

Parent Workshop

Years 3 and 4

Maths at Our Lady of Peace Catholic Primary and Nursery School



Workshop Aims

- 1. The aims of the KS2 Maths Curriculum.**
- 2. Objectives for each year group.**
- 3. Calculation methods taught to children.**

Aims of the KS2 Maths Curriculum

- Fluency
- Reasoning
- Problem Solving

Fluency – Years 3 and 4

- Recalling multiplication and division facts 12x12 (end of Year 4)
- Number bonds
- Secure place value
- Counting up and down in multiples of 4, 8, 50 and 100.

Reasoning and Problem Solving

- **Make generalisations, construct arguments, explain ideas using mathematical language.**
- **Apply mathematics to a variety of problems, break problems down into small steps, persevere in seeking solutions.**

Aims of the KS2 Maths Curriculum

- **High expectations**
- **Focus on core skills and subject knowledge**

What does that mean for our pupils?

- **Aim to achieve ‘Mastery’ of maths curriculum.**
- **Range of opportunities for children to apply knowledge/skills in different contexts**

Year 3 Objectives

- Read and write numbers up to 1,000 using digits and words.
- Add or subtract mentally, including adding hundreds, tens or ones to a 3 digit number.
- Use a standard column method for addition and subtraction up to 3 digits.
- Begin to solve multiplication and division problems with 2 digit numbers.

Year 3 Objectives

Fractions

Recognise and show equivalent fractions with small denominators.

Add and subtract simple fractions worth less than one.

Year 4 Objectives

Recognise the place value in numbers of four digits (1000s, 100s, 10s and 1s)

Read Roman Numbers up to 100.

Use a written method for column addition and subtraction for values up to 4 digits.

Use a written method to multiply 2 or 3 digit numbers by 1 digit numbers.

3 digit numbers divided by 1 digit numbers.

Year 4 Objectives

Fractions

Find relationships between fractions and decimals.

Add and subtract fractions with the same denominator.

Compare the size of numbers with up to two decimal places.

How Would You Calculate?

$$7 + 8 + 3$$

$$9 \times 7$$

$$23 - 5$$

$$90 \times 7$$

$$56 + 57$$

$$927 - 675$$

$$187 \div 8$$

Children are encouraged to choose the most **efficient** method for each calculation:

- Can I do it in my head?
- Do I need to use a written method?

The ability to calculate mentally supports all written methods of calculation.

What Foundations do Children Need?

Addition and subtraction:

Addition and subtraction facts to 20

(e.g. $6 + 5$, $9 + 8$, $17 - 13$)

Place value: Partitioning (breaking up) numbers into hundreds, tens and ones

Multiplication and division:

Rapid recall of times tables and associated division facts

(e.g. $7 \times 5 = 35$ so $5 \times 7 = 35$ and $35 \div 7 = 5$ and $35 \div 5 = 7$)

Multiply and divide by 10 and 100

Progression in Written Methods for Addition

Expanded Column Method.

$$\begin{array}{r} 400 \quad 60 \quad 6 \\ 300 \quad 50 \quad 8 \\ + 100 \quad 10 \quad \\ \hline 800 \quad 20 \quad 4 \end{array}$$

Compact Column Method

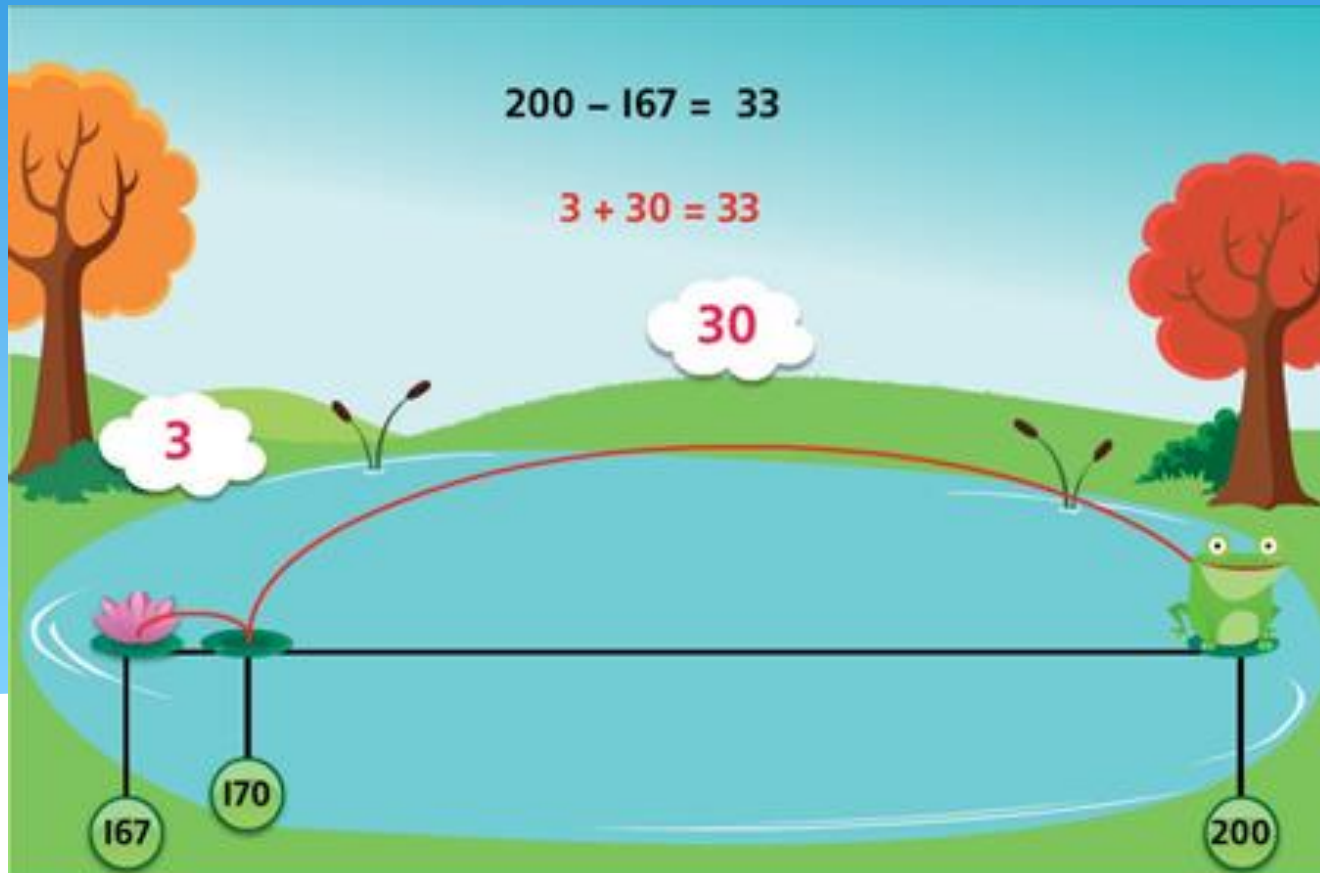
$$\begin{array}{r} 347 \\ 286 \\ + 495 \\ 21 \\ \hline 1128 \end{array}$$

Subtraction

- Pictures, images and objects
- Use of number lines
- Numbered lines provided by teacher or drawn by children
- Empty number lines
- [Base 10/Dienes equipment](#)
- Expanded column method
- Compact column method

Progression in Written Methods for Subtraction

Counting on a number line.



Progression in Written Methods for Subtraction

Expanded Column Method

$$\begin{array}{r} 600 \quad 110 \quad 16 \\ \cancel{700} \quad \cancel{20} \quad \cancel{6} \\ - 300 \quad 50 \quad 8 \\ \hline 300 \quad 60 \quad 8 \end{array}$$

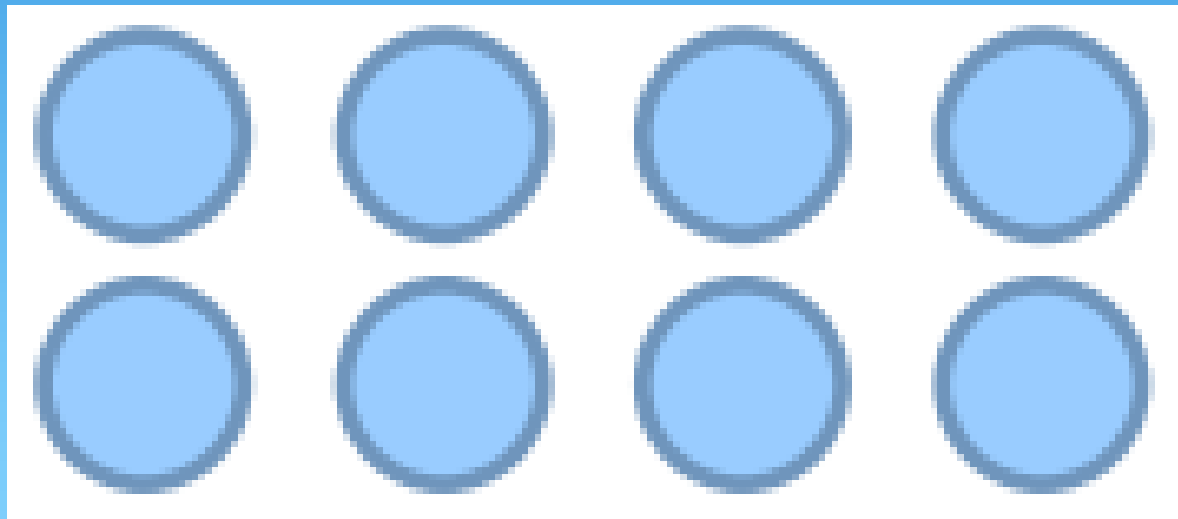
Compact Column Method

$$\begin{array}{r} 6 \quad 11 \quad 16 \\ \cancel{7} \quad \cancel{2} \quad \cancel{6} \\ - 3 \quad 5 \quad 8 \\ \hline 3 \quad 6 \quad 8 \end{array}$$

Multiplication

Arrays

E.g. $4 \times 2 = 8$ shown as



Progression in Standard Written Methods for Multiplication

Partitioning to develop grid method multiplication.

x	20	3
4	80	12

= 92

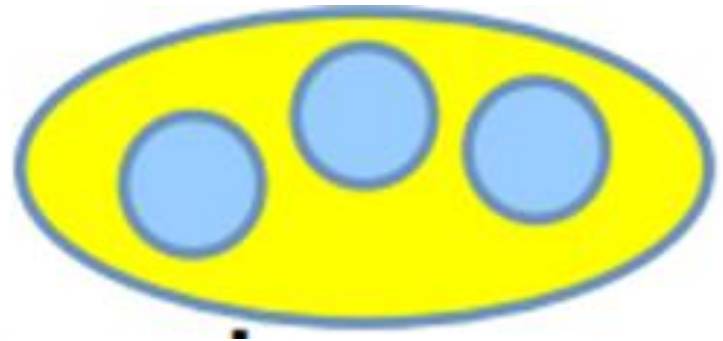
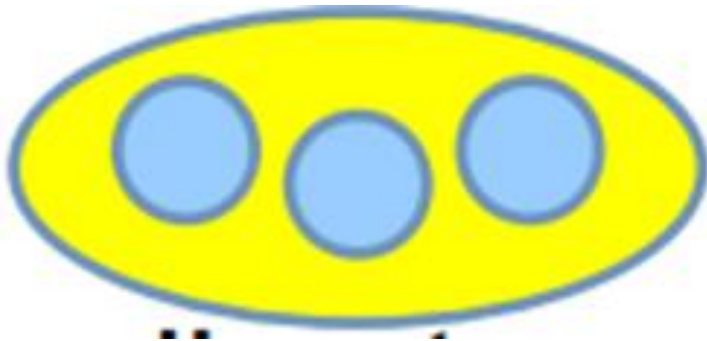
Vertical (Ladder) Method

$$\begin{array}{r} \textcolor{blue}{2}\textcolor{green}{5}\textcolor{red}{3} \\ \times \quad 6 \\ \hline 18 \quad \leftarrow 6 \times \textcolor{red}{3} \\ 300 \quad \leftarrow 6 \times \textcolor{green}{50} \\ 1200 \quad \leftarrow 6 \times \textcolor{blue}{200} \\ \hline 1518 \\ \hline \end{array}$$

Division

Sharing

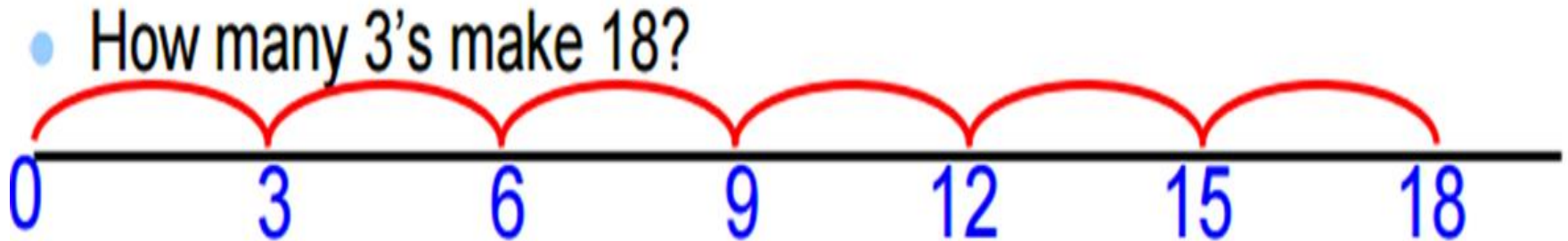
- * 6 sweets are shared between 2 people can be modelled as:



Division

Grouping

- * Using a number line to count up in groups:



Progression in Standard Written Methods for Division

Short Division

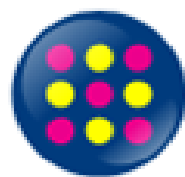
$$\begin{array}{r} 13 \\ 7 \overline{) 921} \end{array}$$



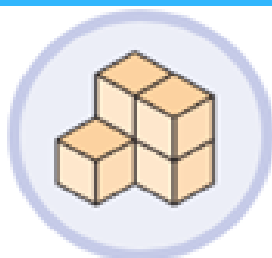
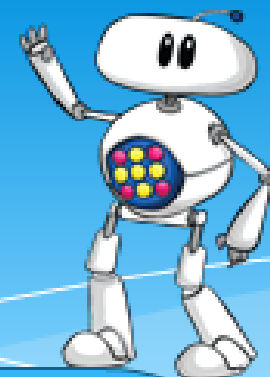
When it comes to times tables, speed AND accuracy are important - bursts of daily practise are more effective than spending hours once a week. And this is where you come in. For your child to be fully motivated and for them to get the best out of the practice, they need your help.

Without your praise and your reminders, without you sitting down next to them or checking their work, practising times tables will not feel important to your child and the more facts your child remembers, the easier it is for them to do harder calculations.

Please encourage your child to play the game at home regularly over the next few weeks to develop a regular habit that will assist their mathematics, just as daily reading helps propel their reading and writing.

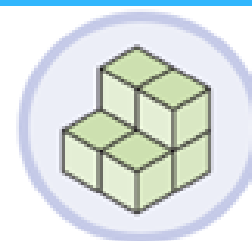


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Login at home

Provided your child's school subscribes to MyMaths, your child will be able to access their homework set by their teacher and get instant results by logging in to the online student portal at home. Your child's school will provide their pupils with log-in details.



**Thank you for attending the
workshop.**

Questions?