Parent Maths Workshop Years 5 and 6

Written calculation
Multiplication tables

13.10.15

Written Calculation Methods

- Years 5 and 6 should become fluent in addition, subtraction, multiplication and division

- The aim is for the children to have a written method that they can choose to use for more complex calculations

- We have a Calculation Policy that outlines the calculation strategies for each year group (available soon on the website!)

Addition : Column Method

Y5

Children should extend the carrying method to numbers with more than four digits.

$$4587$$
$$+\ 3475$$
$$\overline{71062}$$
$$\scriptstyle 1\ 1$$

$$3587$$
$$+\ \ 675$$
$$\overline{4262}$$
$$\scriptstyle 1\ 1\ 1$$

Addition: Column Methods

<u>Y6</u>

Children should extend the carrying method to number with any number of digits.

$$\begin{array}{r} 42 \\ 6432 \\ 786 \\ +\ 4681 \\ \hline 11941 \\ \hline \end{array}$$
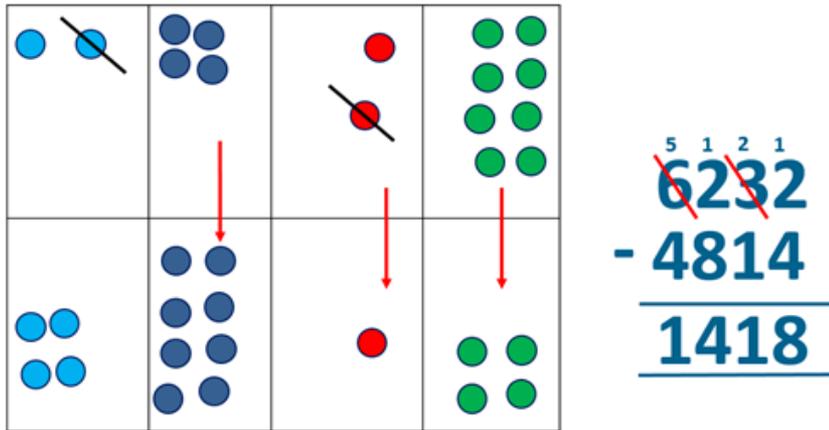
1 12 1

Let's look at some examples…

Subtraction: Column Method

Y5

Focusing on more decomposition, children will move on to more complex calculations which can be initially modelled with place value counters.

Subtraction: Column Method

Y6

Continue as year 5, progressing to larger numbers, aiming for both conceptual understanding and procedural fluency with decomposition to be secured.

Children should:
- ✓ be able to subtract numbers with different numbers of digits;
- ✓ be able to subtract two or more decimal fractions with up to three digits and either one or two decimal places;
- ✓ know that decimal points should line up under each other.

Let's look at some examples…

Multiplication: short and long

<u>Y5</u>

Extend short multiplications up to 4 digit numbers multiplied by a single digit.

<u>Y6</u>

Extend understanding of long multiplication to 4 digit multiplied by 2 digits. ThHTU x TU

Multiplication: short

Extend short multiplications up to 4 digit numbers multiplied by a single digit.

```
      2413
X        6
    14478
     2   1
```

Introduce long multiplication using 2 digit numbers.

```
      5 3
  x   2 4
    2,1 2
  1 0 6 0
  1 2 7 2
```
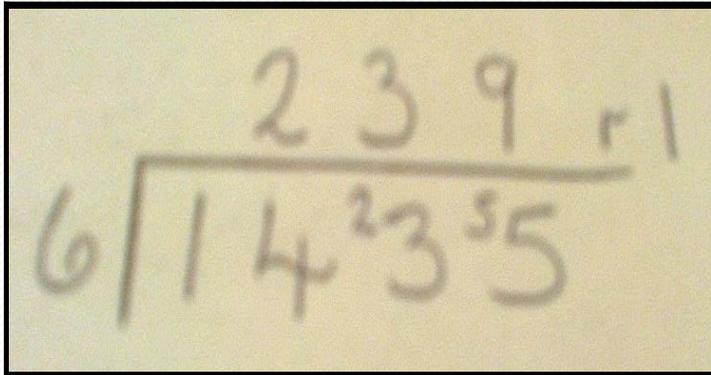
Multiplication : Long

- **<u>Y6</u>**

Extend understanding of long multiplication to 4 digit multiplied by 2 digits. ThHTU x TU

$$
\begin{array}{r}
1\ 3\ 4\ 2 \\
\times\quad\ 1\ 8 \\
\hline
1\ 0\ 7\ 3\ 6 \\
1\ 3\ 4\ 2\ 0 \\
\hline
2\ 4\ 1\ 5\ 6 \\
\end{array}
$$

Division: short

<u>Y5</u>

Children will continue to use written methods to solve short division and extend to 4 digit numbers divided by a single digit.

Division: Long

Y6

Children will continue to use written methods to solve short division.

Long division HTU ÷ TU

```
          035
    25 )  875
           75 ↓
          125
          125
            0
```

Multiplication tables

Children are now expected to know all tables up to 12x12.

They should be able to recall tables facts quickly.

The best way to learn tables is with games and practise!

Website ideas

- Topmarks

- Maths Games

...or Google 'Times Tables games'

Array Game

- 2 dice
- Grid for recording

Activity:

1. Play in pairs, each with their own grid.
2. Each player rolls the dice and colours in an area on the grid indicated by the dice. For example if they roll a 2 and a three they colour in any 2x3 rectangle.
3. Write in the multiplication and answer e.g. 2x3=6
4. The first player to colour in all the squares in their grid wins.

Multiplication snakes

Together, write down a multiplication table

6 x 1 = 6

6 x 2 =12

6 x 3 =18 etc up to 12 x

Now draw a snake with 12 sections along its back and write in numbers up to 12 (one in each section). Make sure you muddle up the numbers.

One player works their way along the snake, calling out the table fact and the answer (eg 6 x 5 = 30) while the other player checks their answers using the multiplication table.