

Year 4	Multiplication Year 5	Year 6
<p>Multiplication Objectives (excluding rapid recall)</p> <p><u>Calculations</u> <u>52–57 Understanding multiplication and division</u> 54 Extend understanding of the operations of \times and \div, and their relationship to each other and to $+$ and $-$. Understand the principles (not the names) of the commutative, associative and distributive laws as they apply to multiplication.</p> <p><u>60–65 Mental calculation strategies (x and \div)</u> 60 Use doubling or halving, starting from known facts. For example: double/halve two-digit numbers by doubling/halving the tens first; to multiply by 4, double, then double again; to multiply by 5, multiply by 10 then halve; find the 8 times-table facts by doubling the 4 times-table; 62 Use closely related facts (e.g. to multiply by 9 or 11, multiply by 10 and adjust; develop the $\times 6$ table from the $\times 4$ and $\times 2$ tables). 62 Partition (e.g. $23 \times 4 = (20 \times 4) + (3 \times 4)$). 62 Use the relationship between \times and \div 64 Use known number facts and place value to multiply and divide integers, including by 10 and then 100 (whole-number answers).</p> <p><u>66–69 Pencil and paper procedures (x and \div)</u> 66 Approximate first. Use informal pencil and paper methods to support, record or explain multiplications. Develop and refine written methods for $TU \times U$.</p>	<p>Multiplication Objectives (excluding rapid recall)</p> <p><u>Calculations</u> <u>52–57 Understanding multiplication and division</u> 53, 55 Understand the effect of and relationships between the four operations, and the principles (not the names) of the arithmetic laws as they apply to multiplication. Begin to use brackets.</p> <p><u>60–65 Mental calculation strategies (x and \div)</u> 61 Use doubling or halving, starting from known facts. For example: double/halve any two-digit number by doubling/halving the tens first; double one number and halve the other; to multiply by 25, multiply by 100 then divide by 4; find the $\times 16$ table facts by doubling the $\times 8$ table; . 61 Use factors (e.g. $8 \times 12 = 8 \times 4 \times 3$). 63 Use closely related facts (e.g. multiply by 19 or 21 by multiplying by 20 and adjusting; develop the $\times 12$ table from the $\times 10$ and $\times 2$ tables). 63 Partition (e.g. $47 \times 6 = (40 \times 6) + (7 \times 6)$). 63 Use the relationship between multiplication and division. 65 Use known facts and place value to multiply and divide mentally.</p> <p><u>66–69 Pencil and paper procedures (x and \div)</u> 67 Approximate first. Use informal pencil and paper methods to support, record or explain multiplications. Extend written methods to: short multiplication of HTU or TU by U; long multiplication of TU by TU;</p>	<p>Multiplication Objectives (excluding rapid recall)</p> <p><u>Calculations</u> <u>52–57 Understanding multiplication and division</u> 53, 55 Understand and use the relationships between the four operations, and the principles (not the names) of the arithmetic laws. Use brackets.</p> <p><u>60–65 Mental calculation strategies (x and \div)</u> 61 Use related facts and doubling or halving. For example: double or halve the most significant digit first; to multiply by 25, multiply by 100 then divide by 4; double one number and halve the other; find the $\times 24$ table by doubling the $\times 6$ table twice. 61 Use factors (e.g. $35 \times 18 = 35 \times 6 \times 3$). 63 Use closely related facts: for example, multiply by 49 or 51 by multiplying by 50 and adjusting. Develop the $\times 17$ table by adding facts from the $\times 10$ and $\times 7$ tables. 63 Partition (e.g. $87 \times 6 = (80 \times 6) + (7 \times 6)$) 63 Use the relationship between \times and \div. 65 Use known number facts and place value to consolidate mental multiplication and division.</p> <p><u>66–69 Pencil and paper procedures (x and \div)</u> 67 Approximate first. Use informal pencil and paper methods to support, record or explain multiplications. Extend written methods to: multiplication of ThHTU by U (short multiplication); short multiplication of numbers involving decimals; long multiplication of a three-digit by a two-digit integer;</p>

Year 4

Multiplication Year 5

Year 6

x = signs and missing numbers

Continue using a range of equations as in Year 2 but with appropriate numbers

Partition

$$23 \times 4 = 92$$

$$23 \times 4 = (20 \times 4) + (3 \times 4) = 92$$

OR

Use the grid method of multiplication (as below)

Pencil and paper procedures

Grid method

23 x 7 is approximately 20 x 10 = 200

x	20	3	
7	140	21	= 161

x = signs and missing numbers

Continue using a range of equations as in Year 2 but with appropriate numbers

Partition

$$47 \times 6 = 92$$

$$47 \times 6 = (40 \times 6) + (7 \times 6) = 282$$

OR

Use the grid method of multiplication (as below)

Pencil and paper procedures

Grid method

72 x 38 is approximately 70 x 40 = 2800

x	70	2	
30	2100	60	= 2160
8	560	16	= <u>576</u>
			2736

Extend to simple decimals with one decimal place.

x = signs and missing numbers

Continue using a range of equations as in Year 2 but with appropriate numbers

Partition

$$87 \times 6 = 522$$

$$87 \times 6 = (80 \times 6) + (7 \times 6) = 522$$

OR

Use the grid method of multiplication (as below)

Pencil and paper procedures

Grid method

372 x 24 is approximately 400 x 20 = 8000

x	300	70	2	
20	6000	1400	40	= 7440
4	1200	280	8	= <u>1488</u>
				8928

Extend to decimals with up to two decimal places.