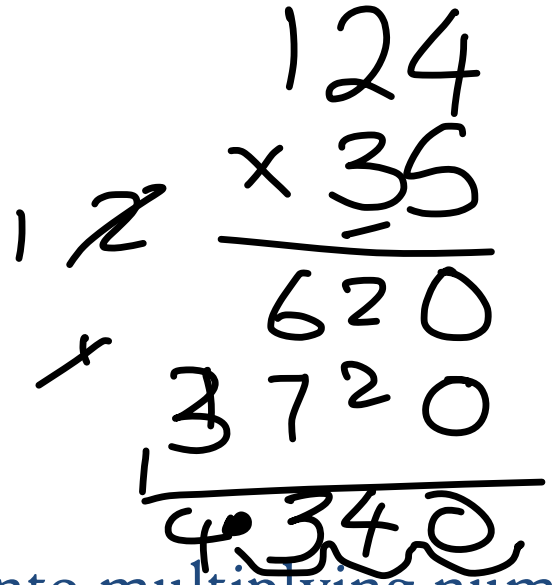


KS2 - Multiplication

- Long formal method

  124 x 35 =

1·24 x 3·5

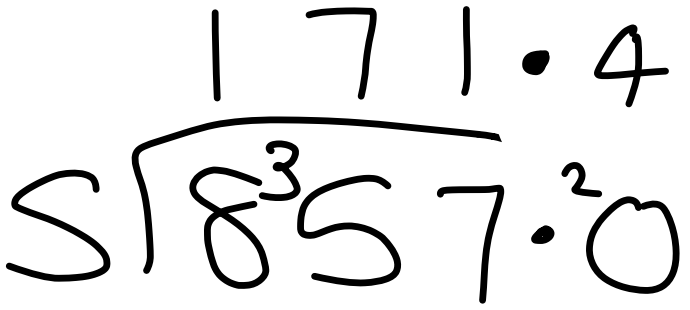


Chn are then challenged and move onto multiplying numbers involving decimals. They use exactly the same concept / method and are taught to ignore the decimal points, carrying out the calculation as normal, and then count the decimal point back in.

KS2 - Division

- Bus stop method

  495 ÷ 5 =



- Bus stop with remainders, then decimal remainders

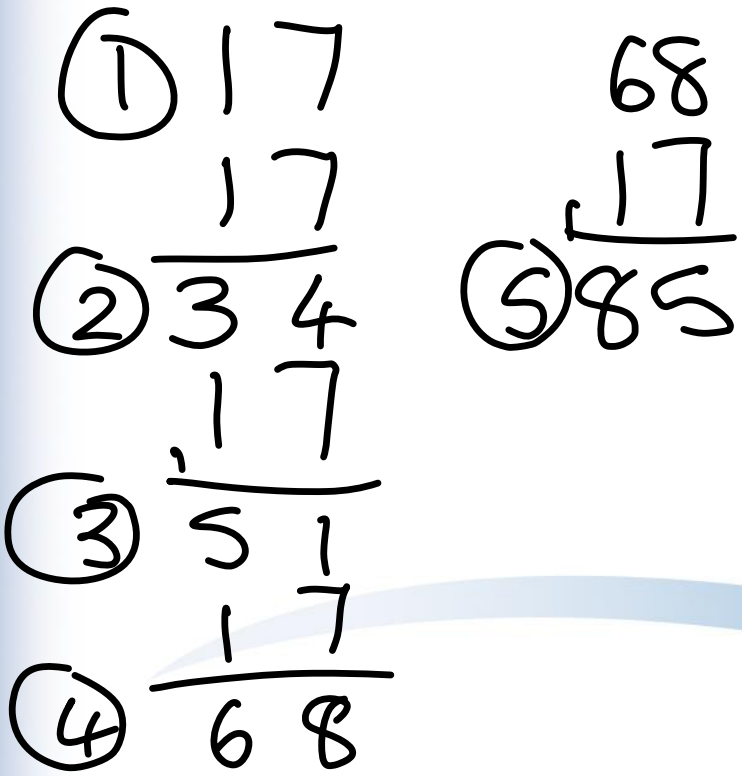
  728 ÷ 6 =

- 857 ÷ 5 =

KS2 - Division

- Long division

425 ÷ 17 =



KS2 - Fractions

Year 3	Year 4	Year 5	Year 6
Find fractions of an amount (practically, pictorially, written method and inverse).			To find fractions of number
Show, using diagrams, equivalent fractions.	To recognise and show equivalent fractions.	To identify, name and write equivalent fractions	To use common factors to simplify fractions.
+/- fractions with the same denominators (with answers less than a whole).	+/- fractions with the same denominator (going over a whole).	+/- fractions with different denominators (including mixed numbers).	+/- fractions with different denominators (including mixed numbers).
Compare/order fractions with the same denominator.		Compare/order fractions with different denominators.	Compare/order fractions, including fractions > 1.
	Convert mixed numbers to improper fractions and vice versa.	Write all fractions bigger than one as a mixed number.	
	Solve problems involving fractions.	Multiply fractions (proper fractions and mixed numbers by whole numbers)	Multiply fractions (simple pairs of proper fractions
			Divide fractions.

Improper Fraction to Mixed Number (and vice versa!)

Mixed Number to Improper Fraction

Whole number multiplied by the denominator and add the numerator. Keep the denominator the same.

$$5\frac{2}{6} = \frac{32}{6}$$

$5 \times 6 + 2 = 32$

Improper Fraction to Mixed Number

Numerator divided by denominator. Whole number and remainder over denominator.

$$\frac{17}{5} = 3\frac{2}{5}$$

$17 \div 5 = 3r2$

We encourage children to turn all improper fractions into mixed numbers once taught in Year 4!

Adding Fractions

Find a Common Denominator
Numerator + Numerator
Denominator stays the same

Mixed numbers need to be turned into improper fractions first!

$2\frac{3}{4} + 6 =$ (3 × 4 = 12)

$\frac{4}{12} + \frac{9}{12} = \frac{13}{12}$

Subtracting Fractions

Find a Common Denominator
Numerator - Numerator
Denominator stays the same

Mixed numbers need to be turned into improper fractions first!

$$\frac{4}{5} - \frac{1}{2} =$$

$$\frac{8}{10} - \frac{5}{10} = \frac{3}{10}$$

Multiplying Fractions

Whole number over 1
Numerator x Numerator
Denominator x Denominator

Mixed numbers need to be turned into improper fractions first!

$$\frac{2}{6} x \frac{4}{1} =$$

$$\frac{2}{6} \times \frac{4}{1} = \frac{8}{6}$$

Dividing Fractions

Keep it – keep first fraction the same
Flip it – flip the second fraction
Change it – change to multiplication

Mixed numbers need to be turned into improper fractions first!

$$1\frac{2}{6} \div \frac{3}{4} =$$

$$\frac{8}{6} \times \frac{4}{3} = \frac{32}{18}$$

$$\frac{8}{6} \div \frac{3}{4} =$$

Times Tables Knowledge-

the key to success

Year 1 – counting up and back in 2s, 5s, 10s

Year 2 – 2, 5, 10 and 3 times tables

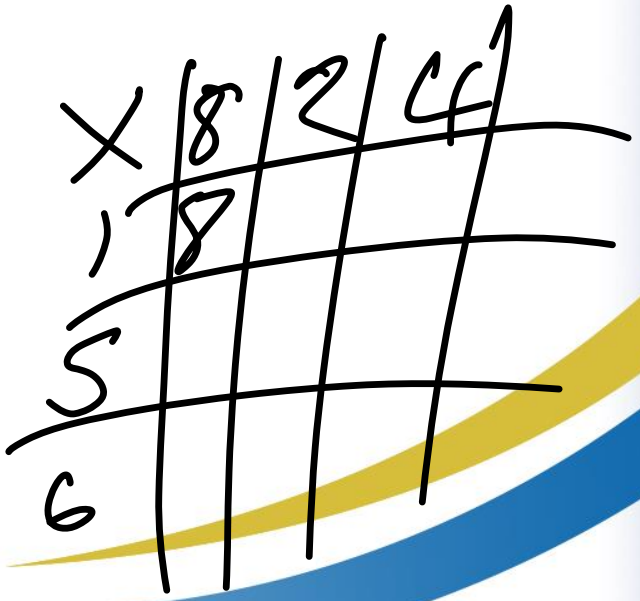
Year 3, 4, 5 and 6 – all up to 12 x

- Important to know related facts and the inverse
- Year 4 – have the Multiplication Tables Check

Times Tables

- Verbal – reciting
- Written multiplication grid
- Incorporate it into daily routines

- TT Rockstars – Garage Mode



Any questions?