How do we teach Maths at Middleforth?

PARENTS WORKSHOP

MONDAY 5TH DECEMBER 2022

There are 3 main strands in the Maths National Curriculum

- Fluency
- Reasoning
- Problem solving

The curriculum is designed so that pupils explore mathematical ideas **in depth**.

- Number – number and place value
- Number – addition and subtraction
- Number – Multiplication and division
- Number – fractions
- Measurement
- Geometry: properties of shape
- Geometry – position and direction
- Statistics (Year 2 only)

- Our lessons aim to involve all 3 skills every single lesson.
- Maths is so much more than providing the correct answer!

Our Maths Curriculum

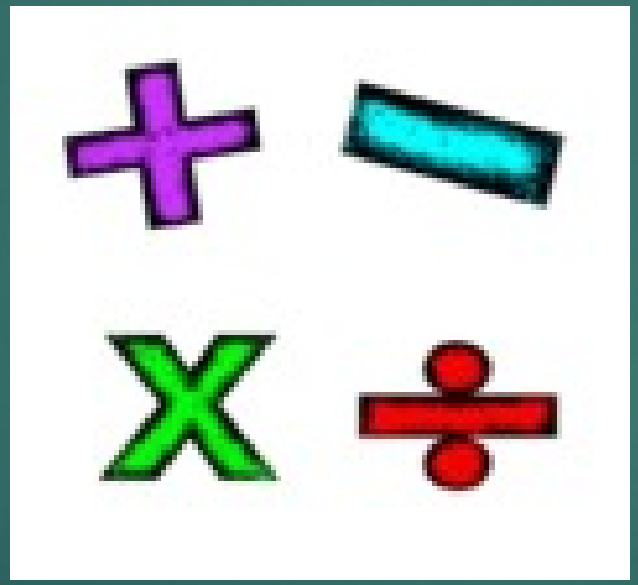
- Where can we find it?
- We follow the Mastery approach (inspired by the Maths taught in Singapore)
- We use ‘White Rose’ to help us to sequence and plan our lessons.

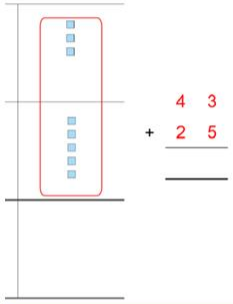
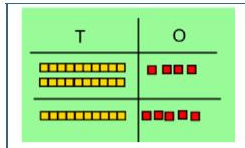
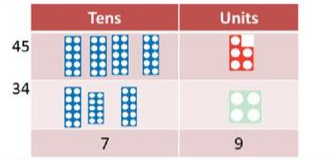
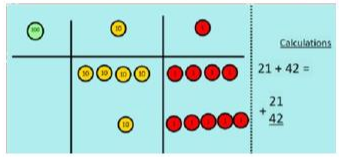
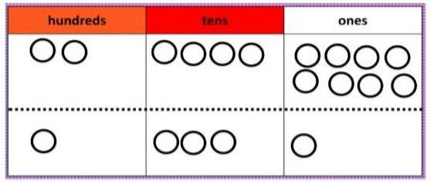
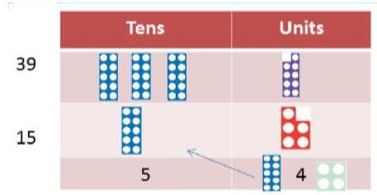
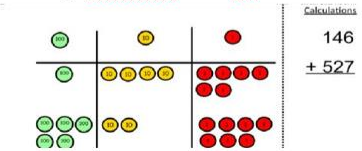
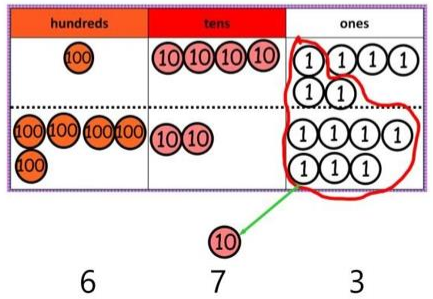
The mastery approach:

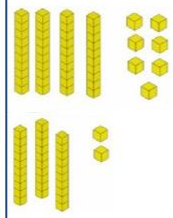
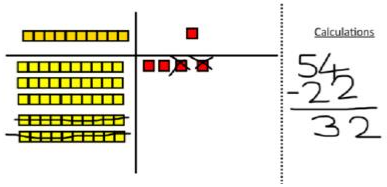
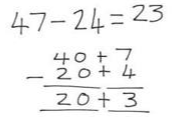
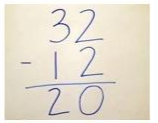
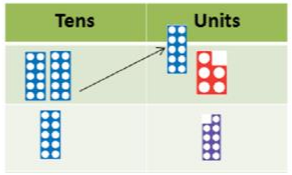
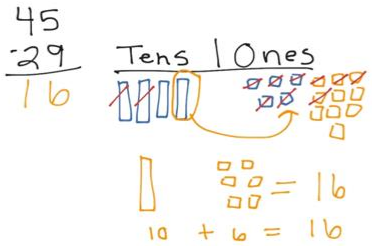
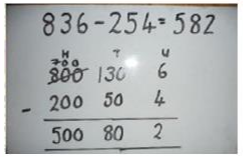
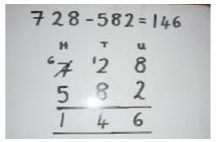
- Everyone can succeed at Maths!
- We break down concepts into ‘small steps.’
- We explain Maths concepts using visuals and equipment.
- We give the children lots of short tasks ‘the ping pong approach.’
- We provide the children with ‘stem sentences.’
- We ask them to repeat phrases ‘I say, you say’
- We constantly assess the children in every lesson and fill any gaps.

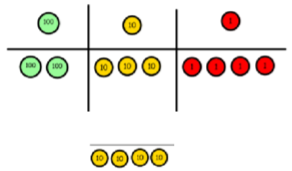
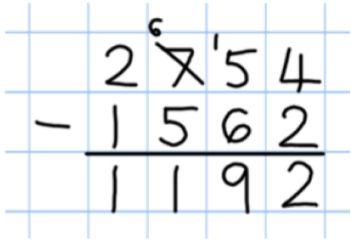
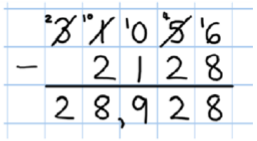
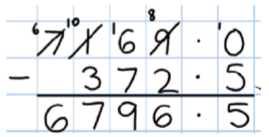
Calculation policy

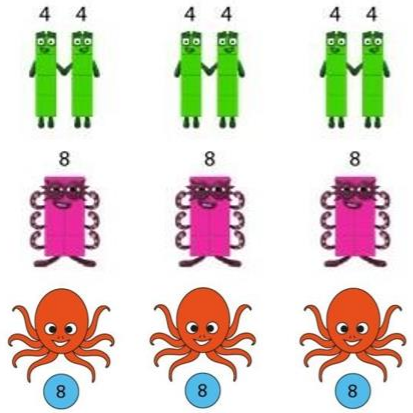
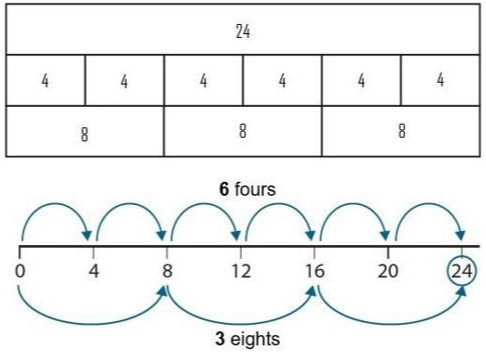
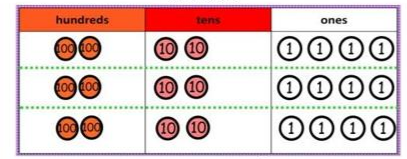
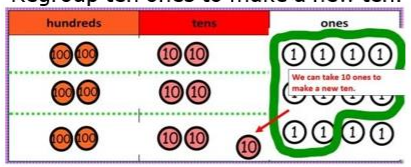
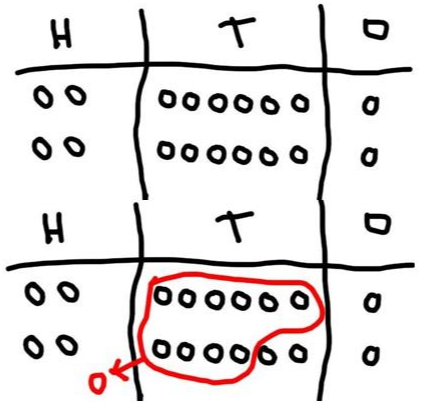
- The calculation policy for each year group can be found on the Math page on the website.



Column Addition—no regrouping (friendly numbers) Add two or three 2 or 3digit numbers.  	 Model using Dienes or numicon Add together the ones first, then the tens.   Move to using place value counters	Children move to drawing the counters using a tens and one frame.  3 7 9	248 + 131 379 Add the ones first, then the tens, then the hundreds.
Column Addition with regrouping. Use language of *'take and make'* to describe carrying	 Exchange ten ones for a ten. Model using numicon and pv counters.  	Children can draw a representation of the grid to further support their understanding, carrying the ten **underneath** the line  6 7 3	Use expanded method ONLYWHEN NEEDED 20 + 5 40 + 8 60 + 13 = 73 Start by partitioning the numbers before formal column to show the exchange. 536 + 85 621 1 1

Column subtraction without regrouping (friendly numbers)	 47—32 — Use base 10 or Numicon to model	 Draw representations to support understanding	 Intermediate step may be needed to lead to clear subtraction understanding. 
Column subtraction with regrouping	 Begin with base 10 or Numicon. Move to pv counters, modelling the exchange of a ten into tten ones. Use the phrase 'take and make' for exchange.	 Children may draw base ten or PV counters and cross off.	 Begin by partitioning into pv columns  Then move to formal method.

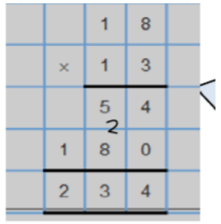
234 - 179  Model process of exchange using Numicon, base ten and then move to PV counters.	Children to draw pv counters and show their exchange—see Y3	 Use the phrase 'take and make' for exchange
As Year 4	Children to draw pv counters and show their exchange—see Y3	  Use zeros for placeholders.

Understand the 8 times table	We can double our 4 times table to get the 8 times table 		6 x 4 = 24 3 x 8 = 24
Multiply 3 digit numbers by 1 digit. (with exchange)	224 x 3  Regroup ten ones to make a new ten.  600 + 70 + 2 =672	261 x 2  500 + 20 + 2 =522	2 4 1 x 4 9 6 4 1 4 times 1 *ones is* 4 ones 4 times 4 *tens is* 16 tens. I put 6 tens down and carry ten tens which is now a hundred. 4 times 2 *hundreds is* 8 hundreds. I add the hundred I have carried to make 9 hundreds.

Manipulatives may still be used with the corresponding long multiplication modelled alongside.

Begin with teen number x teen number.

Progress to any 2 –4 digit number x 2 digit.



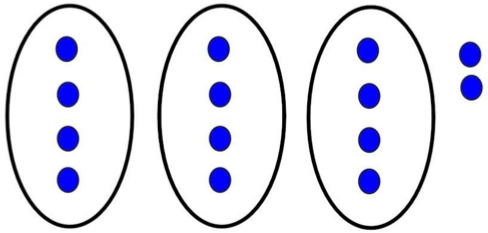
18 x 3 on the first row

(8 x 3 =24, carrying the 2 for 20, then 1 x 3)

18 x 10 on the 2nd row. Show multiplying by 10 by putting zero in units first

I divide 14 cakes between 3 plates. How are the cakes shared?

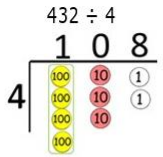
Draw dots and group them to divide an amount and clearly show a remainder.



Complete written divisions and show the remainder using r.

$14 \div 3 = 4 \text{ r } 2$

dividend divisor quotient remainder

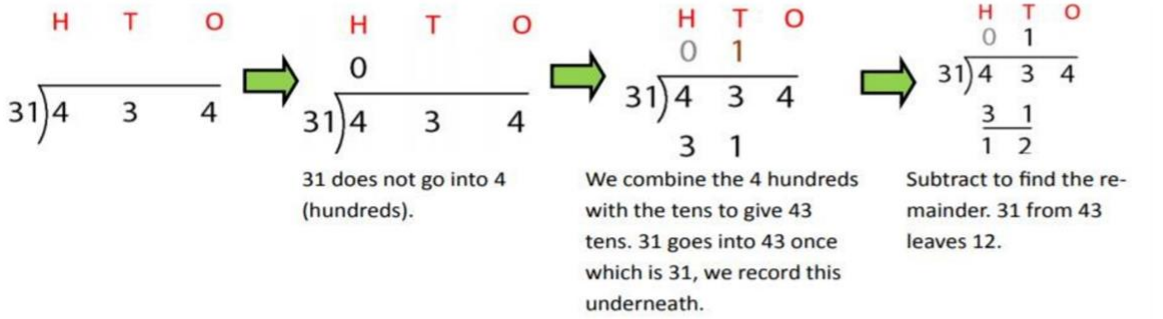


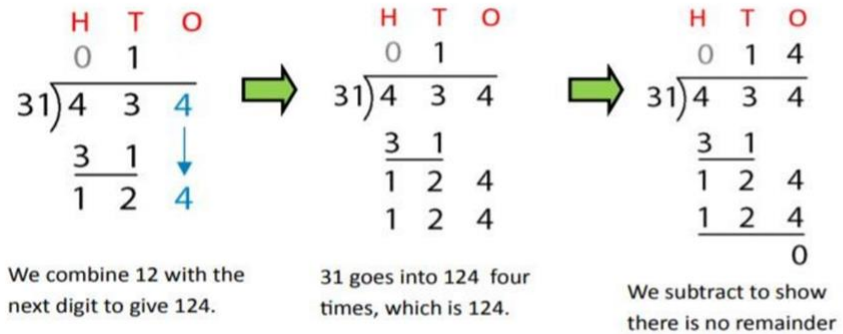
There is 1 group of 4 hundreds. There are no groups of 4 tens and 3 tens left over. There are 8 groups of 4 ones after exchanging the left over tens.

$$3\overline{)372}\quad =\quad 124$$

$$6\overline{)24^{2}6}\quad =\quad 0.41$$

Long Division





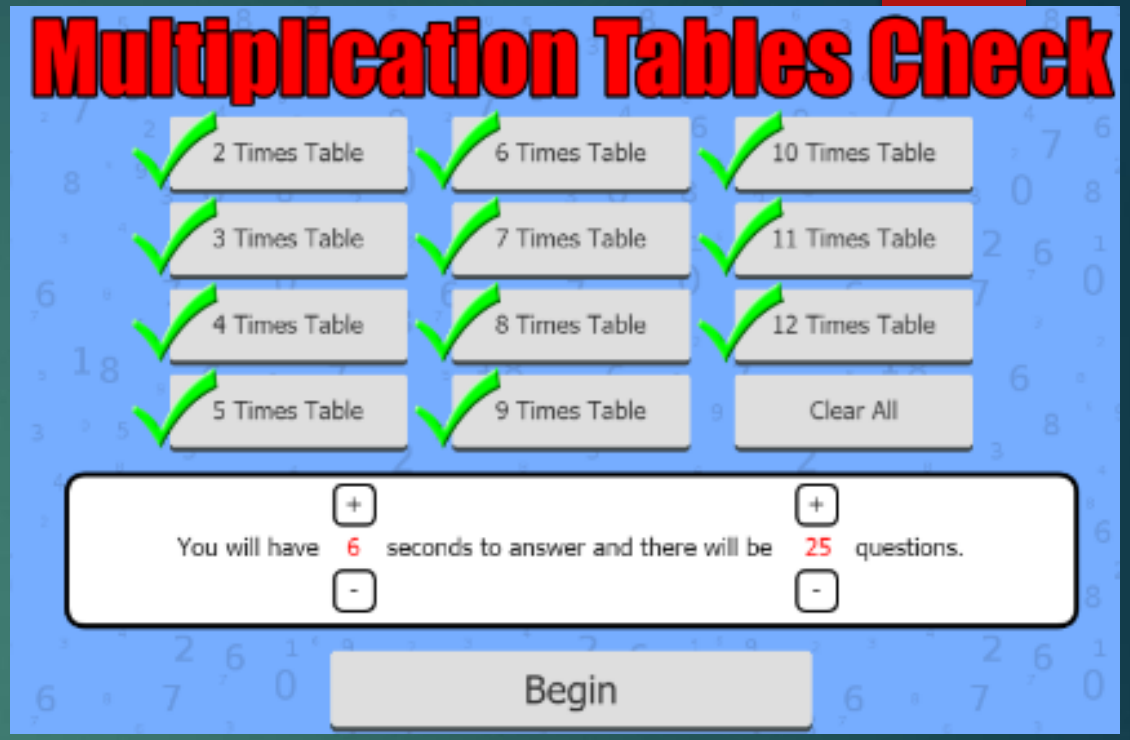
SATS

- Tests are given to Year 6 in May.
- Children are given arithmetic and reasoning papers.

- In the exam – children will not be allowed to use any resources. However they need to use them in class first of all to support their understanding.

Times table apps:

- Times Table Rockstars
- Hit the button
- Topmarks
- Purplemash



Arithmetic questions:

- Children are encouraged to show their working out.
- They can draw diagrams if they wish to help them to solve problems.
- **Example:**

Reasoning questions:

- There is a big emphasis on reasoning/problem solving in the Maths curriculum.
- Children need to be able to explain their thinking. What do they know?
- We encourage children to use the correct mathematical language in their answers.
- **Examples:**

Useful websites you can use at home:

- MyMaths
- Mathsbot (online manipulatives)
- Topmarks (different topics)
- Nrich (challenging tasks)

Please come and see me if you have any questions!

- Feel free to message me via sessaw or contact the school office if you have any Maths related questions/queries/MyMaths/ Times Table Rockstar issues.
- ‘ PLEASE, PLEASE… NEVER say that you are bad at maths … not anywhere within a 100-mile radius of any child you ever want to influence.’
- Thank you for coming!