Progression in number facts across school:

Link to progression in number facts document from NCETM

Purple – non statutory guidance (NC)

	Number Fact Families (Addition and Subtraction)	Additive Calculation Example	Times tables	Times table teaching and learning guidance
Year 1 (Within 10)	Adding 1 (e.g. 7 + 1 *and* 1 + 7) Doubles of numbers to 5 (e.g. 4 + 4) Adding 2 (e.g. 4 + 2 *and* 2 + 4) Number bonds to 10 (e.g. 8 + 2 *and* 2 + 8) Adding 10 to a number (e.g. 5 + 10 *and* 10 + 5) Adding 0 to a number (e.g. 3 + 0 *and* 0 + 3) Near doubles (e.g. 3 + 4 *and* 4 + 3) Ones without a family: 5 + 3, 3 + 5, 6 + 3, 3 + 6	4 + 1 5 + 1 6 + 1 7 + 1 8 + 1 9 + 1	Counting 10s Counting in 2s Counting in 5s	Equal and unequal groups Skip counting (with pictorial images) *Unitising*
Year 2 (Bridging 10)	*Revision/consolidation of ones without a family: 5 + 3, 3 + 5, 6 + 3, 3 + 6 (from Y1)* *Revision/consolidation of adding 10 to a number (e.g. 5 + 10 and 10 + 5) (from Y1)* Doubles of numbers to 10 (e.g. 7 + 7) Near doubles (e.g. 5 + 6 *and* 6 +5) Bridging (e.g. 8 + 4 *and* 4 + 8) Compensating	10 + 0 10 + 1 10 + 2 10 + 3 10 + 4 10 + 5	Times tables: 2, 5 and 10 2 x 1 2 x 2 2 x 3 2 x 4 etc **Counting in 3s**	Skip counting (with pictorial images) *Unitising* Initial teaching of **new** times tables to develop understanding as follows… Repeated addition: 5 + 5 + 5 ↓ Use of stem sentence: ***There are 5 in a group and there are 3 groups*** ↓ Visual numberline ↓ Language/verbalisation of: 5 once, 5 two times, 5 three times ↓ Linking to abstract recording: 5 x 1, 5 x 2, 5 x 3 … ↓
Year 3	Compliments to 100: using multiples of 10, 90 + 10 Compliments to 100: two digit and 1 digit, 98 + 2 Mental addition/subtraction using transforming equivalence: 37 + 49 (37 + 50-1) Add/subtract three digit number and ones Add/subtract three digit number and tens Add/subtract three digit number and hundreds Add/subtract fractions within one whole with same denominator	100 + 0 90 + 10 80 + 20 70 + 30 60 + 40 50 + 50	Times tables (in this specific order): 2, 4, 8 3, 6, 9 7 Division facts associated with these Use associativity to derive related facts: 4 x 2 = 8, 8 ÷ 2 = 4, 2 = 8 ÷ 4	

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			So…40 x 2 = 80, 80 ÷ 2 = 40, 20 = 80 ÷ 4 **Count in tenths**	Represent as array using stem sentence: ***There are 5 in each row and there are 3 rows*** ↓ Abstract recording: 5 x 3 Rotate array to model commutative aspect using same stem sentence. ↓ Record equations/multiplication statements both ways 5 x 3 = 3 x 5 Once children have been taught times table with understanding, twice daily audiotry 'soundbite' times table recall focusing on 3 facts per week (linked to number facts homework). **Precision of language here is crucial**. Facts to remain presented throughout as this is not a test, it is a learning task (our plan is to do a video to model this). **1 5 is 5** **2 5s are 10** **3 5s are 15** and so on… Even when presented with a division fact the audiotry 'soundbite' remains consistent. This is like a nursery rhyme in that the more time we hear, verbalise and say the same sentence it becomes instilled in our memory. The shorter the soundbite, the easier it is to rehearse and recall.
Year 4	Compliments to 1000: using multiples of 100 Mental addition/subtraction using transforming equivalence: 145 + 202 (145 +200+2) *Add/subtract three digit number and ones* *Add/subtract three digit number and tens* *Add/subtract three digit number and hundreds* Add/subtract fractions with same denominator (beyond one whole) Add/subtract decimals (tenths) using known number facts 0.1 + 0.9 = 1	1000 + 0 900 + 100 800 + 200 700 + 300 600 + 400 500 + 500	Times tables: 11 and 12 Recall ***all*** multiplication and division facts up to 12 x 12 Use associativity to derive related facts: 3 x 2 = 6, 6 ÷ 2 = 3, 2 = 6 ÷ 3 So…300 x 2 = 600, 600 ÷ 2 = 300, 200 = 600 ÷ 3 Multiplying by 10 Multiplying by 100 **Count in hundredths**	
Year 5	Mental addition/subtraction using transforming equivalence: 1005 + 98 (1005+100-2) progressing to 12462-2300 (12462-2000-300) Add/subtract decimals (tenths and hundredths) using known number facts 0.15 + 0.85 = 1 Add/subtract fractions with same denominator/denominators with multiples of the same number: 3/12 + ¼ = ½	1000 + 37 1001 + 37 1002 + 37 999 + 37 998 + 37 997 + 37	Multiplication and division facts for ***all*** times tables (cohort specific) Multiply and divide whole numbers by 10, 100, 1000	
Year 6	Mental addition/subtraction using transforming equivalence: 12462-2300 (12462-2000-300) Add/subtract fractions with different denominator by identifying equivalent fractions: ½ + 1/8 = 5/8	10100 + 137 10101 + 137 10102 + 137 9999 + 137 9998 + 137 9997 + 137	Multiplication and division facts for ***all*** times tables (cohort specific) Multiply and divide whole numbers and decimals by 10, 100, 1000 Multiply decimals by one digit whole numbers 4 x 0.2 = 0.8	