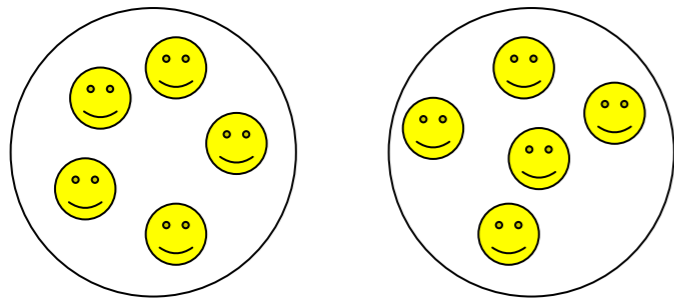


# St.Bartholomew's C of E Primary School: Division Calculation Policy

## Stage 1 Division—sharing and grouping

The children need to understand the concept of division as sharing and recognise the '÷' symbol using practical activities and pictorial representations emphasising the importance of equal groups. The children will then move on to two grouping using practical apparatus.

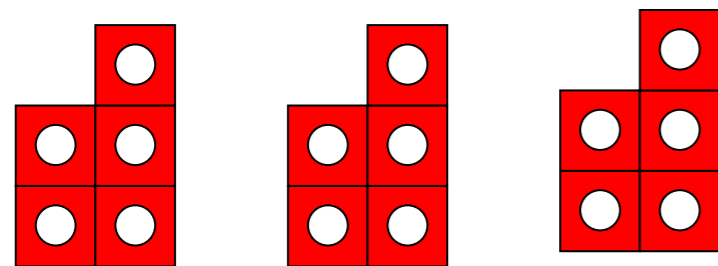
$$10 \div 2 = 5$$



Shared equally

The children will then move on to grouping using practical apparatus. The children need to be taught to understand the difference between „grouping“ objects (How many groups of 2 can you make?) and „sharing“ (Share these sweets between 2 people). The concept of grouping can be supported through the use of practical objects and arrays using jottings.

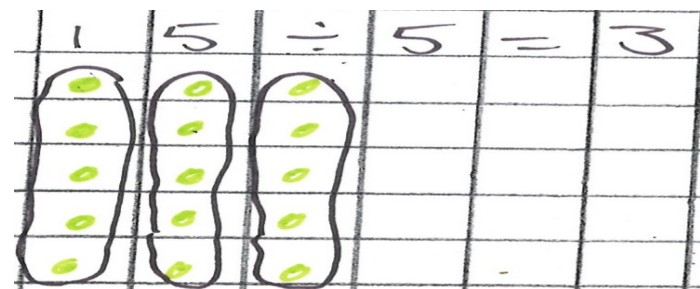
$$15 \div 5 = 3$$



First group

Second group

Third group

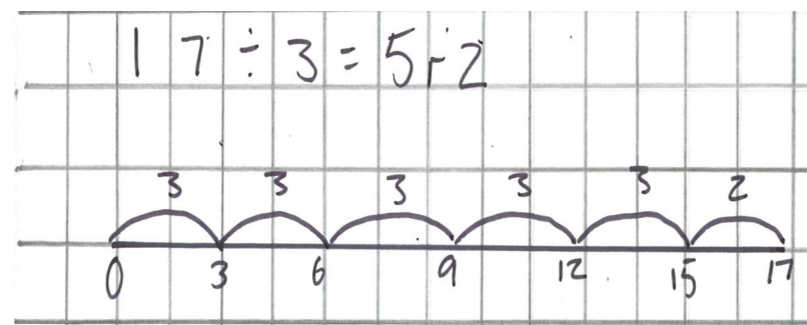
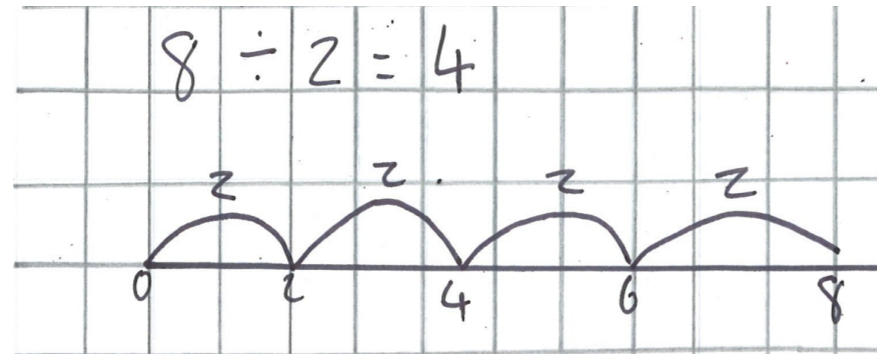


Vocabulary : share , equally. And groups of .

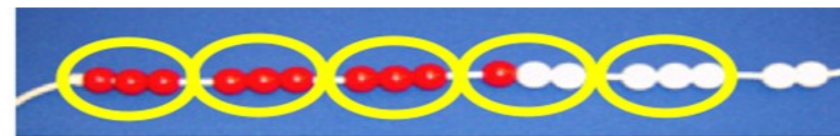
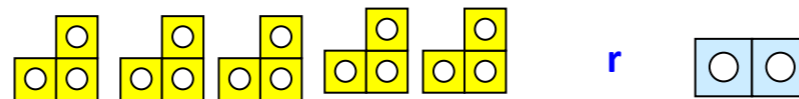
## Stage 2 Division— numbers lines

### and remainders

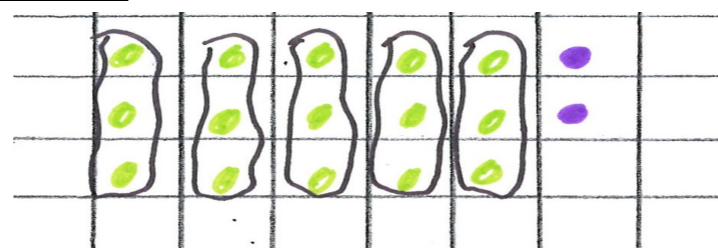
Once the children are secure at solving problems using grouping in a variety of situations and arrays they then need to use a number line. The children will then count up in equal jumps of the divisor to identify how many groups there are.



The children will then begin to understand their concept of remainders. The number line method of grouping needs to be taught practically as a model and image as well as using jottings



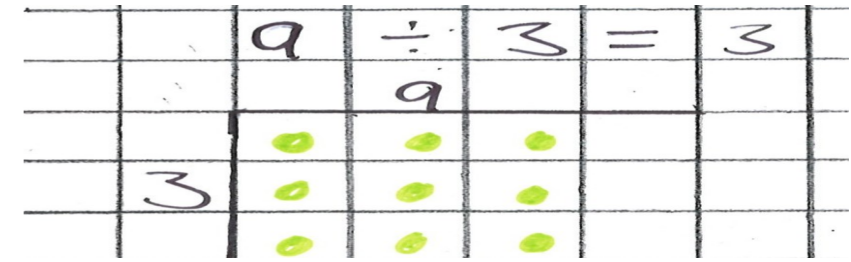
### Models and Images



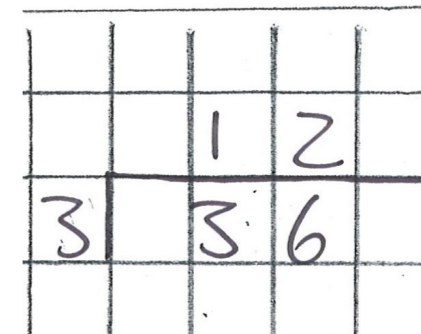
Vocabulary in addition to previous stage : divide, arrays, numberline, equal jumps, and left over.

## Stage 3 Division—short division without remainders or exchange.

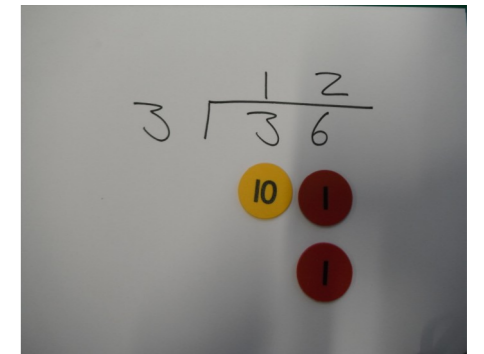
The children will then need to move on to more formal dividing using short division. Initially the numbers will need to be carefully selected so that there are no remainders using  $0 \div 0$  and an array for grouping underneath the calculation for a model and image.



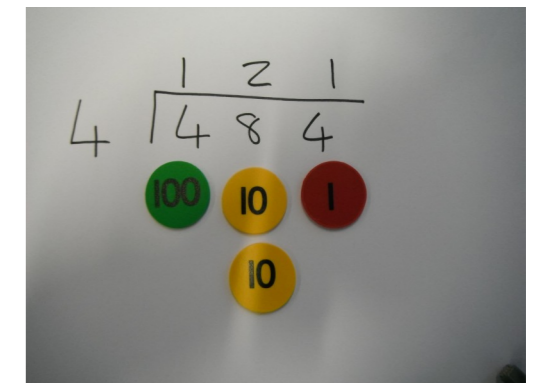
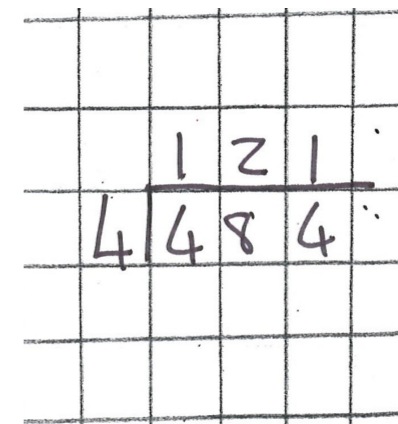
Once the children can use grouping and short division they can then move on to larger two digit numbers with no remainders or exchange using place value counters as a model and image underneath the calculation



The children



then need to accurately use short division up to 3 digit numbers with no remainders or exchange. This can also be supported by using place value counters.



### Jottings

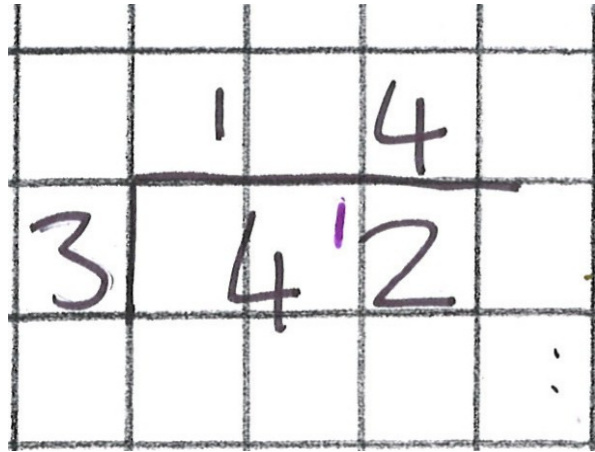
The children should be encouraged to use a number line for division facts that they can not work out mentally or record the relevant multiples.

Vocabulary in addition to previous stage s: short, division, remainder and multiple

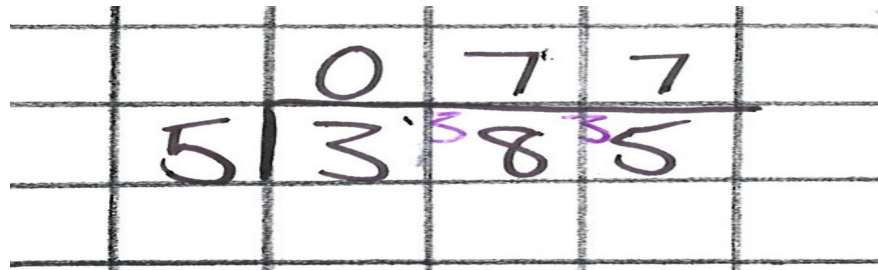
# St.Bartholomew's C of E Primary School: Division Calculation Policy

## Stage 4 Division— Short division with exchange up to 4 digit numbers

The children need to be secure with short division before the exchange. Initially this should be taught with numbers that the children can divide mentally easily. Place value counters can also be used if required to identify where the exchange comes from as a model and image.



Once the children are secure  $TO \div O =$  they can then move on to  $HTO \div O =$ . When the answer for the **first column** is zero ( $3 \div 5$ , as in example), the children should initially write a zero above to acknowledge its place, and must always „carry“ the number (1) over to the next digit as a remainder. **This should then be extended to  $ThHTO \div O =$ .**



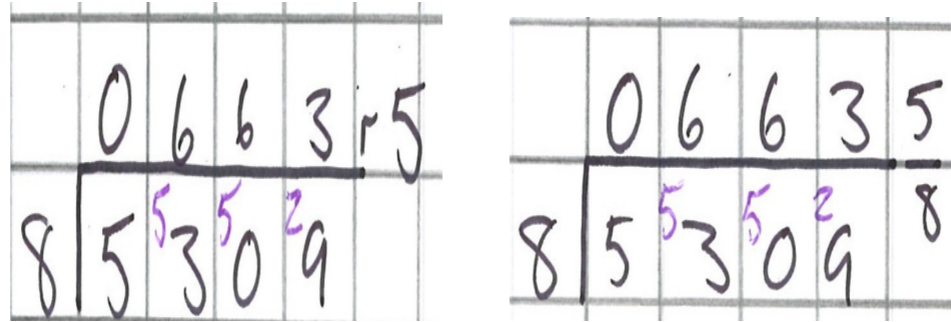
### Jottings

The children should be encouraged to use their known facts and round to estimate their answer first.

Vocabulary in addition to previous stage : divisible by , inverse and carry

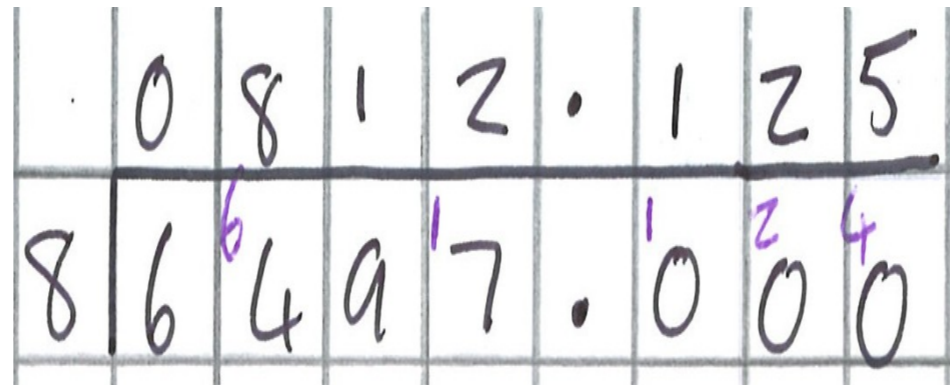
## Stage 5 Division - short division with remainders with 4 digit numbers

Now that children are secure with short division they need to be introduced to examples that give rise to remainder answers. The questions need to have a real life problem solving context, where **pupils consider the meaning of the remainder and how to express it**, i.e. as a fraction, a decimal, or as a rounded number or value, depending upon the context of the problem.



The answer to  $5309 \div 8$  could be expressed as  $663 r 5$ ,  $663 \frac{5}{8}$  or rounded to the nearest whole number as appropriate to the problem involved.

Once the children are secure with interpreting the remainder in this context they should then be introduced to finding remainders involving decimals up to 3 decimal places.



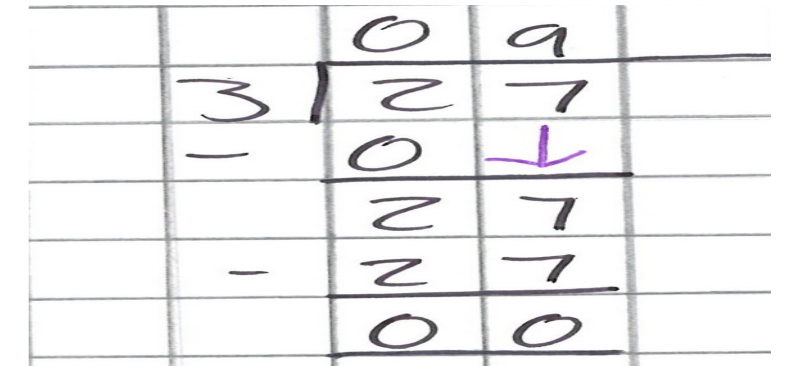
### Jottings

The children should use jottings to estimate their answer using rounding and use repeated number lines addition to support recall of multiplication facts

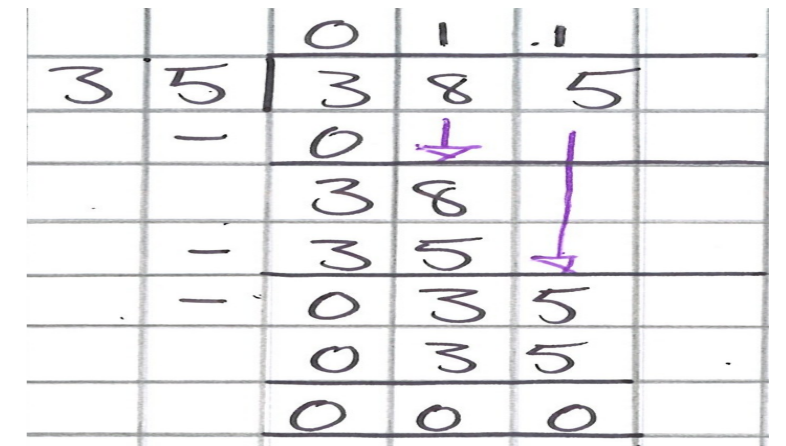
Vocabulary in addition to previous stage : decimal , remainders and quotient.

## Stage 6 Division —long division by a 2 digit number

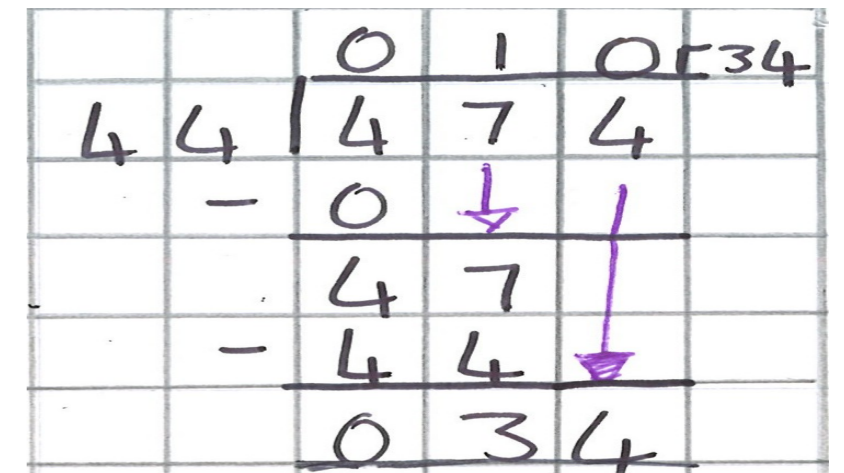
Long division should be only introduced once the children are confident with all aspects of short division. Initially the children should use this method dividing  $TO$  by  $O$  with no remainders



As the children become more confident with this method they should be encouraged to use this method to divide  $TO$  by  $HTO$  and  $ThHTO$  as well as finding remainders.



### Remainders



Vocabulary in addition to previous stage : long division