



Year	1	2	3	4	5	6
Key addition vocabulary	add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, is the same as, more than, greater than	sum, tens, units, ones, partition, addition, column, tens boundary	hundreds boundary, increase, vertical, 'carry', expanded, compact	thousands, hundreds, digits, inverse	decimal places, decimal point, tenths, hundredths, thousandths	
Key subtraction vocabulary	equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer/ less than, most, least, count back, how many left? how much less?	difference, count on, strategy, partition, tens, units, ones	exchange, decrease, hundreds, value, digit	inverse	tenths, hundredths, decimal point, decimal	
Key multiplication vocabulary	groups of, lots of, times, array, altogether, multiply, count	multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times...	partition, grid method, total, multiple, product, tens, units, value	sets of, inverse	square, cubed, factor, integer, decimal, short/long multiplication, 'carry', exchange	tenths, hundredths, decimal
Key division vocabulary	share, share equally, one each, two each..., group, groups of, lots of, array	divide, divided by, divided into, division, grouping, number line, left, left over	inverse, short division, 'carry', remainder, multiple	divisible by, factor, inverse, fraction, parts of	quotient, prime number, prime factors, composite number (non-prime), numerator, denominator, common multiple	common factor

### Resource ideas



Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
The video 'Number bonds to 10' demonstrates children practicing addition and subtraction number facts to 10. <a href="https://www.ncetm.org.uk/resources/40533">https://www.ncetm.org.uk/resources/40533</a>	The video 'Using resources to develop fluency', demonstrates how Year 2 children can use straws and base ten equipment to help them develop a conceptual understanding of addition. <a href="https://www.ncetm.org.uk/resources/40534">https://www.ncetm.org.uk/resources/40534</a>			Basic column addition explained. <a href="http://www.nationalstemcentre.org.uk/elibrary/resource/8530/column-addition">http://www.nationalstemcentre.org.uk/elibrary/resource/8530/column-addition</a> Problem solving language –exploring how the language used in problems is related to the operations needed to solve them. <a href="http://www.nationalstemcentre.org.uk/elibrary/resource/6036/problem-solving-language">http://www.nationalstemcentre.org.uk/elibrary/resource/6036/problem-solving-language</a>	
The video 'Number bonds to 10' demonstrates children practicing addition and subtraction number facts to 10. <a href="https://www.ncetm.org.uk/resources/40533">https://www.ncetm.org.uk/resources/40533</a>		Four classroom based videos that show the progression of subtraction in Key Stage two. <a href="https://www.ncetm.org.uk/resources/40532">https://www.ncetm.org.uk/resources/40532</a>	Developing column subtraction in key stage 2 <a href="https://www.ncetm.org.uk/resources/40532">https://www.ncetm.org.uk/resources/40532</a>	Subtraction videos with a particular focus on the vertical written method. <a href="https://www.ncetm.org.uk/resources/40532">https://www.ncetm.org.uk/resources/40532</a> Examples of column subtraction of numbers with up to 4 digits. <a href="http://www.nationalstemcentre.org.uk/elibrary/resource/8531/column-subtraction">http://www.nationalstemcentre.org.uk/elibrary/resource/8531/column-subtraction</a> Problem solving language –exploring how the language used in problems is related to the operations needed to solve them. <a href="http://www.nationalstemcentre.org.uk/elibrary/resource/6036/problem-solving-language">http://www.nationalstemcentre.org.uk/elibrary/resource/6036/problem-solving-language</a>	
'Multiple Representations' and 'The Commutative Law for Multiplication'	Multiple Representations of Multiplication - a suite of videos focusing on the teaching of multiplication. This one looks at the use of visual	Times Tables in Ten Minutes Jill Mansbergh shows a way of using a counting stick to learn	Multiplication Videos	The video 'From grid method to a column method' shows how children who are confident using the grid method for multiplication are able to discuss the similarities and	The video 'Moving from grid to compact method' shows how children can easily move

<p>Two videos demonstrating how to use visual resources to develop a good conceptual understanding of multiplication, and the importance of the commutative law for multiplication.  <a href="https://www.ncetm.org.uk/resources/40530">https://www.ncetm.org.uk/resources/40530</a></p>	<p>resources to develop clear conceptual understanding.  <a href="https://www.ncetm.org.uk/resources/40530">https://www.ncetm.org.uk/resources/40530</a>  <b>The Commutative Law for Multiplication</b> - this lesson shows children learning about commutativity using different apparatus.  <a href="https://www.ncetm.org.uk/resources/40530">https://www.ncetm.org.uk/resources/40530</a>  <b>BBC Learning Zone Class Clips</b> - This video shows how a multiplication fact can be written down in different ways.  <a href="http://www.bbc.co.uk/learningzone/clips/multiplication-with-turtles/839.html">http://www.bbc.co.uk/learningzone/clips/multiplication-with-turtles/839.html</a></p>	<p>times tables facts and the relationships between them. Can be adapted for any times table.  <a href="http://www.youtube.com/watch?v=yXdHGBfoqfw">http://www.youtube.com/watch?v=yXdHGBfoqfw</a></p>	<p>Key Stage 1 – Commutative Law, Lower Key Stage 2 – Grid Method and Upper Key Stage 2 Long Multiplication  <a href="https://www.ncetm.org.uk/resources/40530">https://www.ncetm.org.uk/resources/40530</a>  <b>Train seats</b>  Practical and motivating real life starting point with more challenging application of division and multiplication knowledge and skills  <a href="http://www.tes.co.uk/teaching-resource/Multiplication-and-Division-Seats-on-a-Train-6085190">http://www.tes.co.uk/teaching-resource/Multiplication-and-Division-Seats-on-a-Train-6085190</a>  <b>Method in Multiplying Madness</b>  Videos comparing grid method with long multiplication.  <a href="http://nrich.maths.org/5612">http://nrich.maths.org/5612</a></p>	<p>differences between the grid method and column method and successfully move from one to the other.  <a href="https://www.ncetm.org.uk/resources/40530">https://www.ncetm.org.uk/resources/40530</a></p>	<p>from the grid method to the compact method, whilst maintaining conceptual understanding.  <a href="https://www.ncetm.org.uk/resources/40530">https://www.ncetm.org.uk/resources/40530</a></p>
			<p><b>Train seats</b>  Practical and motivating real life starting point with more challenging application of division and multiplication knowledge and skills  <a href="http://www.tes.co.uk/teaching-resource/Multiplication-and-Division-Seats-on-a-Train-6085190">http://www.tes.co.uk/teaching-resource/Multiplication-and-Division-Seats-on-a-Train-6085190</a></p>		