Multiplicative Reasoning 3.3		Length of unit: **3 weeks**	Week beg:	Year: 3	Teacher:

Success criteria	Prior Learning:	Resources
Pupils can explain and represent multiplication as both repeated addition and scaling, and division as both sharing and grouping. They use this understanding to derive facts and solve problems.	• count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • calculate mathematical statements for multiplication and division within the • multiplication tables and write them using the multiplication (3), division (4) and equals (5) signs • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins to equal the same amounts of money • tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day • recognise, find, name and write fractions $\frac{1}{3}$, ¼, $\frac{2}{4}$ and ¾ of a length, shape, set of objects or quantity • write simple fractions for example, ½ of 6 5 3 and recognise the equivalence of 2/4 and ½	Maths vocabulary book Using and Applying in every maths lesson Assessment through guided maths Think Maths! Pitch and Expectations Y3 Models and Images Overcoming Barriers to Learning L2 to L3/L3 to L4 Securing Level 3/Level 4

Guidance

Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100.

Pupils continue to practice their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.

Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, 4 × 12 × 5 = 4 × 5 × 12 = 20 × 12 = 240) and multiplication and division facts (for example, using 3 × 2 = 6, 6 ÷ 3 = 2 and 2 = 6 ÷ 3) to derive related facts (for example, 30 × 2 = 60, 60 ÷ 3 = 20 and 20 = 60 ÷ 3).

Pupils solve simple problems in contexts, deciding which of the four operations to use and why. These include measuring and scaling contexts, (for example, four times as high, eight times as long etc.) and correspondence problems in which *m* objects are connected to *n* objects (for example, 3 hats and 4 coats, how many different outfits?; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children).

The comparison of measures includes simple scaling by integers (for example a given quantity or measure is twice as long or five times as high) and this connects to multiplication.

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Learning objectives	Pupil outcomes:
Learning objectives Pupils should be taught to: Number and place value ● count from 0 in multiples of 4, 8, 50 and 100 Multiplication and division ● recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables ● write and calculate mathematical statements for multiplication and division using the multiplication tables that they know ● solve problems, including missing number problems, involving multiplication and division; solve positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	**Pupil outcomes:** I can explain and represent different efficient ways of solving 12m x 4 and show that it is the same length as 4m x 12 and explain why. I can explain and represent 40 ÷ 4 = 10 as sharing between four and putting into groups of four, suggest contexts for these and explain what the 10 represents in each case.