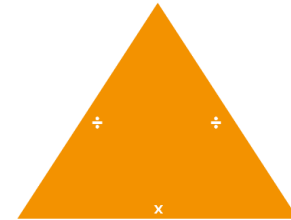
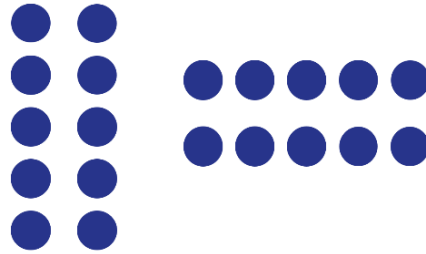
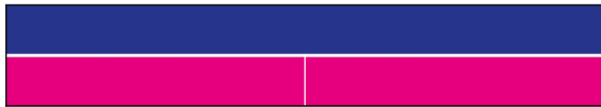


Known and Related Facts – Multiplication and Division

EYFS and Key Stage 1

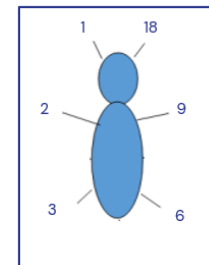
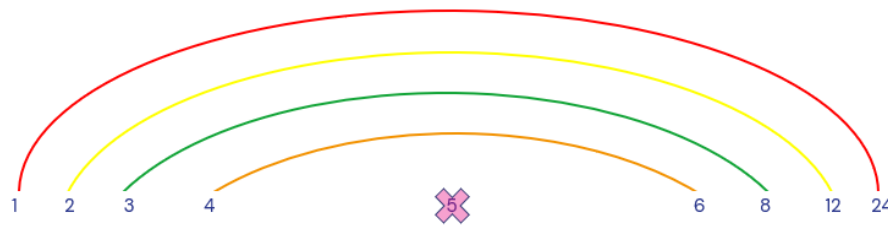
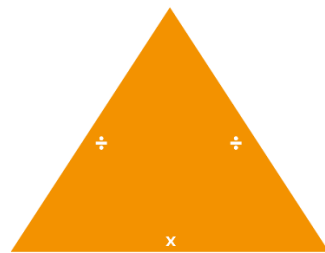
EYFS	Year 1	Year 2
Double numbers up to 5.  Find half of 10, 8, 6, 4 and 2.	Double numbers up to 10.  Recall half of 10, 8, 6, 4 and 2.  Count on and back in 2s, 5s, and 10s  Share into 2, 5 and 10 equal groups.	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables.  Link multiplying and dividing by 2 to doubling and halving.



## Known and Related Facts – Multiplication and Division

### Key Stage 2

Year 3	Year 4	Year 5	Year 6
<p>Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables.</p> <p>Use place value knowledge to derive scaled multiplication facts. (Scaled by 10)</p> <p>Count in multiples of 50 and 100 and explain the relationship between them.</p>	<p>Recall and use multiplication and division facts for multiplication tables up to 12 x 12.</p> <p>Use place value knowledge to derive scaled multiplication facts. (Scaled by 100)</p> <p>Count in multiples of 25 and 1000.</p> <p>Use place value knowledge to derive scaled multiplication facts. (Scaled by, 1000, <math>\frac{1}{10}</math> or <math>\frac{1}{100}</math>.)</p>	<p>Recall and use multiplication and division facts for multiplication tables up to 12 x 12.</p> <p>Use place value knowledge to derive scaled multiplication facts. (Scaled by, 1000, <math>\frac{1}{10}</math> or <math>\frac{1}{100}</math>.)</p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Recall prime numbers up to 19.</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>)</p>	<p>Recall and use multiplication and division facts for multiplication tables up to 12 x 12.</p> <p>Solve missing box calculations with a range of scaled facts.</p> <p style="text-align: center;"><math>0.4 \times ? = 2.4</math> <math>2400 \div ? = 80</math></p> <p>Identify common factors, common multiples and prime numbers.</p> <p>Continue sequences involving multiplication (Algebra).</p>



Progression in Mental Multiplication

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Known and Related Facts	-	$5 \times 2 = 2 \times 5$	$4 \times 8$ $40 \times 8$	$6 \times 7$ $60 \times 7$ $600 \times 7$	$4,000 \times 7$ $40 \times 70$ $400 \times 70$ $0.4 \times 7$ $0.04 \times 7$	$? \times 7 = 28,000$ $40 \times ? = 2,800$ $400 \times ? = 28,000$ $0.4 \times ? = 2.8$ $? \times 7 = 0.28$
Doubling	Double 9	Double 14 Double 17 Double 40 Double 35	Double 38 Double 70 Double 65 Double 300 $6 \times 4$ $7 \times 8$	Double 78 Double 340 Double 800 Double 4,000 $16 \times 4$ $15 \times 8$	Double 678 Double 8,000 Double 12,000 Double 7.8 $125 \times 4$ $120 \times 8$	Apply doubling to problem solving and algebra. $2n + 4 =$
Multiplying by Powers of 10	-	$3 \times 10$	$30 \times 10$	$36 \times 10$ $845 \times 10$ $68 \times 100$	$38,456 \times 10$ $3,672 \times 100$ $782 \times 1,000$ $6.48 \times 10/100/1,000$	$6.936 \times 10/100/1000$
Partitioning	-	-	$24 \times 5$	$132 \times 3$	$2.62 \times 4$	All of these methods are taught prior to Year 6. Children will reflect on the numbers involved in a calculation and choose the most appropriate strategy.
Compensating	-	$2 \times 9$	$8 \times 9$	$7 \times 9$ $39 \times 5$	$150 \times 9$	
Associative Law	-	-	-	$2 \times 4 \times 7$ $= 2 \times 7 \times 4$	$6 \times 4 \times 7$ $= 6 \times 7 \times 4$	
Distributive Law	-	-	-	$6 \times 7 = 6 \times (5 + 2)$ $= 6 \times 5 + 6 \times 2$ $= 30 + 12$	$250 \times 7$ $= 250 \times (4 + 3)$ $= 1000 + 750$	
Double one side, half the other	-	-	-	$18 \times 5$ $24 \times 5$	$24 \times 50$ $36 \times 25$	
Multiplying by a Power of 10 and halving	-	-	$8 \times 5$	$6 \times 5$ $18 \times 5$ $24 \times 5$	$18 \times 5$ $24 \times 50$ $36 \times 25$	
Factorising	-	-	-	$7 \times 6$ $= 7 \times 3 \times 2$	$53 \times 20$ $= 53 \times 2 \times 10$ Or $= 53 \times 10 \times 2$	

Progression in Mental Division

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Known and Related Facts	-	$10 \div 2 = 5$ $10 \div 5 = 2$	$32 \div 4$ $320 \div 4$	$42 \div 7$ $420 \div 7$ $4,200 \div 7$	$28,000 \div 7$ $2,800 \div 70$ $28,000 \div 70$ $2.8 \div 7$ $0.28 \div 7$	$2.8 \div ? = 0.4$ $0.28 \div ? = 7$
Halving	Halve 8	Halve 16 Halve 80 Halve 90	Halve 84 Halve 92 Halve 140 Halve 130 Halve 800 $28 \div 4$	Halve 156 Halve 680 Halve 1,600 Halve 8,000 $64 \div 4$ $120 \div 8$	Halve 1,350 Halve 16,000 Halve 15.6 $500 \div 4$ $1,000 \div 8$	Apply halving to problem solving and algebra. $\frac{n}{2} + 7$
Dividing by Powers of 10	-	$70 \div 10$	$300 \div 10$	$360 \div 10$ $7 \div 10$ $45 \div 10$ $8 \div 100$ $76 \div 100$	$38.2 \div 10$ $3,672 \div 100$ $6,450 \div 1,000$	$76.62 \div 10$ $64.2 \div 100$ $782 \div 1,000$
Distributive Law	-	-	-	$48 \div 3$ $= 30 \div 3 + 18 \div 3$	$384 \div 6$ $= 360 \div 6 + 24 \div 6$	In Year 6, children will apply the distributive law of division to chunking.
Factorising	-	-	-	-	$460 \div 20$ $= 460 \div 10 \div 2$ or $= 460 \div 2 \div 10$	$120 \div 15$ $= 120 \div 3 \div 5$