

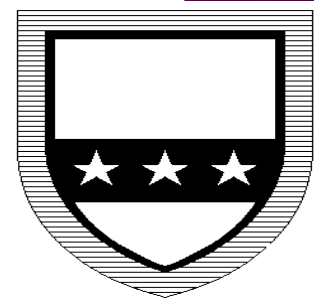
# MATHEMATICS

# WORKSHOP

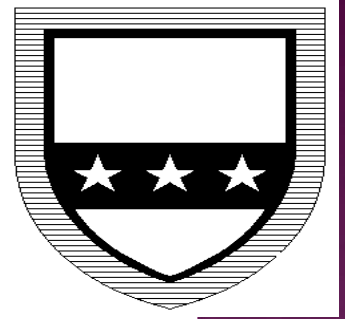
Poulton Lancelyn Primary School

# NATIONAL CURRICULUM CHANGES

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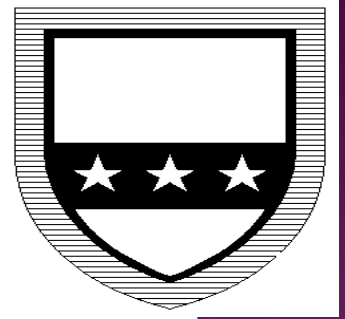


- ◉ New Curriculum introduced from September 2014 for all pupils.
- ◉ Children must be mathematically fluent.
- ◉ Expectations have changed. Coverage and skills have been “pushed down.”
- ◉ Need to know booklets highlight the expectations for each year group.
- ◉ No longer using levels. Emerging, Expected, exceeding.



# SCHOOL CHANGES

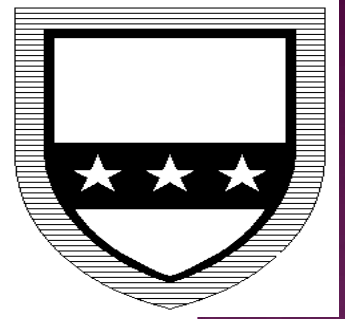
- ◉ Mathematics priority development area. Ofsted 2015
- ◉ Maths calculation policy.
- ◉ Long term plans for each year group.
- ◉ 2 maths lessons per day - main and arithmetic
- ◉ More focus on number to develop number fluency.

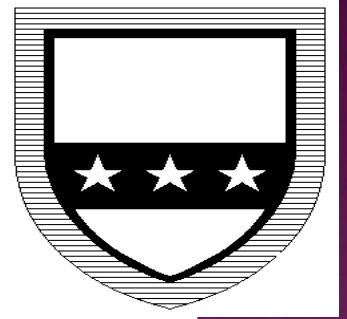


# WRITTEN MATHEMATICS

- ◉ Detailed breakdown for each year group in Mathematics policy. On website.
- ◉ Summary document highlights key stages.
- ◉ Mathematics session in each year group will outline the calculation methods used within that group.

# CLASSROOM ENVIRONMENT





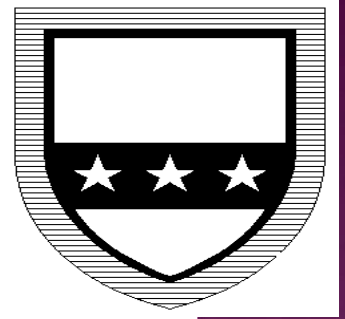
# MENTAL MATHEMATICS

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◉ Extra emphasis on mental mathematics.

- Counting on
- Counting back
- Doubling and halving
- Partitioning
- Number bonds

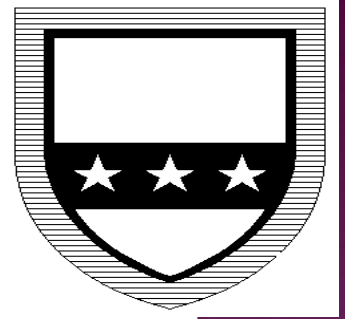
Mental Maths  
Songs



# TIME TABLES

- ◉ Times tables rock starz is to be introduced this week (2s, 5s and 10s).
- ◉ We will teach multiplication and division from this half term.
- ◉ Can be used as an assessment tool.
- ◉ 2019 - new times tables test for Year 4 pupils. Expected to know 12 x 12.

# USING AND APPLYING



- ◉ We regularly use reasoning and problem solving questions within lessons to allow children to apply their understanding of the four operations. Children are encouraged to explain and prove their understanding verbally and their beginning to record their thought processes.

Which number bond is the odd one out?

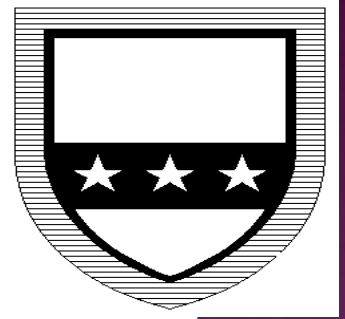
3 + 4    5 + 2    6 + 1    3 + 5

Explain your answer.

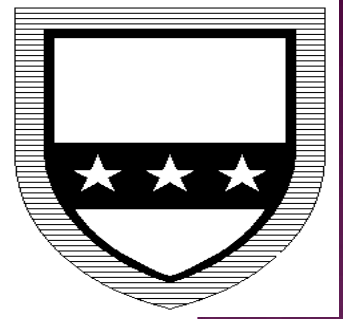


# HOME HELP

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- ◉ Technology (mathletics, apps)
- ◉ Homework
- ◉ Time
- ◉ **Number bonds**
- ◉ Times tables
- ◉ Doubling and halving
- ◉ Mental maths calculations



# IMPORTANCE OF READING

- Real life problems involve being able to read.
- Trend of poor readers = poor mathematicians.

Using the numbers 0 – 9, how many ways can you fill in the boxes to make the calculation correct?

You can only use each number once.


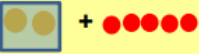



$$\square + \square = \square$$

How many different calculations are there?

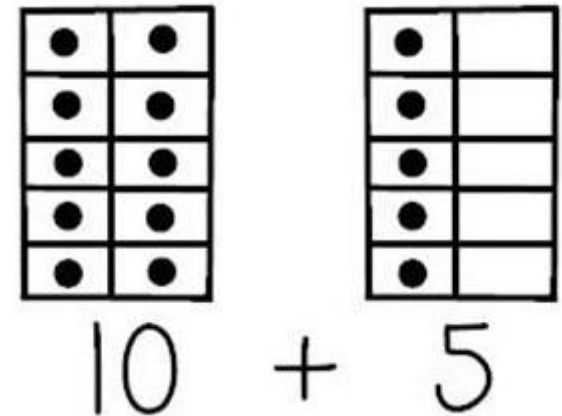
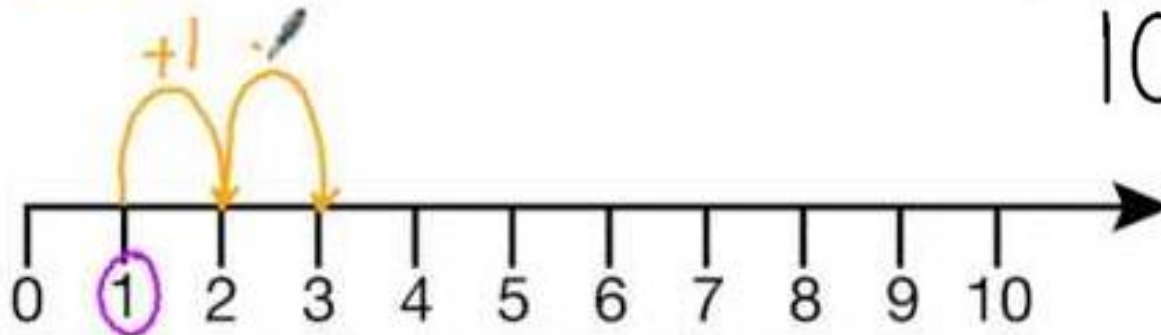
# ADDITION

## Year 1 Addition

## Steps to success

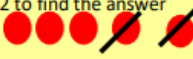
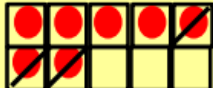
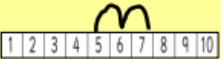
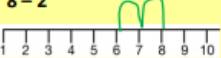




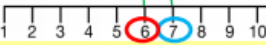
EYFS to Year 1	$2 + 5 =$ 	$2 + 5 =$ 	$2 + 5$ Leading to $5 +$  $5 + 2$ (without counters)	$2 + 5$ $5 + 8$ $4 + 13$ $11 + 7$ 	$6 + 8$ becomes $8 + 2 + 4$ 
	Count out each set then find the total	Count on from first number (Cover first number or display as numeral)	Recognise the biggest number in the calculation and count on from it (using objects for smaller number if necessary)	Recognise the biggest number in the calculation and count on from it mentally or using number line	Partitioning the smaller number and use the tens number to bridge calculation  $5 + 17$ becomes $17 + 3 + 2$

$$\textcircled{1} + 4 =$$



# SUBTRACTION

## Year 1 Subtraction Steps to success

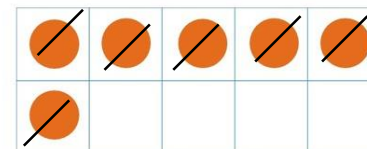
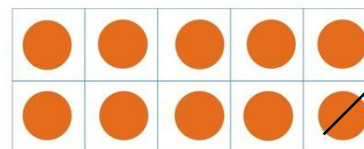
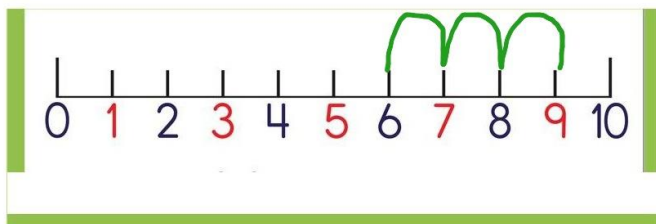
<p><b>EYFS to Year 1</b></p> <p>Add and subtract one-digit and two-digit numbers to 20, including zero</p> <p>Read, write and interpret number sentences with - and = signs.</p>	<p><b>5 - 2</b></p> <p>Count out 5 and remove 2 to find the answer</p>  <p><b>7 - 3</b></p> <p>Using a 10 frame to subtract - The children may subitise how many are remaining without having to count them all.</p> 	<p><b>7 - 2</b></p> <p>Count back on the number line by saying start on 7, count back 1,2, what number are you on?</p> 	<p><b>8 - 2</b></p>  <p><b>14 - 3</b></p>  <p>Count backwards mentally or using a number line.</p>	<p><b>15 - 5</b></p> <p>Use tens and ones when the calculation doesn't bridge 10</p>  <p><b>13 - 5</b></p>  <p>becomes <b>13 - 3 - 2</b></p> <p>Partitioning the number being subtracted through the multiple of 10 mentally or using a number line</p>	<p><b>Difference or distance between 7 - 6 or find the difference between 7 and 6</b></p>   <p>This will be introduced practically with the language 'find the distance between' and "how many more?" in a range of familiar contexts.</p>
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$$9 - 3 = 6$$

Core Lesson

$$16 - 7 = ?$$

First, I need to



# MULTIPLICATION

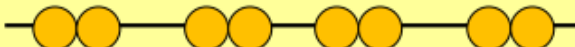
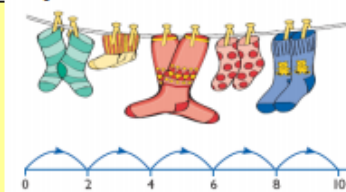
## Year 1 Multiplication

## Steps to success

### Year 1

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.

Count in multiples of twos, fives and tens from any number  
Present practical problem solving activities involving counting equal sets or groups, as above.



There are two apples on one plate.  
How many apples on 3 plates?



How many socks are there?



There are \_\_\_\_ socks in total.

How many gloves are there?



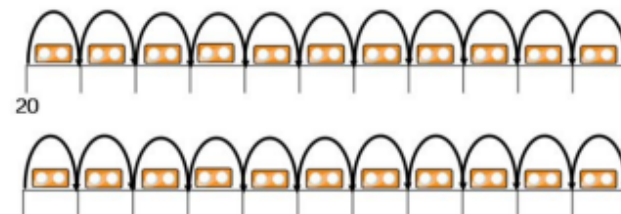
There are \_\_\_\_ gloves in total.

Represent the gloves using ten frames.

Continue colouring in 2s on the grid. What do you notice?

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

Complete the number lines by counting in 2s.



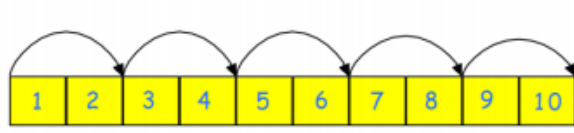
# DIVISION

## Year 1

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.

### Group and share small quantities

Using objects, diagrams and pictorial representations to solve problems involving **both** grouping and sharing.



Pupils should

Be able to count in multiples of 2s, 5s and 10s

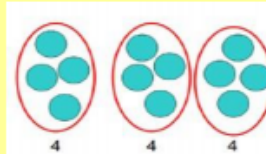
Find **half** of a group of objects by sharing into 2 equal groups

Understand the difference between „grouping“ objects (How many groups of 2 can you make?) and „sharing“ (Share these sweets between 2 people)

### Grouping



### Sharing



12 shared between 3 is 4

### Example division problem in a familiar context:

There are 6 pupils on this table and there are 18 pieces of fruit to share between us. If we share them equally, how many will we each get?

Can they work it out and give a division statement... ?

“18 shared between 6 people gives you 3 each.”

13/04/15

WALT: divide

$$12 \div 2 =$$



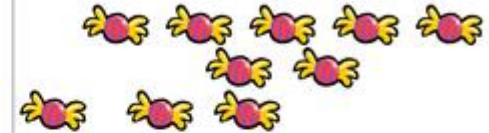
$$8 \div 2 =$$



$$18 \div 2 =$$



$$10 \div 2 =$$

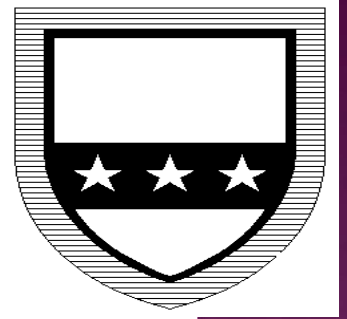


$$16 \div 2 =$$



$$14 \div 2 =$$





# ACTIVITIES

- ◉ Board games involving addition and subtraction
- ◉ Word problems and concrete resources
- ◉ Number bond snap