MATHS PROGRESSION:

Multiplication and Division

♦ Count in steps of 2,3 and 5 from 0

multiples of 2,5 and 10 and 3

division)

♦ Recall multiplication facts 2, 5 and 10

♦ Recognise odd and even numbers at relate to

Understand commutativity as multiplication

in any order (see why this is not possible for

Key: Counting in steps

Mental calculations

Formal written methods

Representations/models

Known facts

Using and applying

Estimation and checking

digit by 2-digit

♦ Perform multiplication calculations using formal written methods up to 4-

- ♦ Perform division calculations using long and short division methods (up to 4-digit by 2-digit)
- ♦ Where there are remainders from division calculations; indicate with decimal and fraction notation
- ♦ Multiply /divide proper and improper fractions
 - Multiply proper fractions and mixed numbers by whole numbers
 - ♦ Divide fractions by whole numbers



- ♦ Use and apply BODMAS effectively to a range of problems
- Recall and calculate squared and cubed numbers with efficiency
- ♦ Recall prime numbers fluently
- Use and apply knowledge of prime numbers to a range of problems
- ♦ Apply methods to real-life problem solving (multi-step) Routine and non-routine

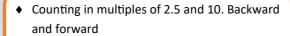


- ♦ Multiplication and division with powers of 10 inc. decimals to 3.d.p
- ♦ Multiply and divide numbers mentally using known facts
- ♦ Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- ♦ Multiply and divide up to 4-digit by 1-digit numbers (2-digit for multiplication) using formal written methods
- ♦ Interpret remainders with division calculations that generates an unequal quo-
 - ♦ Find factor pairs and common factors
 - ◆ To understand, recognise and calculate squared and cubed numbers
 - ♦ To know and recall prime numbers/factors up to 100
 - Apply multiplication and division methods to routine and non-routine problems

- YEAR 4 ♦ Count in 6, 7, 9, 25 and 1000
 - Reason efficiently that 49 is in the 7 times
 - ♦ Recall all multiplication facts up to 12 x 12 (MTC readiness)
 - ♦ Mentally divide and multiply with powers of 10 (inc. decimals to hundredths)
 - ♦ Be able to apply commutativity and different multiplication methods inc. long and short multiplication
 - ♦ Apply knowledge to routine and non-routine
 - Recognise factor pairs related to multiples
 - Multiply 2 and 3 digit numbers by 1-digit
 - ◆ Show multiplication and division concept in a variety of ways inc. arrays and bar models

YEAR 2

- ♦ Understand what it is to group and to share quantities
- ◆ Link doubling to repeated addition and in-
- ♦ Understand when a group is equal / unequal through grouping and sharing
- ♦ Show understanding of doubling and halving and show through objects/ different representations



♦ Build on doubling and halving, Ensure solid CPA understanding is established

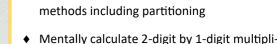
♦ Count in multiples of 4, 8, 50 and 100

YEAR

- ♦ Show different representations of multiplication through arrays and bar models
- ♦ Recall multiplication and corresponding division facts for 3,4 and 8 times tables



- ♦ Begin to see multiples as arrays. Make connections and notice patterns
- ♦ One-step problems involving multiplication and division, calculate using objects and different representations
- ♦ Make links to simple fractions 1/2, 1/4
- ♦ Check multiplication calculations by using the inverse (division)
- ♦ Use and apply multiplication and division to routine and non-routine problems



cation using known facts

◆ Calculate multiplication using formal written

• Estimate an answer using known facts

RECEPTION