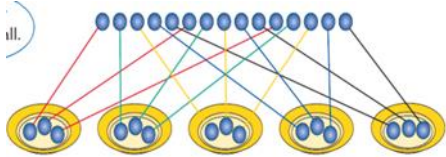






Red= NC 2014 Blue= St Annes

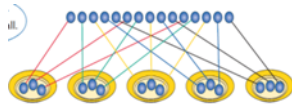
Year	What will division look like?
R	<p>Sharing objects into equal groups and count how many in each group, such as 10 biscuits on two plates.</p> <ul style="list-style-type: none"> • Grouping objects • Link with the pictures for multiplication <p>Eg * * * * * *</p> <p>6 counters in three rows is 2 6 counters in two rows is 3</p>
1	<p>National Curriculum 2014- Solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p> <p><u>Vocabulary:-</u></p> <ul style="list-style-type: none"> • Sharing • Grouping <p>Solve practical problems that involve sharing into equal groups and grouping.</p> <p>Division - Equal Sharing Structure Children should be given plenty of practical experience of equal sharing.</p> <p><u>E.g. How many balloons would each person have if we shared them equally?</u></p> <p>$15 \div 5 = 3$ each</p>  <p>Division - Grouping</p>  <p><u>E.g. How many groups of 3 marbles are there in a set of 15?</u></p>  <p>Use of pictures, concrete apparatus, 100 square (counting back) or number tracks/ lines, to solve problems.</p>
2	<p>National Curriculum 2014-</p> <ul style="list-style-type: none"> • Recall and use division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • Calculate mathematical statements for division within the multiplication tables and write them using the division (\div) and equals (=) signs • Show that division of one number by another cannot be done in any order (not commutative) • Solve problems involving division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. <p><u>Vocabulary:-</u></p>

- Sharing
- Grouping
- Repeated addition / subtraction
- Inverse
- Equals
- Commutative (Division is not)

Solve practical problems that involve sharing into equal groups and grouping and record using a number line

Division - Practical understanding of sharing and grouping

$15 \div 5 = 3$

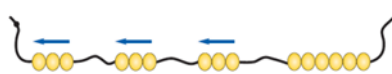


$15 \div 3 = 5$

How many 3s in 15?



$15 \div 3 = 5$

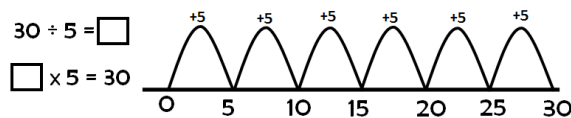


Division - Number line

- Understand division as repeated subtraction (sharing) eg 24 shared between 4.

$24 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4$

- Use a number line to make hops- repeated addition (grouping) e.g. How many 5's in 30



Children begin to record division calculations using the division symbol.

$6 \div 2 = \square$ $20 \div \square = 2$ $\square \div 3 = 8$

3

National Curriculum 2014-

- Recall and use division facts for the 3, 4 and 8 multiplication tables
- Write and calculate mathematical statements for division using the multiplication tables that they know, using mental and progressing to formal written methods
- Solve problems, including missing number problems, involving division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Vocabulary:-

- Sharing
- Grouping
- Repeated addition / subtraction
- Inverse

Using repeated addition (and inverses) to solve problems on a number line

Division - Inverse of multiplication

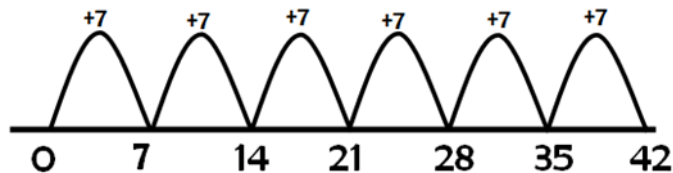
Understanding division as the inverse of multiplication
 $5 \times 4 = 20$ $4 \times 5 = 20$ $20 \div 5 = 4$, $20 \div 4 = 5$
 (inverse relationship)

Number Line Method- repeated addition

Solve problems using repeated addition along a number line (e.g. how many groups of 5).

$$42 \div 7 = 6$$

6 groups of 7 is 42
 $6 \times 7 = 42$



Finding remainders after simple division

Know when to round the remainder up or down, depending on context of problem

4

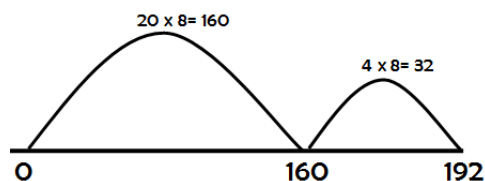
National Curriculum 2014-

- Recall division facts for multiplication tables up to 12×12
- Use place value, known and derived facts to divide mentally, including: dividing by 1;
- Recognise and use factor pairs and commutativity in mental calculations

Vocabulary:-

- Sharing
- Grouping
- Repeated addition / subtraction
- Inverse
- Chunking
- Commutativity

Number Line Method - Chunking



5

National Curriculum 2014-

- Divide numbers mentally drawing upon known facts
- Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- Divide whole numbers and those involving decimals by 10, 100 and 1000
- Solve problems involving division including using their knowledge of factors and multiples, squares and cubes
- Solve problems involving division and a combination of these, including understanding the meaning of the equals sign
- Solve problems involving division, including scaling by simple fractions and problems involving simple rates.

Vocabulary:-

Vocabulary:-

- Factors
- Multiples
- Scaling by simple fractions

Informal number line methods for those needing consolidation

Formal methods of Division (Short division)

$98 \div 7$ becomes:-

$$\begin{array}{r} 14 \\ 7 \overline{) 98} \end{array}$$

$$432 \div 5 = 86 \text{ r}2$$

$$5 \overline{) 432}$$

6

National Curriculum 2014-

- Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
- Solve problems involving division
- Use written division methods in cases where the answer has up to two decimal places

Formal methods of Division (Short and long division)

Short Division

$$7 \overline{) 928}$$

$$\begin{array}{r} 132 \\ 7 \overline{) 928} \\ \underline{70} \\ 22 \\ \underline{21} \\ 10 \\ \underline{70} \\ 30 \\ \underline{28} \\ 2 \end{array}$$

Long Division

$$15 \overline{) 432}$$

$$\begin{array}{r} 28 \\ 15 \overline{) 432} \\ \underline{300} \quad 15 \times 20 \\ 132 \\ \underline{120} \quad 15 \times 8 \\ 12 \end{array}$$

or

$$15 \overline{) 432}$$

$$\begin{array}{r} 28 \\ 15 \overline{) 432} \\ \underline{30} \downarrow \\ 132 \\ \underline{120} \\ 12 \end{array}$$