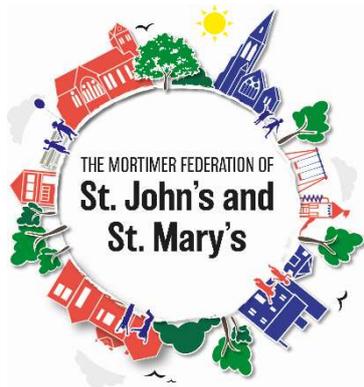


# **The Mortimer Federation of St. John's and St. Mary's**



**Helping your child  
achieve in  
Mathematics  
- Year 2 -**

**A booklet for parents**

**These targets show *some* of the things your child should be able to do by the end of Year 2 in Maths.**

I can solve problems using 2-digit and 3 digit numbers.

I can talk about important information and put data into lists and tables.

I read, write and say numbers to 1000.

I can count forwards and backwards in tens or hundreds from any number up to 1000.

I can partition 3-digit numbers in different ways.

I can recognise the decimal equivalent of  $\frac{1}{2}$  and  $\frac{1}{4}$

I know all multiplication and division facts for the 2, 5 and 10 times table.

I can work out and remember the addition and subtraction facts for all numbers up to 20.

I can add or subtract numbers like 9,19,11,21 from numbers up to 100 (number pairs).

I can add or subtract mentally combinations of 1-digit and 2-digit numbers.

I understand that multiplication and division are inverse operations.

I can use practical methods to multiply 1 or 2 digit numbers by a single digit.

I can draw and complete shapes with reflective symmetry.

I can identify a shape with no lines of symmetry.

I can find angles larger or smaller than a right angle.

I can choose and use standard ones and suitable measuring instruments

I can estimate, measure and compare lengths, weights and capacities.

I can read partially numbered scale to the nearest half and whole division.

I can use a Venn or Carroll diagram to sort data / objects using more than one criterion.

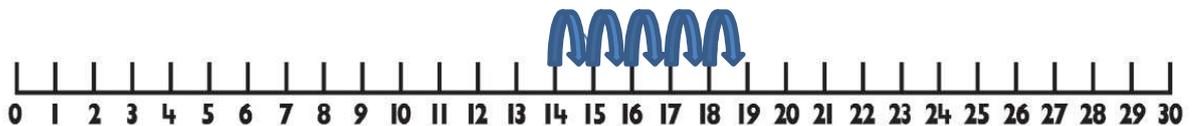
# Here are some examples of the methods taught for working out calculations

## Addition

### Counting on using a number line:

Children will count on in ones from the first number in the number sentence.

$$14 + 5 = 19$$



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### 100 Square:

Children will circle the first number on the 100 square. Then, identify how many tens are in the second number and count that number of rows down. Then count on the number of ones left.

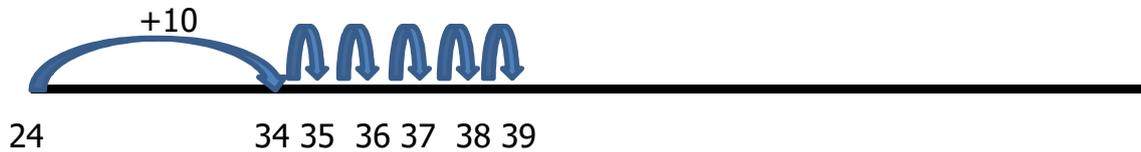
$$36 + 22 = 58$$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

**Counting on using an empty number line:**

Children will put the starting number at the beginning of the line. They will identify the number of tens being added and draw this as one jump. The number they count up to will be written underneath. Then they will add the ones, recording each jump as they go.

**24 + 15 = 39**



**Using partitioning to add:**

Record steps in addition using partitioning:

**76 + 42 = 118**

**76 + 40 = 116**

**116 + 2 = 118**

Partitioned numbers are then written under one another in column addition. The hundreds, tens and ones columns are added together:

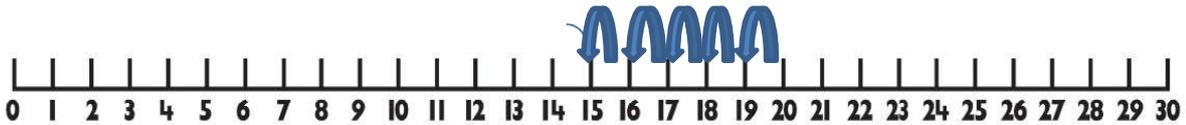
$$\begin{array}{r} \text{T O} \\ 76 \\ + 42 \\ \hline 118 \end{array}$$

# Subtraction

## Counting back using a number line:

Children will count back in ones from the first number in the number sentence.

$$20 - 5 = 15$$



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## 100 Square:

Children will circle the first number on the 100 square. Then, identify how many tens are in the second number and count up that number of rows. Then count back the number of ones left.

$$58 - 34 = 24$$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

### **Counting back using an empty number line:**

Children will put the starting number at the end of the line. They will identify the number of tens being subtracted and draw this as one jump. The number they count back to will be written underneath. Then they will take away the ones, recording each jump back as they go.

$$35 - 13 = 22$$



### **Using partitioning to subtract without 'borrowing':**

Record steps in subtraction using partitioning:

$$76 - 42 = 34$$

$$76 - 40 = 36$$

$$36 - 2 = 34$$

Partitioned numbers are then written under one another in column subtraction:

$$\begin{array}{r} 76 \\ - 42 \\ \hline 34 \end{array}$$

Children will not be expected to change tens into the ones (borrowing) until a later stage in their mathematical development.

### **Number bonds:**

Children will often be asked to learn or recall number bonds. These are just numbers that make another number. For example— some of the number bonds for 20 are 0&20, 1&19, 2&18 3&17 and so on. Children should also realise that number bonds can help them to subtract. If they know that 15 and 5 are a bond of 20 then they know that  $15+5=20$ ,  $5+15=20$ ,  $20-15=5$  and  $20-5=15$ .

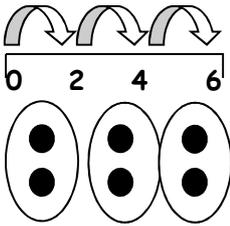
# Multiplication

## Arrays:

Children will draw the number of groups using the second number in the multiplication number sentence. They will then draw a dot / line in each group to represent the first number in the multiplication.

$$3 \times 2 = 6$$

$$2 + 2 + 2 = 6$$



## Partitioning to multiply:

Children will partition the first number in the multiplication number sentence into tens and ones. They will multiply the tens by the second number using their knowledge of multiplying by 10. Then they will multiply the ones by the same number. The two numbers are then added together to form the answer.

$$13 \times 3 = 39$$

$$10 \times 3 = 30$$

$$3 \times 3 = 9$$

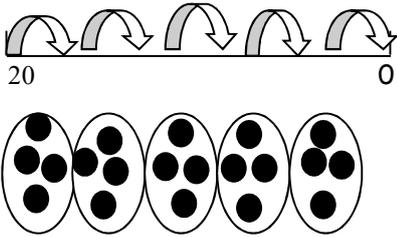
# Division

## Division by sharing:

Children draw the number of groups using the second number in the division number sentence. They then share the first number into each group until there are none left.

$$20 \div 5 = 4$$

$20 - 4 - 4 - 4 - 4 = 0$  (so there are 5 equal groups of 4 making the answer 4)



## Division by partitioning:

Children partition the first number into tens and ones. They divide the number by ten using their knowledge of place value (i.e. moving numbers back one column). Children divide by the tens then by the ones. The answer is found by adding the two answers together.

$$48 \div 4 = 12$$

$$40 \div 4 = 10$$

$$8 \div 4 = 2$$

## **When faced with a mathematical problem, encourage your child to ask...**

- Can I do this in my head?
- Could I do this in my head using drawings or jottings to help me?
- Do I need to use a written method?
- Also help your child to estimate and then check the answer. Encourage them to ask...

Is the answer sensible?

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## **Remember to use the RUCSAC method of problem solving:**

- **R**ead the question carefully.

Children should read the question at least once to check they have fully understood what the question is asking them to do.

- **U**nderstand the question.

Children should then be able to explain what they need to do to solve the problem.

- **C**hoose the correct method of calculation.

Are you going to use addition, subtraction, multiplication or division? Or even a mix of 2 or more to find the answer?

- **S**olve the problem.

Write the number sentence required and work out the answer.

- **A**nsWER the question.

- **C**heck your answer.

Children should check their answer using a different method if appropriate. Is the answer sensible? (e.g. the answer should be more than the starting number if adding).

# **Ideas of activities to do at home to support mathematical development**

## **Number bonds**

In order to support addition and subtraction children need to be fluent in number bonds to 20. For example: 5 and 5 is 10.

14 and 6 is 20.

Their number facts to ten can then be applied for numbers to 100.

For example  $6+4=10$ , so  $60+40=100$ .

## **Times Tables**

In order to support their mathematical learning your child needs to have a secure recall of the 2, 5 and 10 multiplication tables.

Children should also begin to understand what happens to a number when it is multiplied by ten (the numbers shift along one – a 0 is added)

e.g.  $2 \times 10 = 20$                        $5 \times 10 = 50$

Alongside this they should understand the inverse:

e.g.  $20 \div 10 = 2$                        $50 \div 10 = 5$

## **Encourage rote learning of the multiplication facts e.g.**

$1 \times 5 = 5$  (one 5 is 5)  $2 \times 5 = 10$  (two 5s are 10) etc

## **Encourage knowledge of the division facts e.g.**

$5 \div 5 = 1$  (five divided by five is 1)

$10 \div 5 = 2$  (ten divided by five is 2 )

## **Encourage quick fire recall to random questions e.g.**

What are three 2s? What is 6 times 10?