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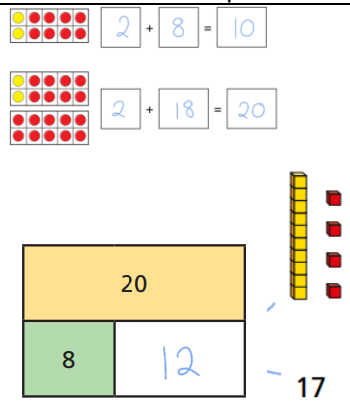
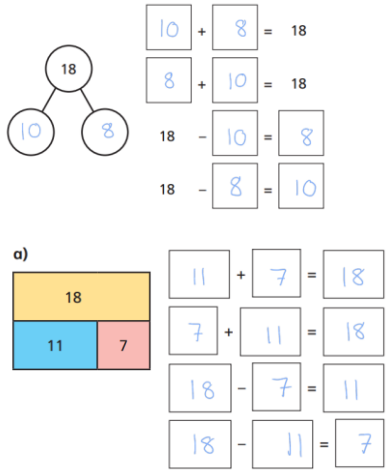
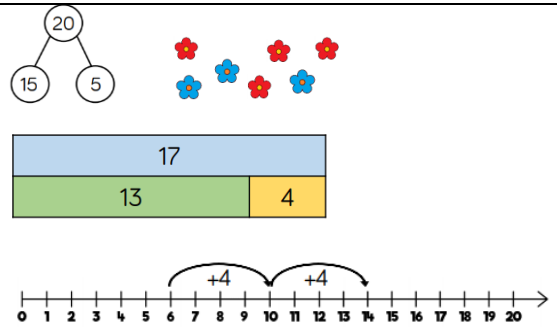
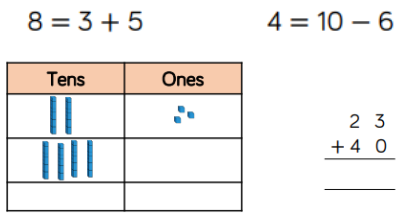
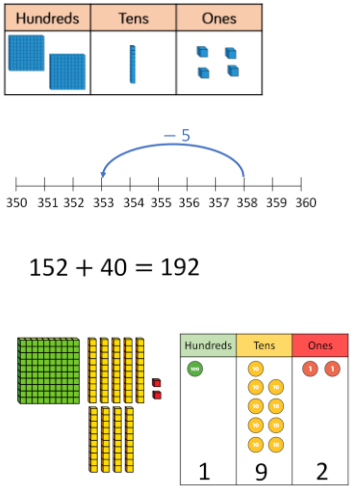
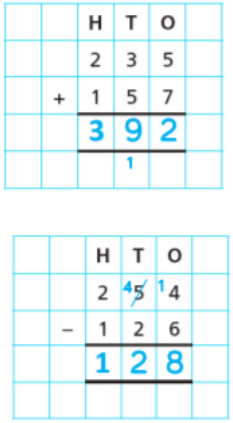
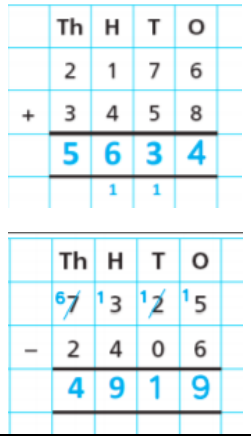
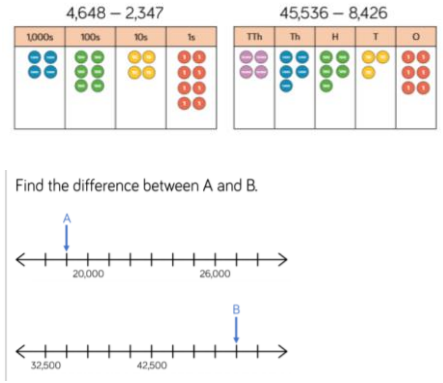
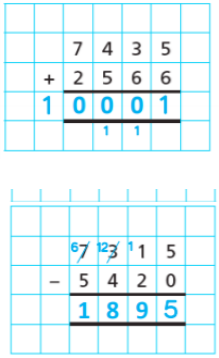
ADDITION & SUBTRACTION

	Recall/ Mental	Representations	Written	Representations	Problem Solving
Year 1	Represent and use number bonds and related subtraction facts within 20 Add and subtract one-digit and two-digit numbers to 20, including zero		Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs		Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9

Year 2	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers				Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods
Year 3	Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds		Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction		Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Year 4			Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate		Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
Year 5	Add and subtract numbers mentally with increasingly large numbers	 Partition	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)		Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

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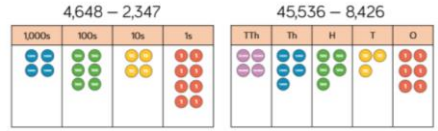
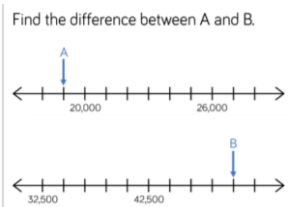
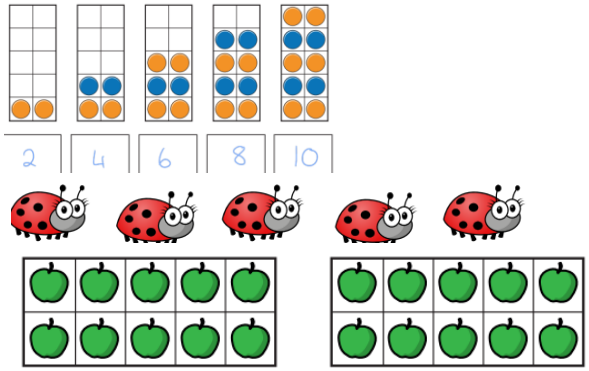
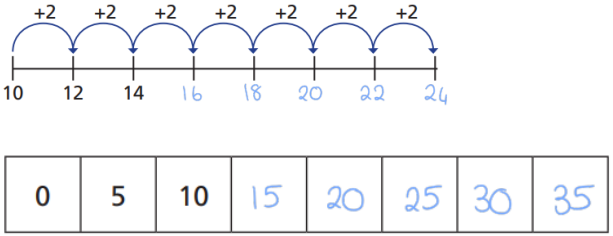
for Excellence in the
Teaching of Mathematics

Year 6	Perform mental calculations, including with mixed operations and large numbers	  Partition			Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

MULTIPLICATION & DIVISION

	Recall/ Mental	Representations	Written	Representations	Problem Solving
Year 1	Count in multiples of twos, fives and tens				Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher

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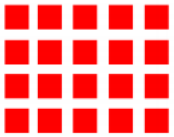
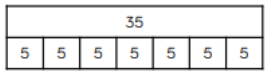
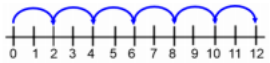
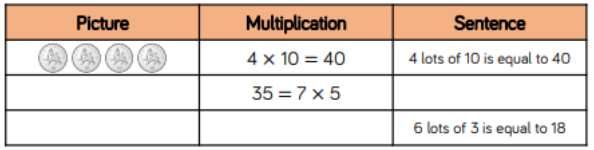
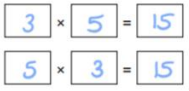
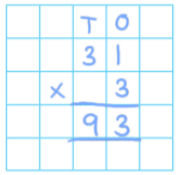
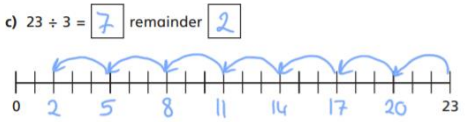
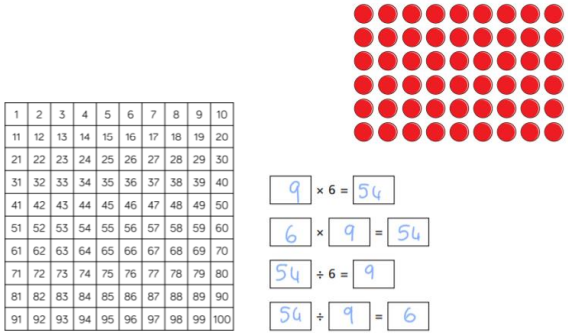
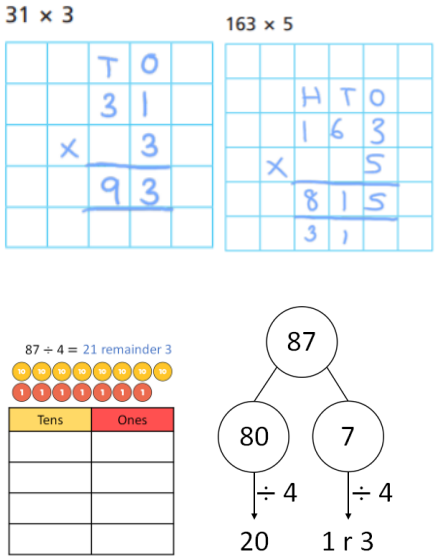
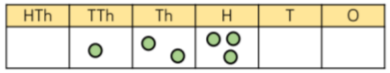
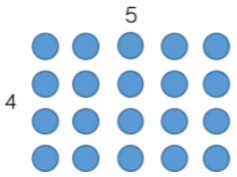
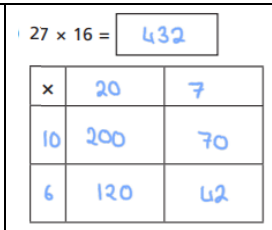
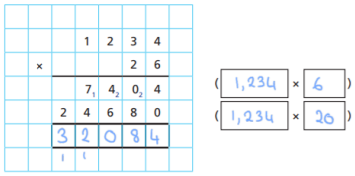
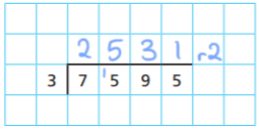
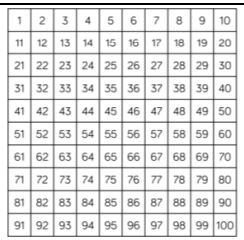
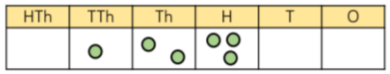
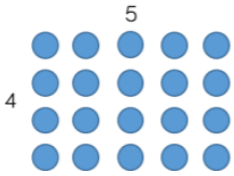
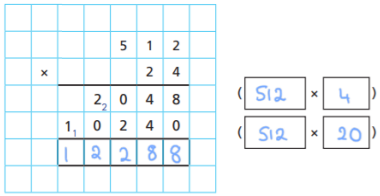
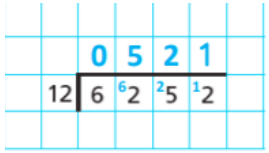
Year 2	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	 There are ___ groups of ___ pencils.  5 + 5 + 5 =   ÷ =	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	  7 × 10 10 + 10 + 10 + 10 + 10 + 10 + 10   I have ___ cubes altogether. There are ___ in each group. There are ___ groups. ÷ = × =	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
Year 3	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, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	31 × 3  	Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

Year 4	Recall multiplication and division facts for multiplication tables up to 12 × 12 Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers Recognise and use factor pairs and commutativity in mental calculations		Multiply two-digit and three-digit numbers by a one-digit number using formal written layout		Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Year 5	Multiply and divide numbers mentally drawing upon known facts Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	   	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	  	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

Year 6	Perform mental calculations, including with mixed operations and large numbers	   	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context	  	Solve problems involving addition, subtraction, multiplication and division

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A Department for Education initiative to enhance professional development across mathematics teaching

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