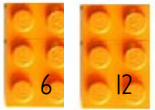## Stage 4

Children need to learn the 9, 11, 6, 7 and 12 times table at this stage.

Use resources and times table tricks so that children become confident with recalling facts quickly.
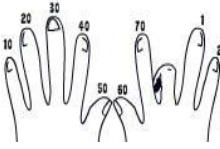
Rule of 11s:
For numbers up to 9, you just write that number twice, like this.
$9 \times 11 = 99$

8 x 9 = 72

9 x table trick

1. Starting from your left little finger, count across until you get to the number you are multiplying by 9. Above it is 8.

2. Each little finger on the left of the curled finger represents 10.

3. Each finger on the right of the curled finger represents 1.

So $8 \times 9 = 72$

Children need to apply their knowledge of times tables by multiplying 2 digit numbers by 2 digit numbers using the grid method as shown below.

X	60	2
30	1800	60
8	480	16

$38 \times 62 = 1800 + 60 + 480 + 16$
$38 \times 62 = 2356$

Fact box

$152 \div 8 = 19$ → How many 8s in 152?

$8 \times 10 = 80$
$8 \times 9 = 72$

8 x 10	8 x 9
0	80	152

Stage 5/6

Help children to apply their knowledge of times tables by multiplying 1 and 2 digit numbers by 3 digit numbers as shown in the grid method below.

$75 \times 429 =$

x	400	20	9
70	28,000	1400	630
5	2000	100	45

$75 \times 429 = 28000 + 1400 + 630 + 2000 + 100 + 45 = 32,175$
$75 \times 429 = 32,175$
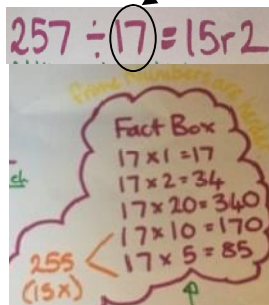
Once children are confident with the grid method, they can move on to the short multiplication method.

$$728 \times 5$$
$5 \times 8 \longrightarrow 40$
$5 \times 20 \longrightarrow 100$
$5 \times 700 \longrightarrow + 3500$
3640

$$\begin{array}{r} 14 \\ 728 \\ \times\ 5 \\ \hline 3640 \end{array}$$

Use fact boxes (alongside number lines if needed) for 2/3 digit divisors (the number you are dividing by)

$257 \div 17 = 15r2$

Fact Box
$17 \times 1 = 17$
$17 \times 2 = 34$
$17 \times 20 = 340$
$17 \times 10 = 170$
$17 \times 5 = 85$

$255 < $
$(15 \times)$

Bus stop method- for single digit divisors (the number you are dividing by)

$$\begin{array}{r} 1\ \ 7\ \ 8 \\ 3\overline{)5\ ^2 3\ ^2 4} \end{array}$$

$5 \div 3 = 1$ with a remainder of 2. Write the 2 beside the 3. You now have 23.

$23 \div 3 = 7$ with a remainder of 2. Write the remainder by the 4. You now have 24.

$24 \div 3 = 8$ with no remainder

The answer is 178.

Calculation Policy
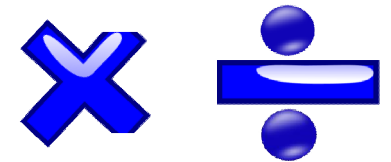
Multiplication and Division

This policy is designed to help parents/guardians support their children with multiplication and division homework. As children are taught according to their ability and not their age, please ask your child's teacher what stage your child is currently working at. We teach children methods that build up on their existing skills and understanding so please make sure children do not miss out stages as this could lead to gaps in their learning/ understanding. If you are unsure about any of the methods please speak to your child's class teacher.

Peterborough Diocese Education Trust
ACHIEVING MORE TOGETHER

Early Years

Activities should all be practical at this stage.

Provide opportunities for children to halve and double using lots of different objects. For example; food, toys, pencils, coins, pegs.

Emphasise the link between doubling and halving. Half of 4 is 2 so double 2 is 4.

Encourage organising, reorganising and sorting objects in to lines, so that children can count efficiently.
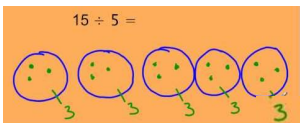
Stage 1

Arrange pictures and objects into rows and columns. Use the rows or columns to practise counting in steps of 10, 5 and 2. (Children only need to count in steps of 10, 5 and 2 at this stage).

2
4
6
8

5
10
15
20
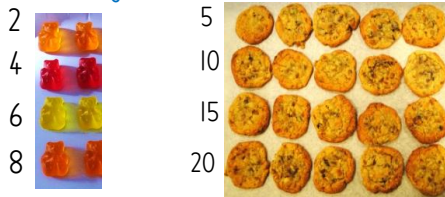
Provide opportunities for children to share objects practically and using drawings.

15 ÷ 5 =

Stage 2

Children need to learn the 10, 5, 2 and 3 times table at this stage.

Find related X and ÷ facts by linking the two methods together. If we work out the answer to 3 x 10 = 30 by counting in steps of 10 then we also know that we had to count 3 'lots' of 10 or 3 rows of 10. So 30 ÷ 10 = 3.

10
20
30

Link division to grouping so that it reinforces children's times tables knowledge by encouraging them to count in steps.

For example: 15÷3 - 'How many groups of 3 will fit in to 15?' Use objects to support children with counting in groups and understanding the method.

3   6   9   12   15

There are 5 groups of 3 so the answer is 5.
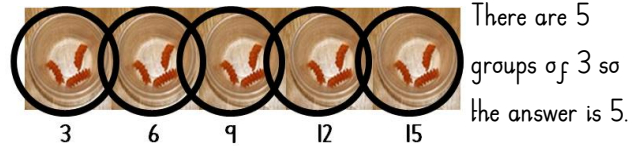
Once children are able to count in steps of 10, 5, 2 and 3, number lines can be introduced as another method for solving x and ÷ problems. Using resources alongside number lines will improve children's understanding.
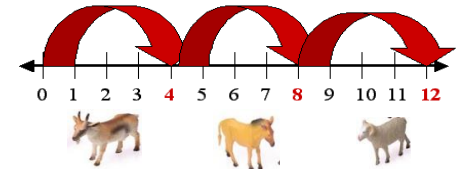
5   5   5

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

5 x 3 = 5 + 5 + 5 = 15   There are 3 groups of 5 in 15 so 15 ÷ 5 = 3.
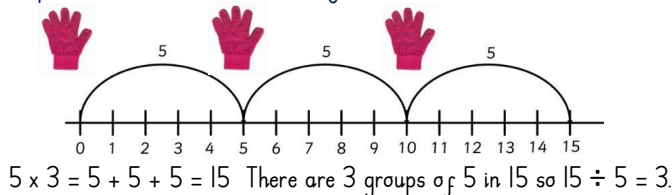
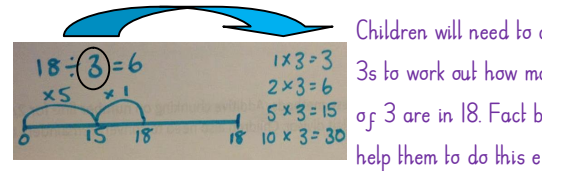## Stage 3

Children need to learn the 4 and 8 times table a stage.

Continue to use number lines for multiplication and Use resources to improve understanding.

$$3 \times 4 = 4 + 4 + 4 = 12$$

There are 3 groups of 4 in 12 so 12 ÷ 4 =

0 1 2 3 **4** 5 6 7 **8** 9 10 11 **12**

Once children are confident with their times tables, lines can then be used alongside times table fact box support children in solving division problems.

18 ÷ (3) = 6
×5   ×1

1×3=3
2×3=6
5×3=15
10×3=30

Children will need to 3s to work out how m of 3 are in 18. Fact b help them to do this e

Children need to apply their times table knowledge by multiplying single digit numbers with 2 and 3 digit n To do this they need to split (partition) numbers in to ones or hundreds, tens and ones, multiply the number then add the parts to find the answer. For example:

16 x 4 = 64   2 x 113 = 226

40
24

40 + 24 = 64

200
20
200+20+6