Year 4
Maths workshop for parents

Miss Megens and Miss Costello

What will we cover?

- The new curriculum.
- The 4 operations- including methods used and progression
- How you can help at home.

The new curriculum

- By the end of year 4 the children are expected to be fluent with whole numbers, their place value, and the 4 operations.
- They need to be able to recall multiplication and division facts for multiplication tables up to 12 x 12.
- They need to read and spell mathematical vocabulary correctly
- They need to be able to solve a range of problems, including simple fractions and decimals.
- This needs to be done in a variety of ways – using mental methods, written methods, representations and justifying through language.

Your turn!

You have 30 seconds to complete this calculation and **explain** to me how you got the answer.

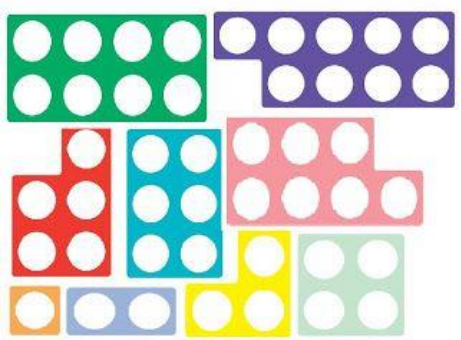
36 + 87 = ?

6 x 7 =?

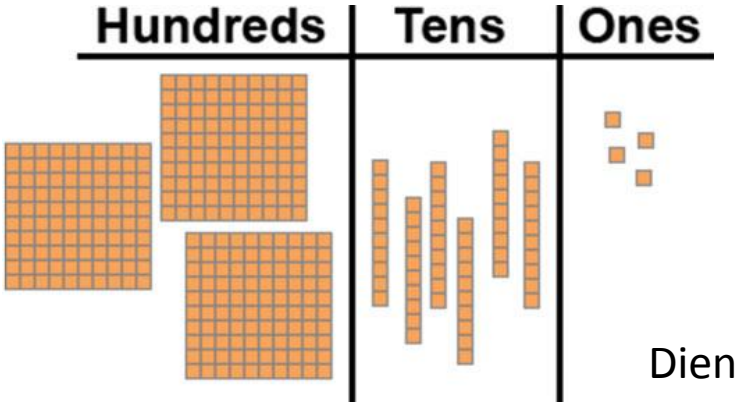
Representations

We promote secure mathematical understanding through:-

Concrete Pictorial e.g. Numicon, arrays, Dienes apparatus → **Abstract** place value counters → columnar addition long multiplication



Numicon



Dienes

$4 \times 6 = 24$

$6 \times 4 = 24$

Arrays

Place value counters

Adding

In year 3 this is one of the expected strategies the children should be able to use effectively.
Expanded column addition with exchanging:

345 + 248 = 593

	H	T	U	
345	300	40	5	
248 +	200	40	8	+
1		10		
593	500	90	3	

I can add using written methods

.Write the calculation in a column

.Partition the units into brackets on the next line

.Write the total next to the brackets

.Repeat steps 2 and 3 for remaining numbers

.Add the totals together and write underneath

.Check answer is sensible

```
  245
 +136
 -----
   11  (5 + 6)
   70  (40 + 30)
  300  (200 + 100)
 -----
  381
 -----
```

```
  245
+ 136
-----
    1
-----
  381
```

Using the expanded and compact methods try to solve these calculations:

164 + 175 =

322 + 97 =

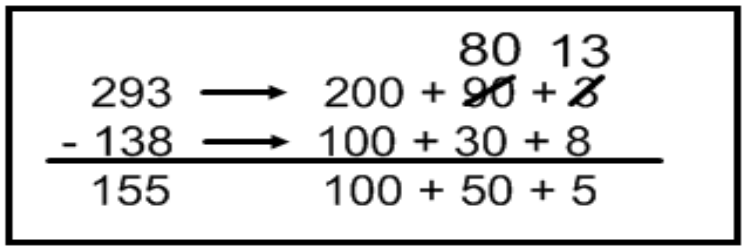
501 + 189 =

Now show your answer using representation

Subtracting

I can subtract using written methods

1. Estimate your answer
2. Write the calculation in a column
3. Partition the bigger number across
4. Partition the smaller number across
5. Subtract the units, tens, hundreds exchanging when necessary
6. Add the totals back together e.g. 60+1=61.
7. Check the answer is sensible.



$$\begin{array}{r} {\scriptstyle 8\ 1} \\ 2\not{9}3 \\ -\ 138 \\ \hline 155 \end{array}$$

Using the expanded and compact methods try to solve these calculations:

175 - 164 =

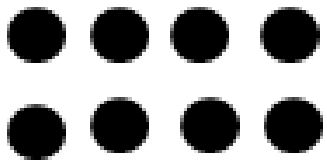
322 - 97 =

501 - 189 =

Now show your answer using representation

Multiplication

2 x 4 =



4 x 2

Now make an array for 5 x 3

The children need to know <u>multiplication</u> and <u>division facts</u> for tables up to 12 x 12

Multiplication

I can use the grid method

1. Draw appropriate grid size
2. Partition bigger number on the top
3. Partition remaining number at the side
4. Multiply the numbers to complete the grid
5. Add the answers and write next to the = sign

128 x 7= 96

X	100	20	8	=
7	700	140	56	896

700
140
56 +
896

Using the grid method try to solve these calculations:

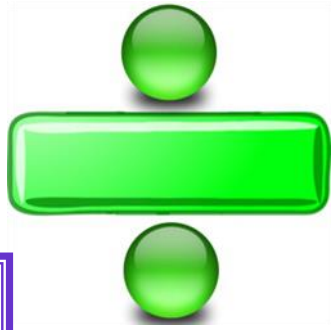
75 x 6 =

103 X 7 =

569 x 4 =

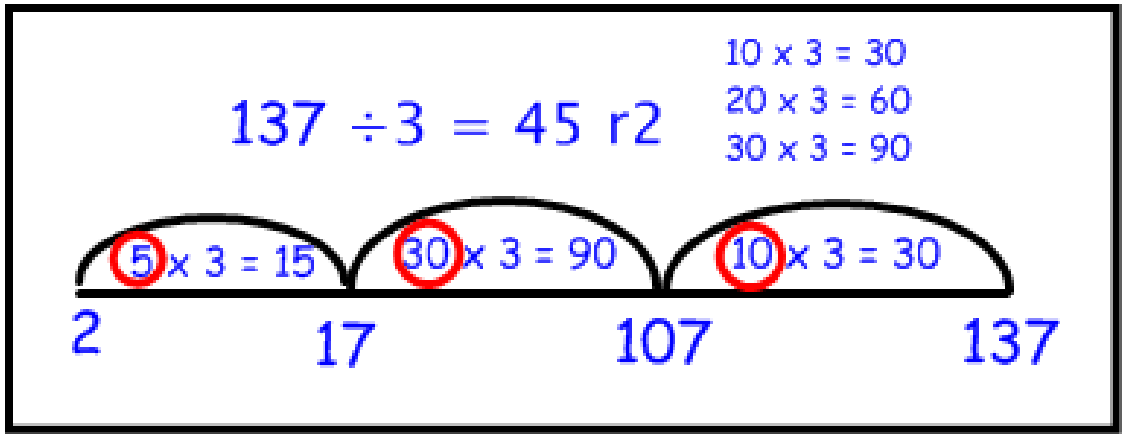
Now show your answer using representation

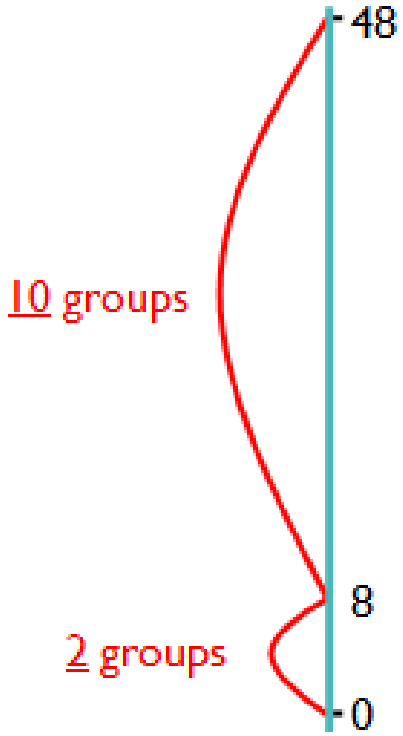
Division



I can divide using chunking

1. Draw a blank number line
2. Write the biggest number at the end
3. Write known multiplication facts
4. Count back in appropriate chunks
5. Continue until you reach zero or can't take anymore away
6. Count number of chunks and write as the answer
7. Write anything left as the remainder





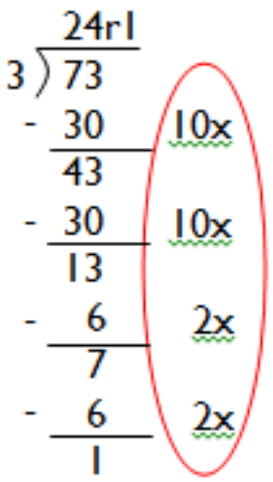
$$
\begin{array}{r|l}
 & 12 \\
\hline
4 \;)\; 48 & \\
-\;40 & 10x \\
\hline
8 & \\
-\;8 & 2x \\
\hline
0 &
\end{array}
$$

Answer: 12

Children should write their answer above the calculation to make it easy for them and the teacher to distinguish.

The number line method used in year 3 can be linked to the chunking method to enable children to make links in their understanding.

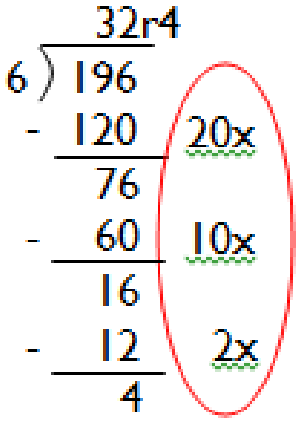
73 ÷ 3



Key facts box

1x	3
2x	6
5x	15
10x	30

196 ÷ 6



Key facts box

1x	6
2x	12
4x	24
5x	30
10x	60
20x	120

Using the chunking method try to solve these calculations:

126 ÷ 6 =

119 ÷ 7 =

180 ÷ 4 =

Now show your answer using representation

What can you do at home ?

Discussing maths in real life contexts

- Cooking (*weighing, measuring, reading measurements*)
- Baking
- Weighing
- Petrol (*Discussing price and measurements e.g. litres*)
- Prices (*Discuss how much an item will cost, change from £5, £10 etc.)*
- Discounts
- Percentages *(60% off marked price, how much will it cost now?)*
- Adding house numbers
- Bus and train timetables *(Reading the time and time intervals)*
- Time- reading variety of clocks *(Discussing roman numerals, analogue faces, digital faces)*
- Working out passing time

Other useful ideas

- Multiplication tables
- Real life problems- changing recipes
- Word problems

Thank you for coming.

Any questions?

Please fill out a feedback form to let us know how you found this session.