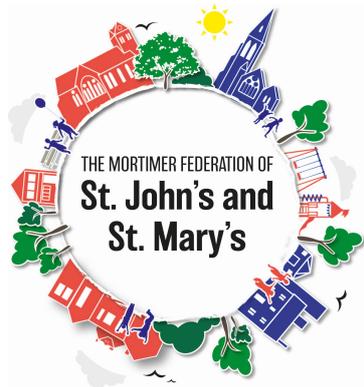


The Mortimer Federation of St. John's and St. Mary's



Helping your child achieve in Mathematics

- Year 1 -

A booklet for parents

These targets show the things your child should be able to do by the end of Year 1 in Maths.

Number & Place Value

- count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
- count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s
- given a number, identify 1 more and 1 less
- identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
- read and write numbers from 1 to 20 in numerals and words.

Addition & Subtraction

- read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs
- represent and use number bonds and related subtraction facts within 20
- add and subtract one-digit and two-digit numbers to 20, including 0
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$.

Multiplication & Division

- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Fractions

- recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity
- recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity.

Measurement

- compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half), mass / weight, capacity and volume, time
- measure and begin to record the following: lengths and heights, mass/weight, capacity and volume, time

- recognise and know the value of different denominations of coins and notes
- sequence events in chronological order using language
- recognise and use language relating to dates, including days of the week, weeks, months and years
- tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

Properties of Shapes

- recognise and name common 2-D and 3-D shapes.

Position and Direction

- describe position, directions and movements, including whole, half, quarter and three-quarter turns.

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

Number

Place Value & Number recognition:

Children should be able to recognise numbers up to 100 on sight, telling you what the number is.

Children should then be able to say how many tens and ones are in the number (partitioning a 2 digit number).

14 has 1 ten and 4 ones.

25 has 2 tens and 5 ones.

67 has 6 tens and seven ones.

They should then be beginning to write partitioning number sentences. They should be recognising how many tens and how many ones are in a number.

$$14 = 10 + 4$$

$$25 = 20 + 5$$

$$67 = 60 + 7$$

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 $20-5=15$.

Addition

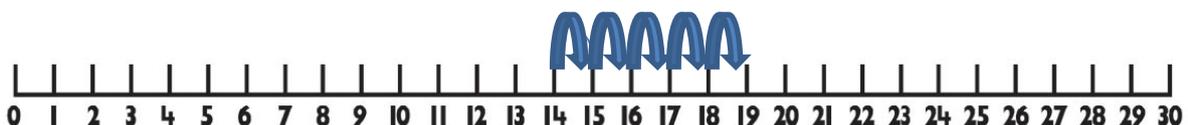
Counting on using objects:

Children should start by using physical objects to add. These can be everyday items from around the home. They should count the number of objects in the first group and then continue counting the second group to find the total.

Counting on using a number line:

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

$$14 + 5 = 19$$



100 Square:

Children will circle the first number on the 100 square. Then, count on the number of jumps in ones. They should circle the number they land on and check the number of jumps made is correct.

$$12 + 5 = 17$$

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

When children are confident at using the method above and have a secure understanding of place value, they can use that knowledge to use a 100 square differently. The starting number should be circled and the second number broken down into tens and units (partitioned). Then, count down the number of tens and forward in ones the number of units.

$$24 + 22 = 46$$

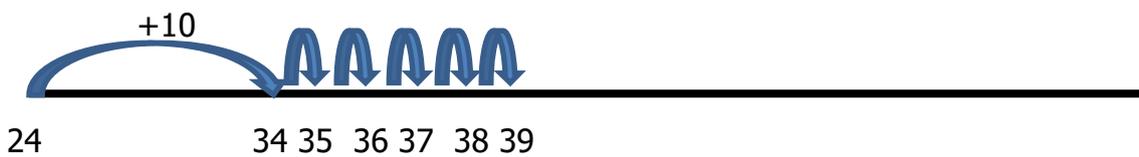
(The second number, 22, has 2 tens and 2 units. So I need to go down 2 rows and across 2 squares).

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 units, recording each jump as they go.

$$24 + 15 = 39$$



Subtraction

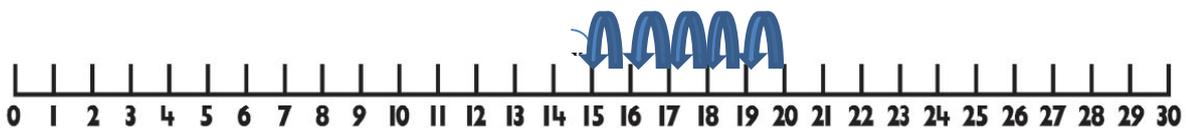
Counting back using objects:

Children can count back using physical objects. These, again can be everyday items from around the home. They should count the total number of objects and then take the correct number away. Then they should count the remaining objects to find the answer.

Counting back using a number line:

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

$$20 - 5 = 15$$



100 Square:

Children will circle the first number on the 100 square. Then count back in ones the second number to find the answer.

$$17 - 4 = 13$$

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

Then use the 100 square in a similar way to addition. The starting number should be circled and the second number broken down into tens and units (partitioned). Then, count up the number of tens and back the number of units .

$$37 - 23 = 14$$

(The second number, 23, has 2 tens and 3 units. So I need to go up 2 rows and back 3 squares).

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 units, recording each jump back as they go.

$$35 - 13 = 22$$

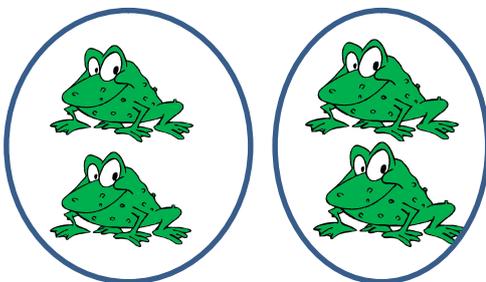


Multiplication

Multiplying using object:

The number sentence should be split into the number of groups (first number) and the number of objects (second number). Children should use physical grouping of objects to find the answer.

$$2 \times 2 = 4$$

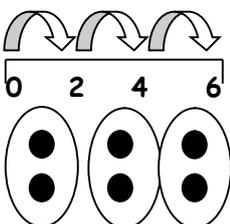


Arrays:

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.

$$3 \times 2 = 6$$

$$2 + 2 + 2 = 6$$

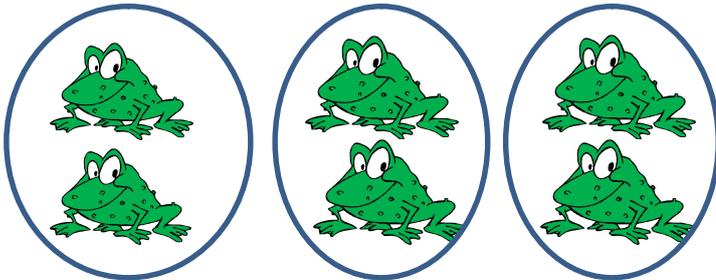


Division

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.

$$6 \div 3 = 2$$



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.

Encourage quick fire recall to random questions e.g

What is 10 add 5?

What is 20 take away 3?

What is 50 add 10?

Does your child's response time improve?

Doubles and halves

Children should be able to say the double of any number under 20.

E.g. Double 10 is 20.

Double 7 is 14.

Double 15 is 30.

Children should also be able to say the half of any even number under 20.

E.g. Half of 6 is 3.

Half of 16 is 8.

Half of 20 is 10.

Practise these regularly in random orders for children to be able to recall them quickly.

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?

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 $20-5=15$.