



Calculation Policy

Beaconside Primary and Nursery School



Addition

Nursery and Reception

Recognise numbers 0 to 10

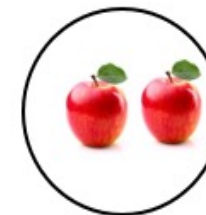
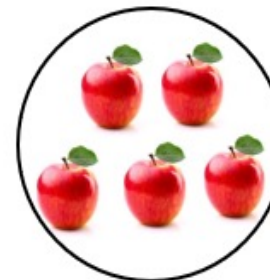
0 1 2 3 4 5 6 7 8 9 10

Use language 'more' - which pile has more apples?

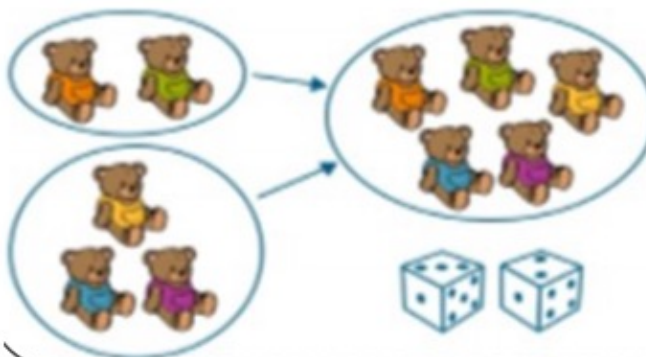


1, 2, 3, 4, 5, 6
... there are 6
teddies

Count reliably up to 10 everyday objects



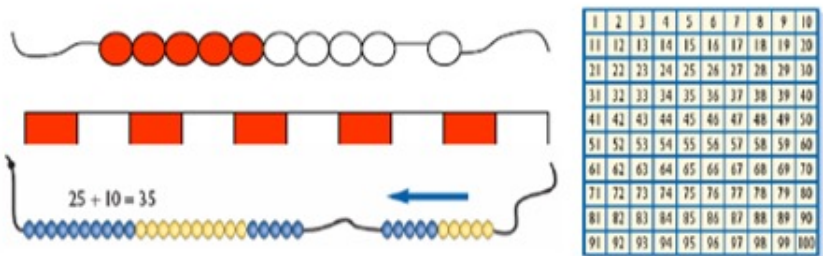
Find the total number of items in two groups by counting them.



3 bears and 2 bears is 5
bears altogether.

$$3 + 2 = 5$$

Reception and Year 1



Count in ones and tens

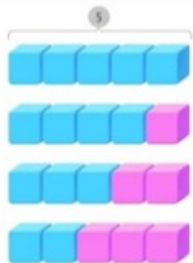
Recognise and use number bonds up to 20.



$3 + 2 = 5$



Count along a number line to add numbers together



Make 6

2 and 4 3 and 3 4 and 2

0 and 6 1 and 5 5 and 1

Number Bonds to 10

0 + 10 1 + 9 2 + 8 3 + 7

4 + 6 5 + 5 6 + 4

7 + 3 8 + 2 9 + 1 10 + 0

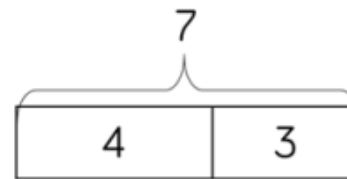
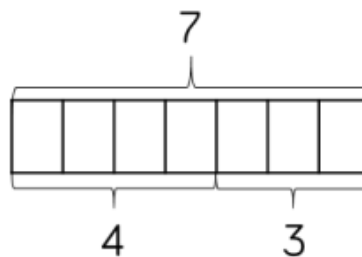
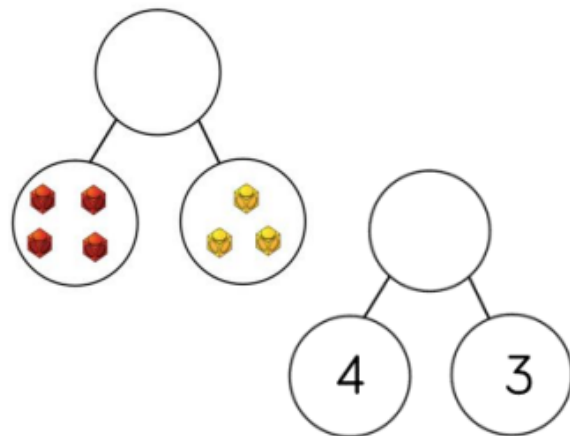
Begin to use the + and = signs to record mental calculations in a number sentence

$6 + 4 = 10$

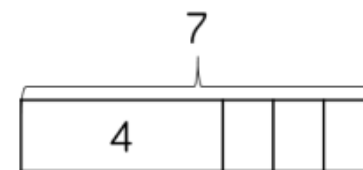
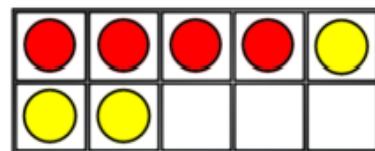


Year 1

Skill: Add 1-digit numbers within 10

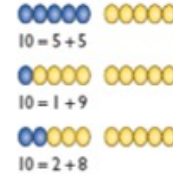
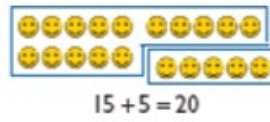
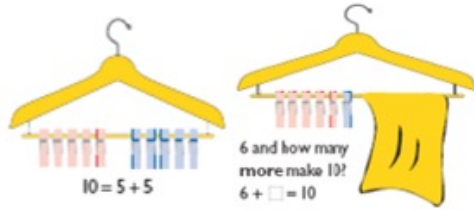
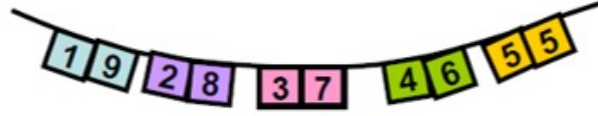


$$4 + 3 = 7$$

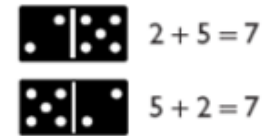


Year 1 and Year 2

Know by heart all pairs of numbers with a total of 10 and 20



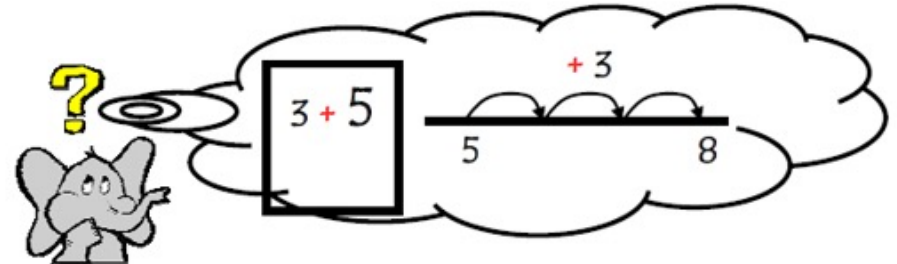
Know addition can be completed in any order.



Add three one-digit numbers.



Put the biggest number first and count on

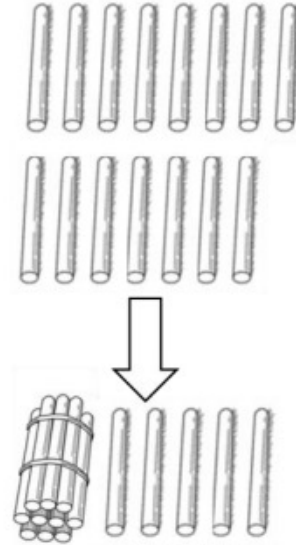
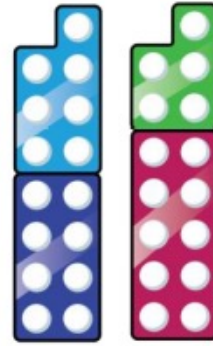
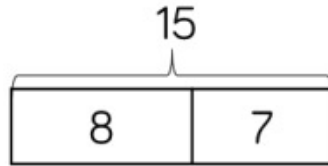
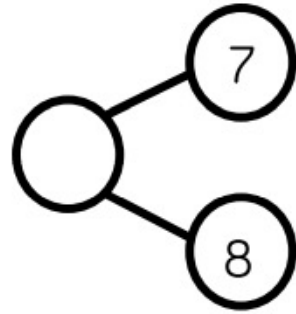


Can you add to find out how many flowers there are in total?

Understand the place value of each digit in a 2-digit number.

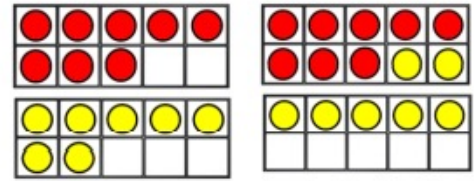
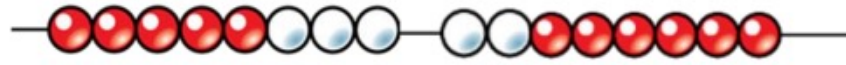
Year 1 and Year 2

Skill: Add 1 and 2-digit numbers to 20



$$8 + 7 = 15$$

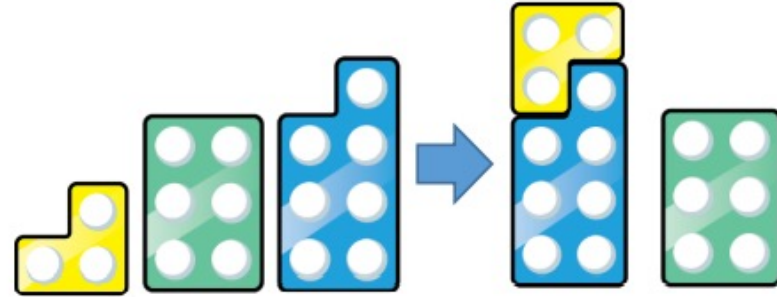
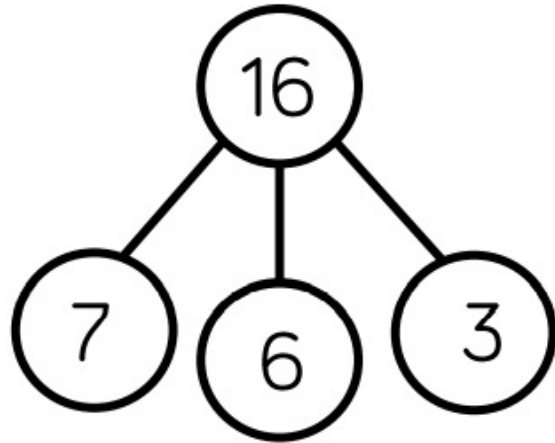
$$8 + 7 = 15$$



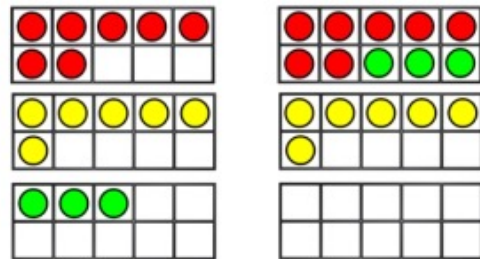
$$8 + 7 = 15$$

Year 2

Skill: Add three 1-digit numbers

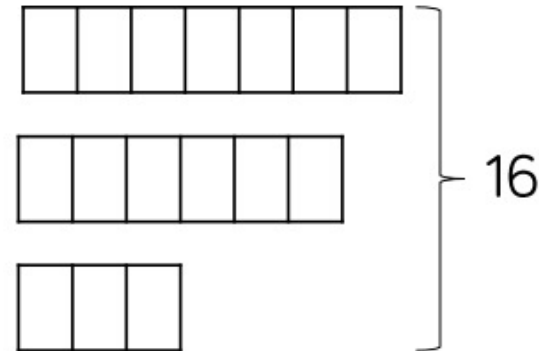


$$7 + 6 + 3 = 16$$



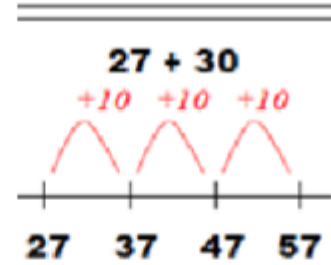
$$7 + 6 + 3 = 16$$

10



Year 2

Mental addition - count on in 10s.



Add two 2-digit numbers using column method (if children have tried the column method and cannot complete this due to a lack of understanding of place value - use the expanded column method).

Always start with the ones column.

7	6
+ 2	5
<hr/>	
1	0
1	1

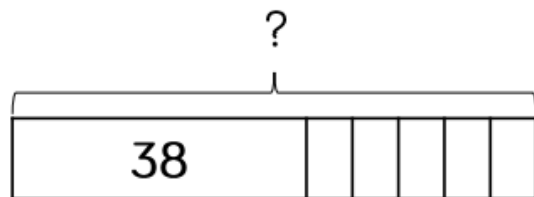
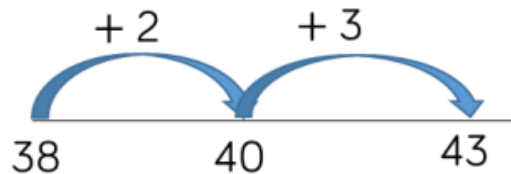
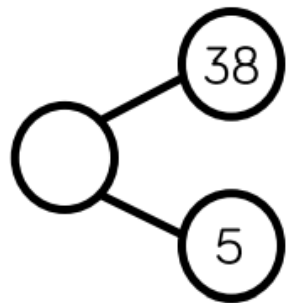
8	4
+ 3	3
<hr/>	
1	1
1	7

Expanded column method.

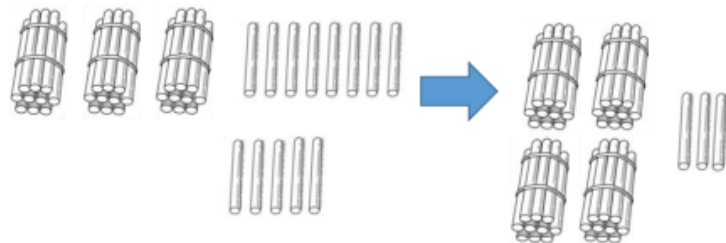
	2	3
+	3	4
<hr/>		
	7	
	5	0
<hr/>		
	5	7

Year 2 and Year 3

Skill: Add 1-digit and 2-digit numbers to 100



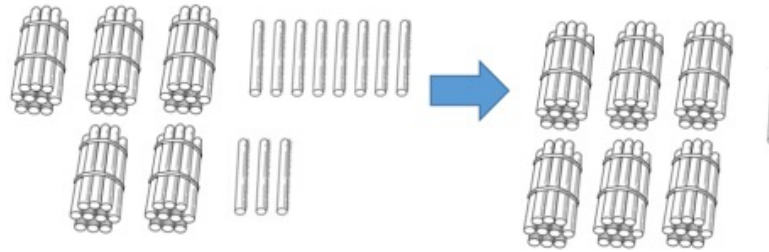
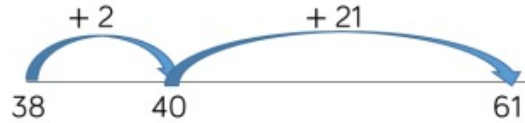
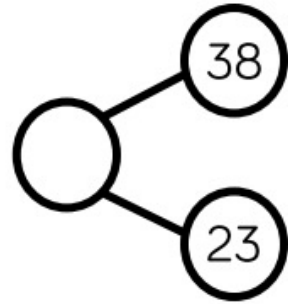
$$38 + 5 = 43$$



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Year 2 and Year 3

Skill: Add two 2-digit numbers to 100



?	
38	23

$$38 + 23 = 61$$

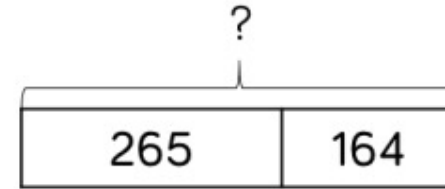
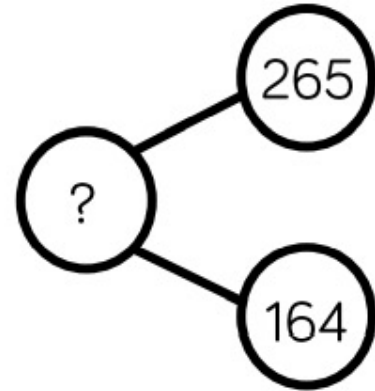
Tens	Ones

$$\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$$

Tens	Ones

Year 3

Skill: Add numbers with up to 3 digits



$$265 + 164 = 429$$

Hundreds	Tens	Ones

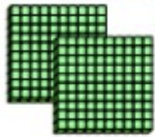
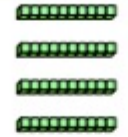

$$\begin{array}{r} 265 \\ + 164 \\ \hline 429 \\ 1 \end{array}$$

Hundreds	Tens	Ones

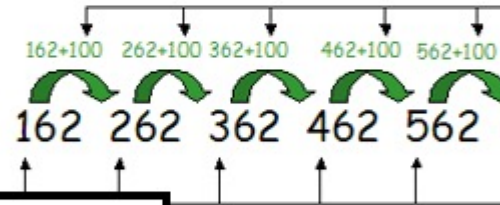
A green arrow points from the bottom of the Tens column in the second row to a red 100-block below the table, indicating a carry-over.

Year 3

Understand the place value of each digit in a 3-digit number.

hundreds	tens	ones
		
2	4	7
200	40	7

Mental addition - count on in 10s and 100s.



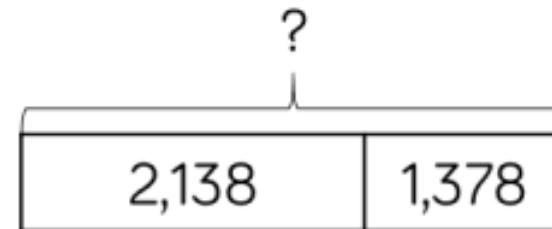
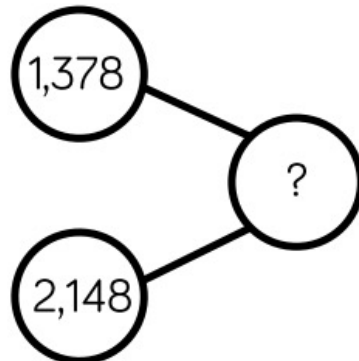
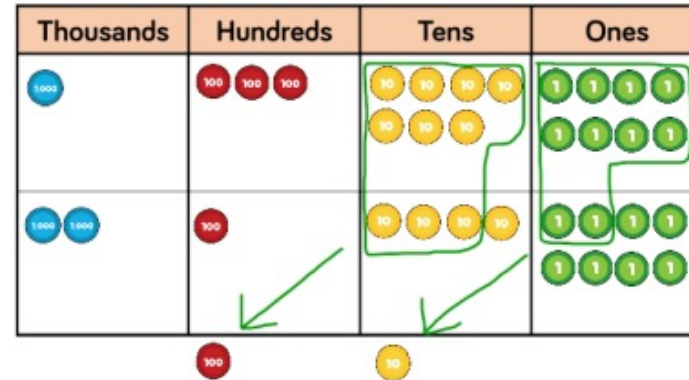
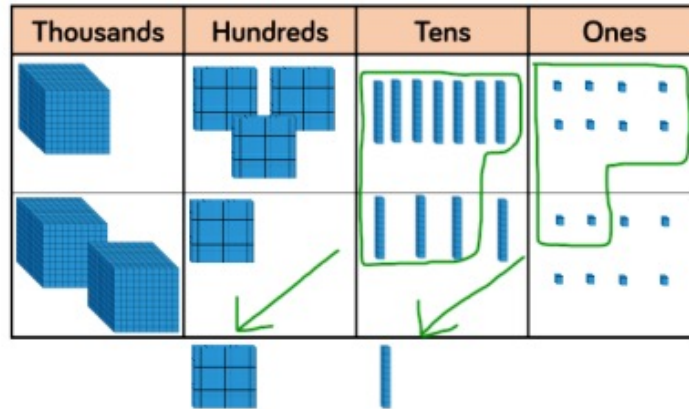
Add two 3-digit numbers using the column method.

	7	2	4
+	1	9	6
<hr/>			
	9	2	0

Year 4

Skill: Add numbers with up to 4 digits

$$1,378 + 2,148 = 3,526$$



Year 4

Understand the place value of each digit in a 4-digit number.

Place Value Chart for 4 digit Numbers

Thousands	Hundreds	Tens	Ones
1	4	8	9

Mental addition - count on in 10s, 100s and 1000s.

Add two 4-digit numbers using the column method.

$$\begin{array}{r} 4059 \\ + 3767 \\ \hline 7826 \end{array}$$

Year 5

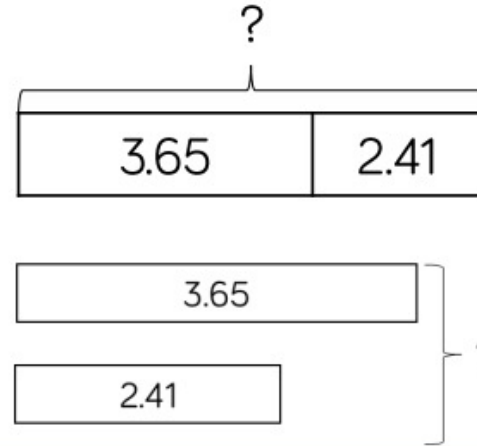
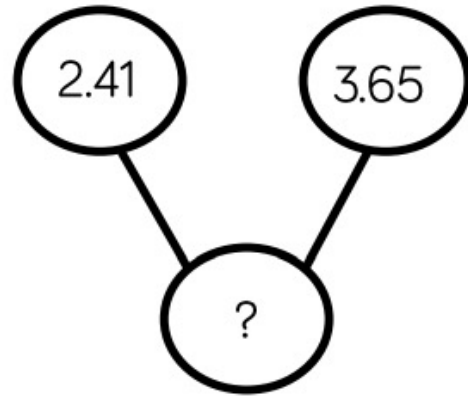
Understand the place value of each digit in a 5-digit and 6-digit number.



Mental addition - count on in 10s, 100s, 1000s, 10,000s and 100,000s.

Year 5

Skill: Add with up to 3 decimal places



$$\begin{array}{r} 3.65 \\ + 2.41 \\ \hline 6.06 \\ 1 \end{array}$$

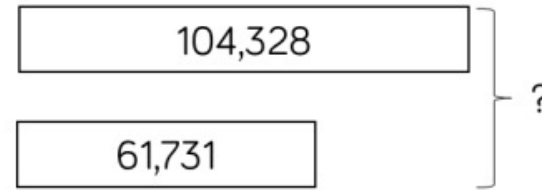
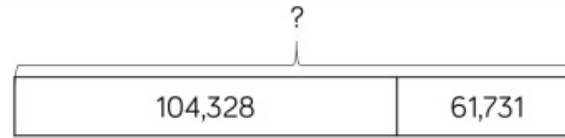
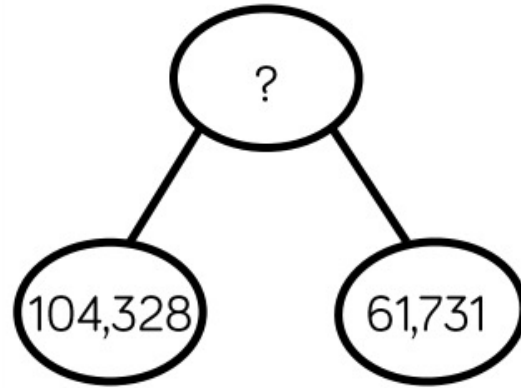
$$3.65 + 2.41 = 6.06$$

Ones	Tenths	Hundredths
1 1 1	0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01 0.01 0.01
1 1	0.1 0.1 0.1 0.1	0.01
1		

Ones	Tenths	Hundredths
3	6	6
2	4	1
1		

Year 5 and Year 6

Skill: Add numbers with more than 4 digits



$$104,328 + 61,731 = 166,059$$

HTh	TTh	Th	H	T	O
100000		1000 1000 1000 1000	100 100 100	10 10	1 1 1 1 1
	10000 10000 10000 10000	1000	100 100 100 100 100	10 10 10	1

1	0	4	3	2	8
+	6	1	7	3	1
1	6	6	0	5	9

1

Year 6

Understand the place value of each digit in a 7-digit and 8-digit number.

Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
------------------	--------------	----------	-------------------	---------------	-----------	----------	------	------

Add decimals using the column method.

$$\begin{array}{r} 68.4 \\ + 26.8 \\ \hline 95.2 \end{array}$$

$$\begin{array}{r} 254.26 \\ + 368.80 \\ \hline 623.06 \end{array}$$



Subtraction

Nursery and Reception

Recognise numbers 0 to 10

0 1 2 3 4 5 6 7 8 9 10

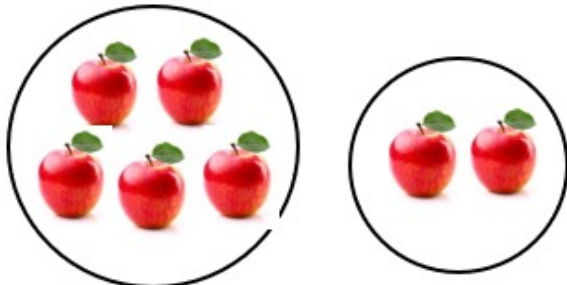


1, 2, 3, 4, 5, 6
... there are 6
teddies

Count reliably up to 10 everyday objects

Count on or back from any number.

Use language 'fewer' - which pile has fewer apples?

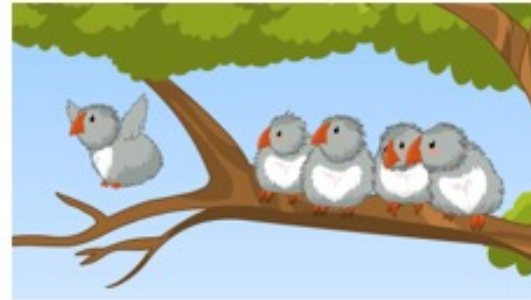


Ten green bottles
standing on the
wall...



Nursery and Reception

Understand taking away - remove objects and count.



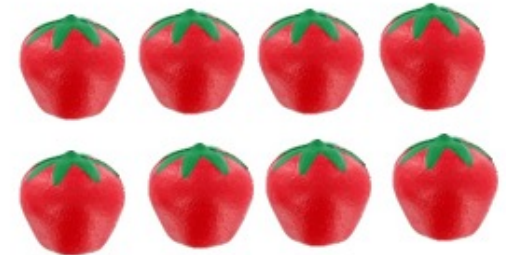
Reception

Understand subtraction - finding the difference.

Counting up or counting back.



How many more than 5 is 8?



Reception

5 frogs subtract 2
frogs is 3 frogs.

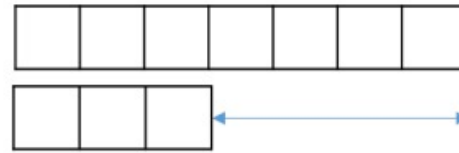
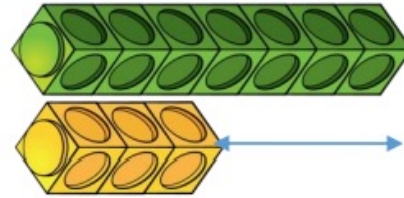
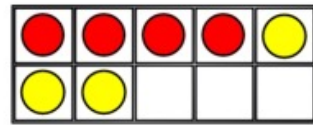
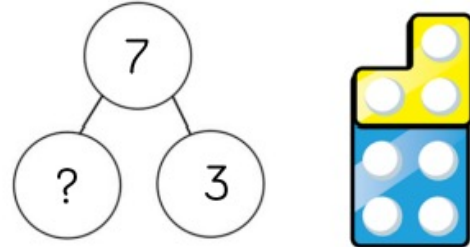
$$5 - 2 = 3$$



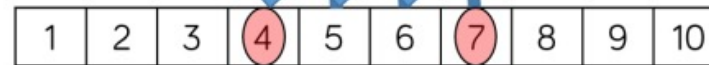
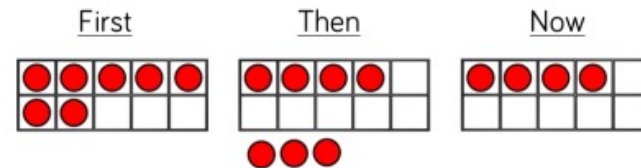
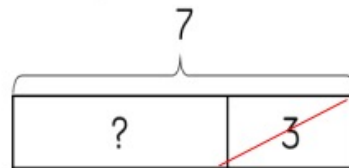
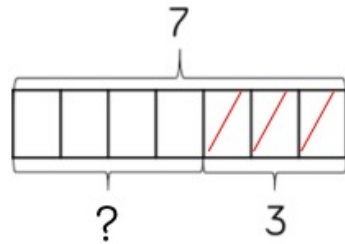
Begin to use the - and = signs to record mental
calculations in a number sentence.

Year 1

Skill: Subtract 1-digit numbers within 10

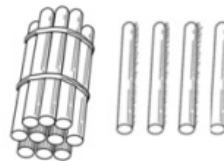
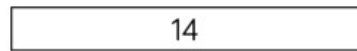
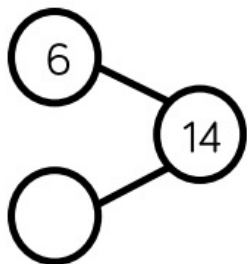


$$7 - 3 = 4$$

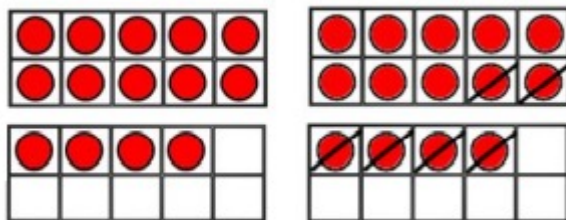


Year 1 and Year 2

Skill: Subtract 1 and 2-digit numbers to 20



$$14 - 6 = 8$$

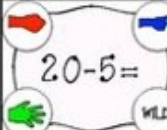

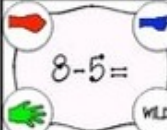

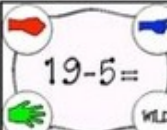

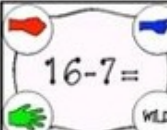

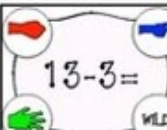

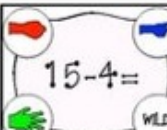



$$14 - 6 = 8$$

4 2

Year 1 and Year 2

Know subtraction facts within 20.

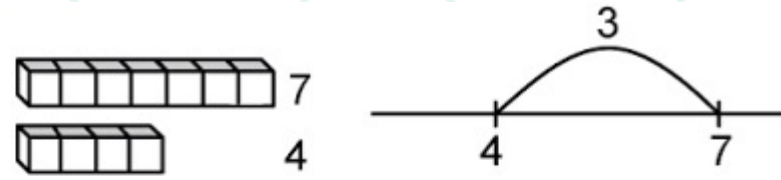
 $20-5=$ 	 $8-5=$ 
 $19-5=$ 	 $16-7=$ 
 $13-3=$ 	 $15-4=$ 

Subtract one and two digit numbers.

$$10 - 6 = 4$$



Year 1 and Year 2



The difference between 7 and 4 is 3.

Solve problems involving missing numbers.



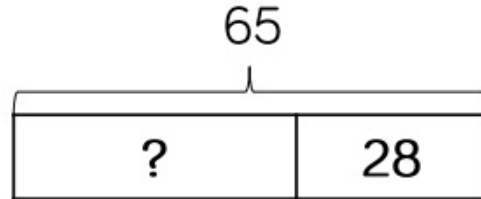
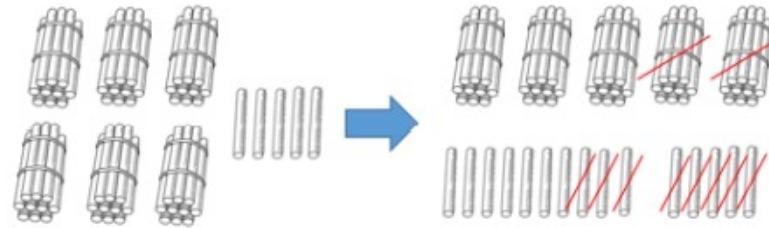
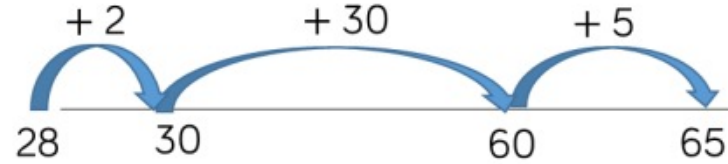
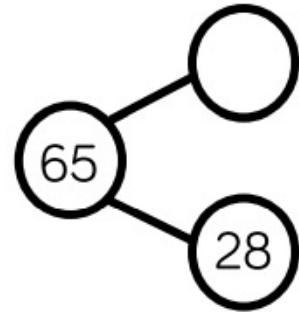
$$6 + ? = 10$$
$$10 - 6 = ?$$



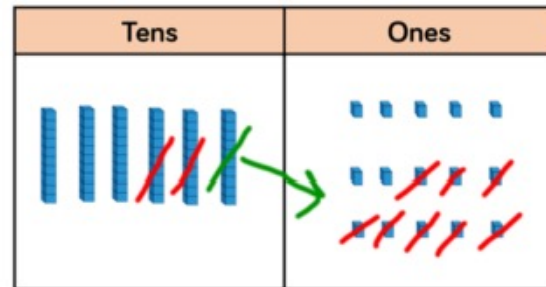
$$? + 6 = 10$$
$$10 - 4 = 6$$

Year 2

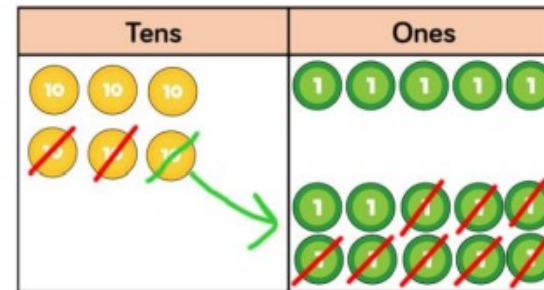
Skill: Subtract 1 and 2-digit numbers to 100



$$65 - 28 = 37$$



$$\begin{array}{r} 5 \ 1 \\ 65 \\ - 28 \\ \hline 37 \end{array}$$



Year 2

Mental subtraction - count back in 10s.

100, 90, 80, 70, ?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

76... 66,
56, 46

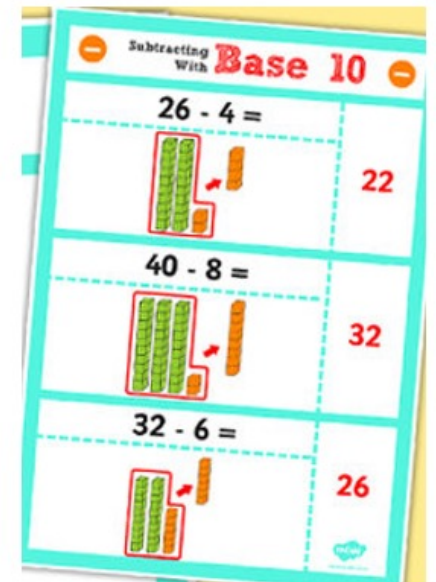
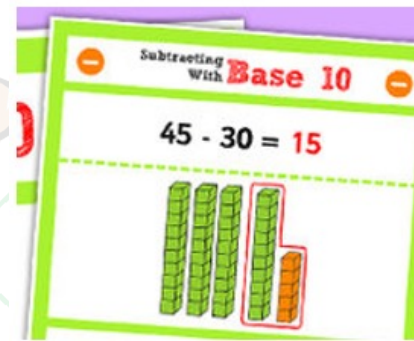
$96 - 10 = 86$
 $86 - 10 = 76$
 $76 - 10 = 66$
etc.
 $76 - 30 = 46$

Subtract two 2-digit numbers using column method.

$$\begin{array}{r} 79 \\ - 46 \\ \hline 33 \end{array}$$

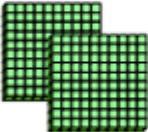
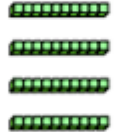

Always start with the ones column.

Use base 10 equipment to subtract.



Year 3

Understand the place value of each digit in a 3-digit number.

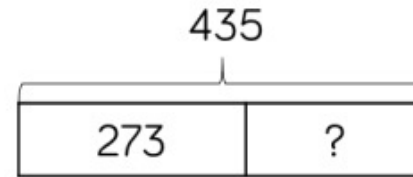
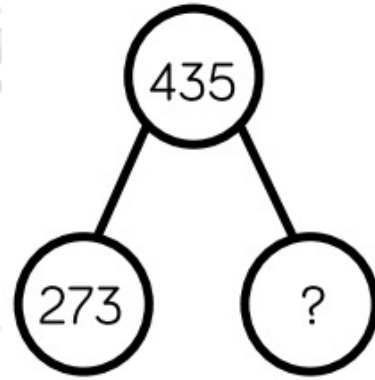
hundreds	tens	ones
		
2 200	4 40	7 7

Mental subtraction - count back in 10s and 100s.



Year 3

Skill: Subtract numbers with up to 3 digits



$$435 - 273 = 262$$

Hundreds	Tens	Ones

$$\begin{array}{r} 3 \quad 1 \\ 435 \\ - 273 \\ \hline 262 \end{array}$$

Hundreds	Tens	Ones

Year 3

Subtract two 2-digit numbers in the column method using decomposition.

Exchange 1 ten for ten ones.

$$\begin{array}{r} \overset{6}{7} \overset{1}{3} \\ - 46 \\ \hline 27 \end{array}$$

Exchange 1 ten for ten ones.

Then exchange 1 hundred for ten tens.

Subtract two 3-digit numbers in the column method.

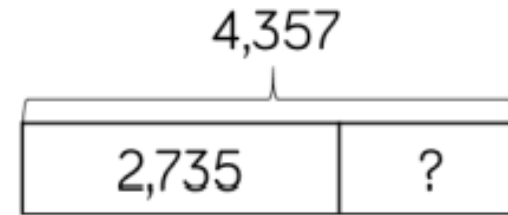
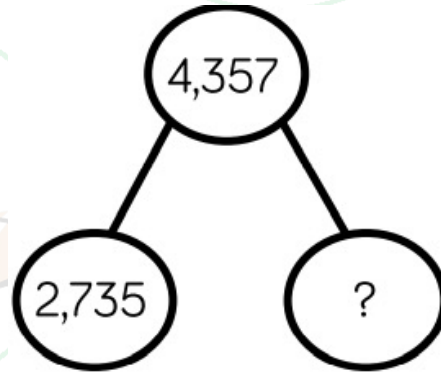
$$\begin{array}{r} 973 \\ - 342 \\ \hline 631 \end{array}$$

$$\begin{array}{r} 3 \overset{8}{0} \overset{1}{5} \\ - 267 \\ \hline 128 \end{array}$$

$$\begin{array}{r} \overset{7}{0} \overset{4}{0} \overset{1}{6} \\ - 298 \\ \hline 558 \end{array}$$

Year 4

Skill: Subtract numbers with up to 4 digits



$$4,357 - 2,735 = 1,622$$

Thousands	Hundreds	Tens	Ones

Thousands	Hundreds	Tens	Ones

Year 4

Understand the place value of each digit in a 4-digit number.

Place Value Chart for 4 digit Numbers			
Thousands	Hundreds	Tens	Ones
1	4	8	9

Mental subtraction - count back in 10s, 100s and 1000s.

Subtract two 4-digit numbers using the column method.

$$\begin{array}{r} 5 \overset{13}{\cancel{4}} 2 9 \\ - 3 6 8 2 \\ \hline 2 7 4 7 \end{array}$$

$$\begin{array}{r} 3 \overset{8}{\cancel{0}} \overset{1}{\cancel{0}} \overset{9}{1} 2 \\ - 1 5 8 3 \\ \hline 2 3 1 9 \end{array}$$

Year 5

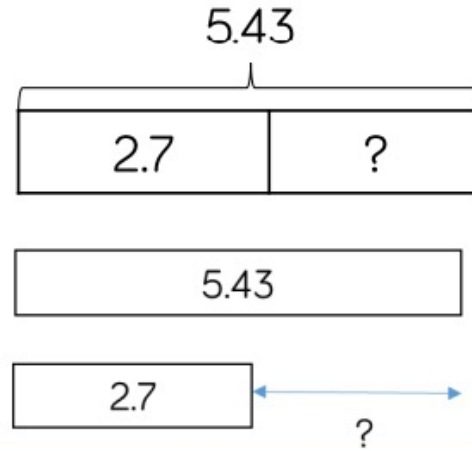
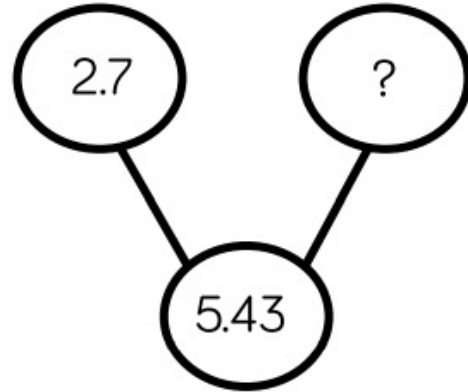
Understand the place value of each digit in a 5-digit and 6-digit number.



Mental subtraction - count back in 10s, 100s, 1000s, 10,000s and 100,000s.

Year 5

Skill: Subtract with up to 3 decimal places



$$\begin{array}{r} 4 \quad 1 \\ 5.43 \\ - 2.7 \\ \hline 2.73 \end{array}$$

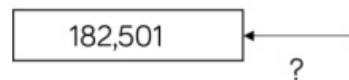
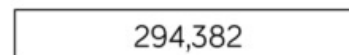
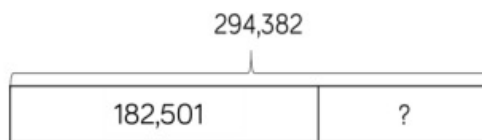
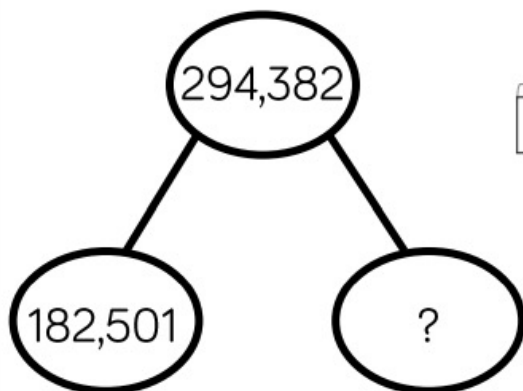
$$5.43 - 2.7 = 2.73$$

Ones	Tenths	Hundredths
1 1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01

Ones	Tenths	Hundredths
1 1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01

Year 5 and Year 6

Skill: Subtract numbers with more than 4 digits



$$294,382 - 182,501 = 111,881$$

HTh	TTh	Th	H	T	O
10000 10000	10000 10000 10000 10000 10000 10000	1000 1000 1000 1000	100 100 100 100 100 100 100 100 100 100 100 100	10 10 10 10 10 10 10 10	1 1

	2	9	3	1 3	8	2
-	1	8	2	5	0	1
	1	1	1	8	8	1

Year 6

Understand the place value of each digit in a 7-digit and 8-digit number.

Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
------------------	--------------	----------	-------------------	---------------	-----------	----------	------	------

Subtract decimals using the column method.

$$\begin{array}{r} \overset{8}{\cancel{9}} \quad \overset{4}{4} \quad \overset{4}{\cancel{5}} \quad \overset{1}{.} \overset{7}{7} \\ - \quad 3 \quad 6 \quad 4 \quad \cdot \quad 8 \\ \hline 5 \quad 8 \quad 0 \quad \cdot \quad 9 \end{array}$$

$$\begin{array}{r} 4 \quad \overset{6}{\cancel{7}} \quad \overset{1}{6} \quad 8 \quad \overset{8}{\cancel{9}} \quad \overset{1}{.} \overset{0}{0} \\ - \quad 3 \quad 5 \quad 8 \quad 0 \quad \cdot \quad 1 \quad 2 \\ \hline 1 \quad 1 \quad 8 \quad 8 \quad \cdot \quad 7 \quad 8 \end{array}$$



Multiplication

Nursery and Reception

Use practical activities to explore doubling.



3 lollipops for me.
3 lollipops for you.
How many altogether?



Use objects and pictorial representations to solve problems involving multiplication.



6 pairs of socks. How many are there altogether?

2, 4, 6, 8, 10, 12

3 pots of 10 crayons. How many altogether?

10, 20, 30



Year 1

Use arrays to support multiplication.



5 groups of 2 faces. How many faces altogether?

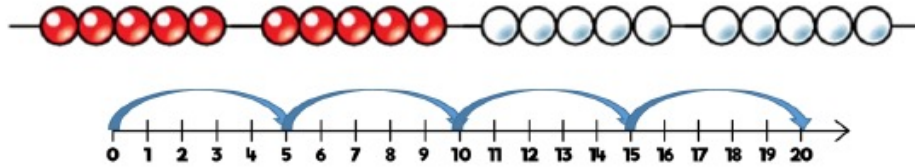
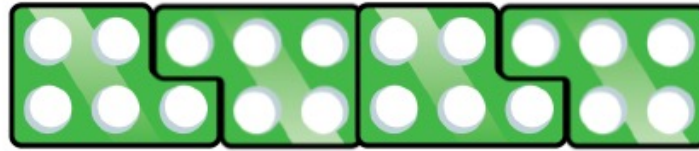
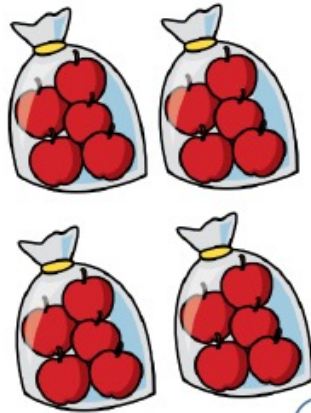
2, 4, 6, 8, 10.

2 groups of 5 faces. How many faces altogether?

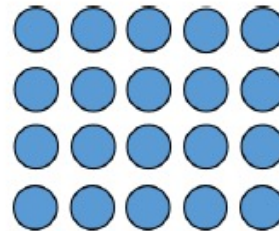
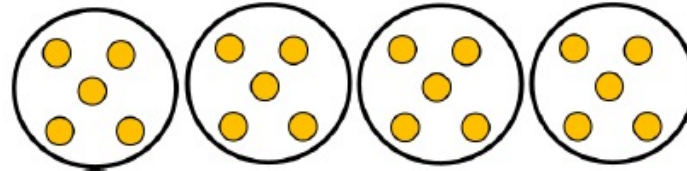
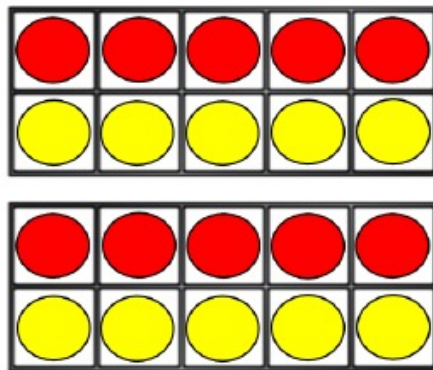
5, 10.

Year 1 and Year 2

Skill: Solve 1-step problems using multiplication



One bag holds 5 apples.
How many apples do 4 bags hold?



$$5 + 5 + 5 + 5 = 20$$

$$4 \times 5 = 20$$

$$5 \times 4 = 20$$

Year 2

Recall 2, 5 and 10 multiplication facts.

$1 \times 2 = 2$ $2 \times 2 = 4$ $3 \times 2 = 6$ $4 \times 2 = 8$ $5 \times 2 = 10$ $6 \times 2 = 12$ $7 \times 2 = 14$ $8 \times 2 = 16$ $9 \times 2 = 18$ $10 \times 2 = 20$	2	$1 \times 5 = 5$ $2 \times 5 = 10$ $3 \times 5 = 15$ $4 \times 5 = 20$ $5 \times 5 = 25$ $6 \times 5 = 30$ $7 \times 5 = 35$ $8 \times 5 = 40$ $9 \times 5 = 45$ $10 \times 5 = 50$	5	$1 \times 10 = 10$ $2 \times 10 = 20$ $3 \times 10 = 30$ $4 \times 10 = 40$ $5 \times 10 = 50$ $6 \times 10 = 60$ $7 \times 10 = 70$ $8 \times 10 = 80$ $9 \times 10 = 90$ $10 \times 10 = 100$	10
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Use materials, arrays, repeated addition and mental methods to solve problems involving multiplication.



3 groups of 5. 3 lots of 5.

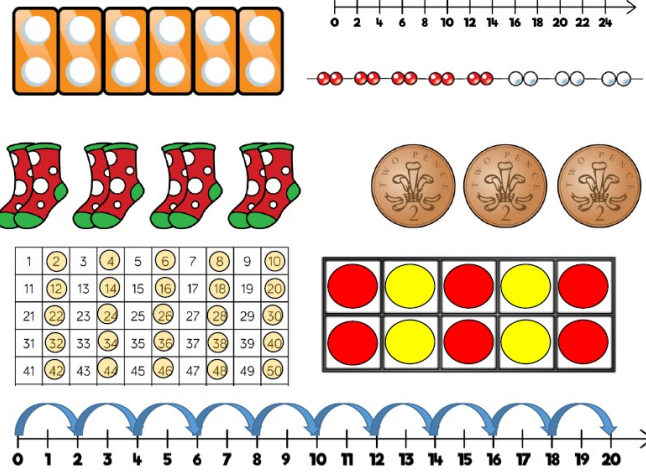
$$5 + 5 + 5 = 15$$

4 rows of 3. 4 groups of 3. 3 groups of 4.
 $4 \times 3 = 12$ and $3 \times 4 = 12$.

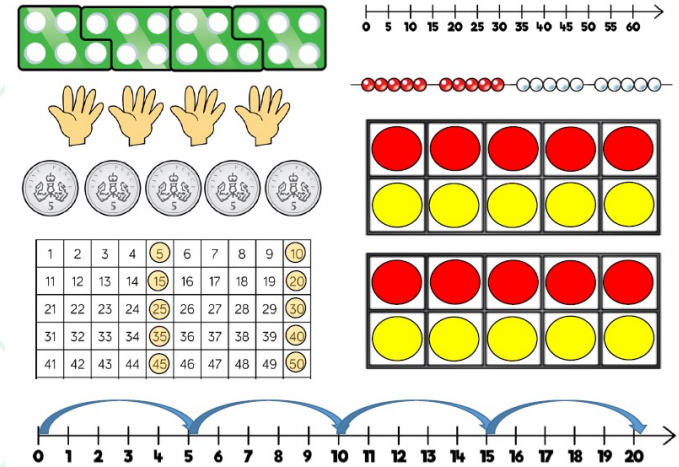


Year 2

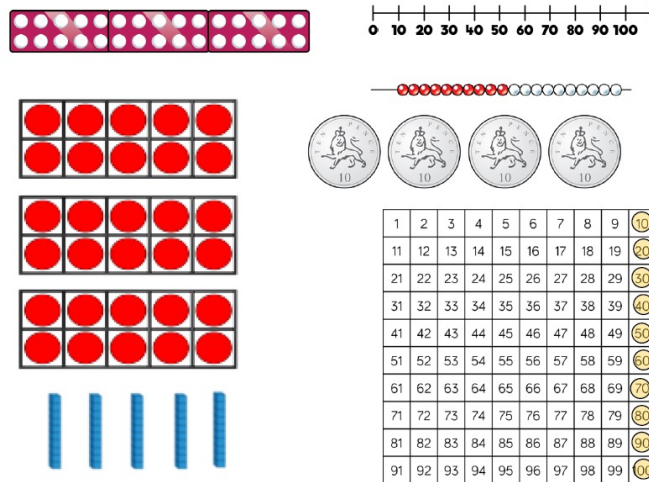
2 times table



5 times table



10 times table



Year 3

Recall 2, 5, 10, 3, 4 and 8 multiplication facts.

3 X	4 X	8 X
3x1=3	4x1=4	8x1=8
3x2=6	4x2=8	8x2=16
3x3=9	4x3=12	8x3=24
3x4=12	4x4=16	8x4=32
3x5=15	4x5=20	8x5=40
3x6=18	4x6=24	8x6=48
3x7=21	4x7=28	8x7=56
3x8=24	4x8=32	8x8=64
3x9=27	4x9=36	8x9=72
3x10=30	4x10=40	8x10=80
3x11=33	4x11=44	8x11=88
3x12=36	4x12=48	8x12=96

$5 \times 8 =$

$3 \times 4 =$

$12 \times 4 =$

$10 \times 8 =$

$3 \times 11 =$

Use multiplication tables to solve calculations.

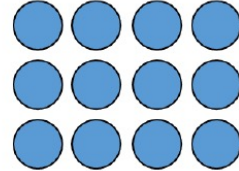
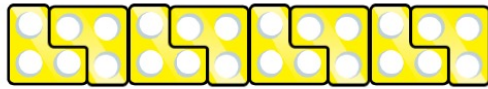
I can count up in the times table to calculate these.

Multiplication can be completed in any order.

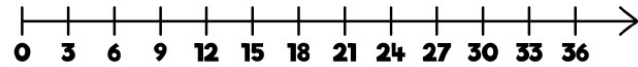
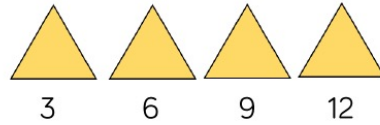
$12 \times 4 = 48 \text{ and } 4 \times 12 = 48.$

Year 3

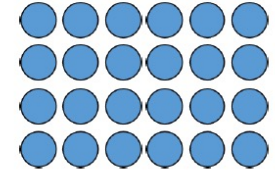
3 times table



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50



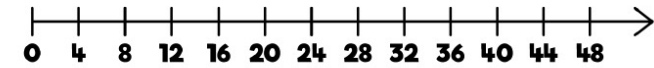
4 times table



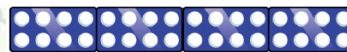
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50



4	8	12	16	20
24	28	32	36	40
44	48	52	56	60

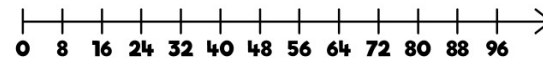


8 times table



8	16	24	32	40
48	56	64	72	80

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Year 3 and Year 4

Multiply a 2-digit number by a 1-digit number.

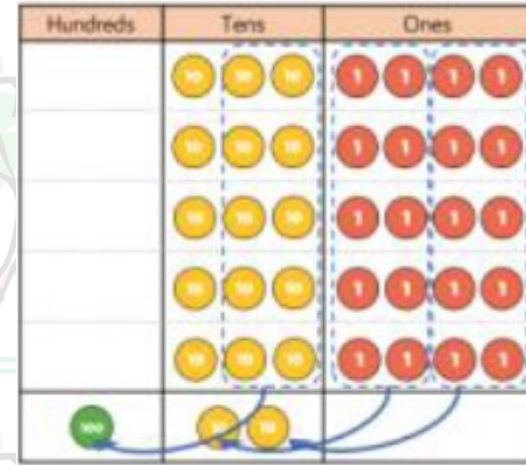
$$\begin{array}{r} 53 \\ \times 4 \\ \hline 212 \end{array}$$

Multiply any whole number by 10 and develop awareness of related facts.

If 4×8 is 32 **then** 40×8 is 320.

If 3×5 is 15 **then** 30×5 is 150.

If 6×4 is 24 **then** 60×4 is 240.

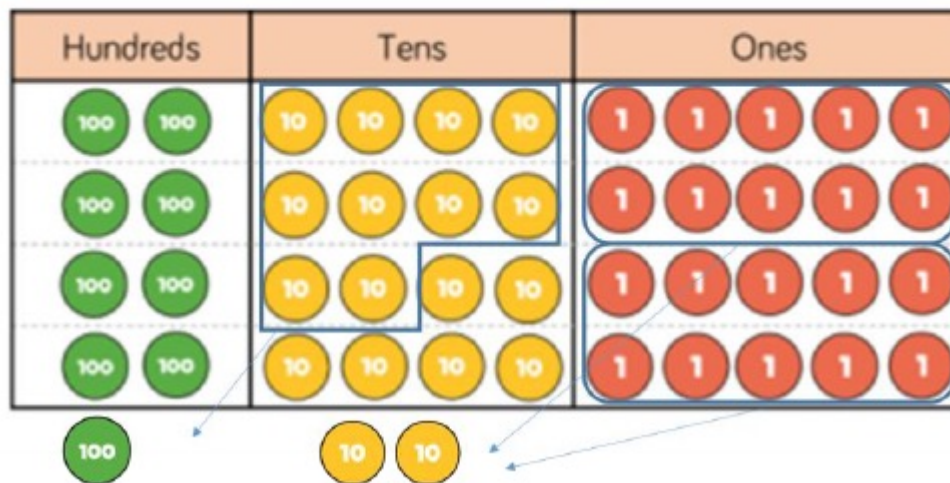


Year 3 and Year 4

Skill: Multiply 3-digit numbers by 1-digit numbers

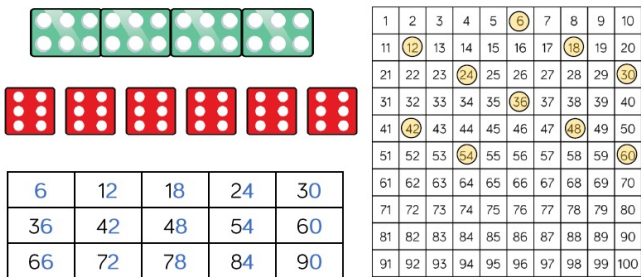
$$245 \times 4 = 980$$

	H	T	O
	2	4	5
x			4
<hr/>			
	9	8	0
	1	2	

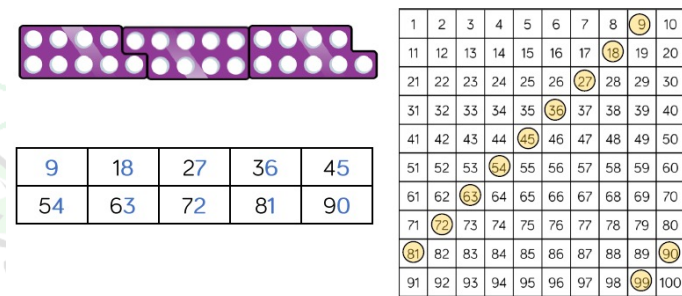


Year 4

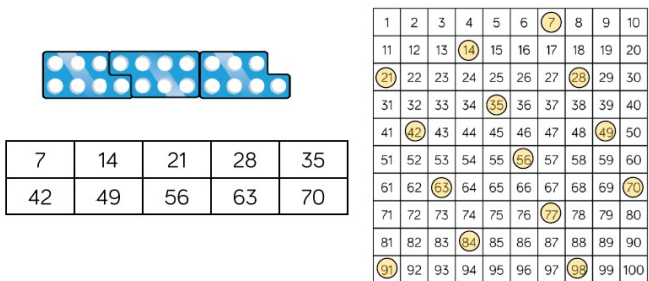
6 times table



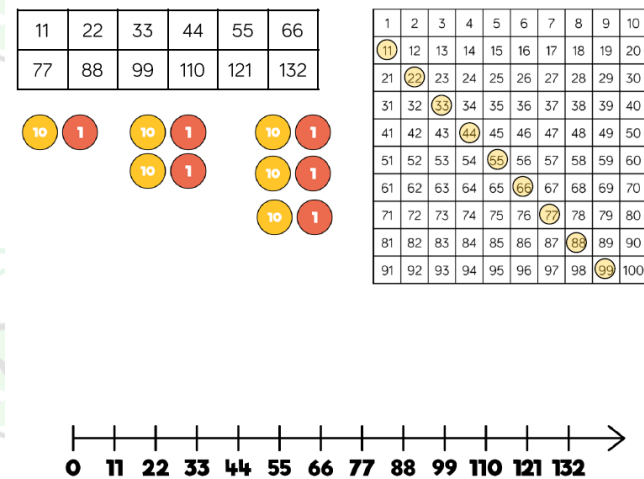
9 times table



7 times table



11 times table



Year 4

Recall all multiplication facts up to and including the 12 times table.


Times Tables 1 to 12

1 Times table	2 Times table	3 Times table	4 Times table
1 x 1 = 1 2 x 1 = 2 3 x 1 = 3 4 x 1 = 4 5 x 1 = 5 6 x 1 = 6 7 x 1 = 7 8 x 1 = 8 9 x 1 = 9 10 x 1 = 10 11 x 1 = 11 12 x 1 = 12	1 x 2 = 2 2 x 2 = 4 3 x 2 = 6 4 x 2 = 8 5 x 2 = 10 6 x 2 = 12 7 x 2 = 14 8 x 2 = 16 9 x 2 = 18 10 x 2 = 20 11 x 2 = 22 12 x 2 = 24	1 x 3 = 3 2 x 3 = 6 3 x 3 = 9 4 x 3 = 12 5 x 3 = 15 6 x 3 = 18 7 x 3 = 21 8 x 3 = 24 9 x 3 = 27 10 x 3 = 30 11 x 3 = 33 12 x 3 = 36	1 x 4 = 4 2 x 4 = 8 3 x 4 = 12 4 x 4 = 16 5 x 4 = 20 6 x 4 = 24 7 x 4 = 28 8 x 4 = 32 9 x 4 = 36 10 x 4 = 40 11 x 4 = 44 12 x 4 = 48
5 Times table	6 Times table	7 Times table	8 Times table
1 x 5 = 5 2 x 5 = 10 3 x 5 = 15 4 x 5 = 20 5 x 5 = 25 6 x 5 = 30 7 x 5 = 35 8 x 5 = 40 9 x 5 = 45 10 x 5 = 50 11 x 5 = 55 12 x 5 = 60	1 x 6 = 6 2 x 6 = 12 3 x 6 = 18 4 x 6 = 24 5 x 6 = 30 6 x 6 = 36 7 x 6 = 42 8 x 6 = 48 9 x 6 = 54 10 x 6 = 60 11 x 6 = 66 12 x 6 = 72	1 x 7 = 7 2 x 7 = 14 3 x 7 = 21 4 x 7 = 28 5 x 7 = 35 6 x 7 = 42 7 x 7 = 49 8 x 7 = 56 9 x 7 = 63 10 x 7 = 70 11 x 7 = 77 12 x 7 = 84	1 x 8 = 8 2 x 8 = 16 3 x 8 = 24 4 x 8 = 32 5 x 8 = 40 6 x 8 = 48 7 x 8 = 56 8 x 8 = 64 9 x 8 = 72 10 x 8 = 80 11 x 8 = 88 12 x 8 = 96
9 Times table	10 Times table	11 Times table	12 Times table
1 x 9 = 9 2 x 9 = 18 3 x 9 = 27 4 x 9 = 36 5 x 9 = 45 6 x 9 = 54 7 x 9 = 63 8 x 9 = 72 9 x 9 = 81 10 x 9 = 90 11 x 9 = 99 12 x 9 = 108	1 x 10 = 10 2 x 10 = 20 3 x 10 = 30 4 x 10 = 40 5 x 10 = 50 6 x 10 = 60 7 x 10 = 70 8 x 10 = 80 9 x 10 = 90 10 x 10 = 100 11 x 10 = 110 12 x 10 = 120	1 x 11 = 11 2 x 11 = 22 3 x 11 = 33 4 x 11 = 44 5 x 11 = 55 6 x 11 = 66 7 x 11 = 77 8 x 11 = 88 9 x 11 = 99 10 x 11 = 110 11 x 11 = 121 12 x 11 = 132	1 x 12 = 12 2 x 12 = 24 3 x 12 = 36 4 x 12 = 48 5 x 12 = 60 6 x 12 = 72 7 x 12 = 84 8 x 12 = 96 9 x 12 = 108 10 x 12 = 120 11 x 12 = 132 12 x 12 = 144

Multiply any whole number by 10 and 100.

Multiply by 0 and 1.

$0 \times 1 = 0$
 $1 \times 1 = 1$



Multiply 3 numbers together.

$6 \times 2 \times 3 = 36$

$6 \times 2 = 12.$

$12 \times 3 = 36$

Multiply 2-digit and 3-digit numbers by a 1-digit number.

$$\begin{array}{r} 78 \\ \times 6 \\ \hline 468 \\ \hline \end{array}$$

$$\begin{array}{r} 685 \\ \times 4 \\ \hline 2740 \\ \hline \end{array}$$

Year 5

Multiply numbers up to a 4-digit number by a 1-digit number.

	7	2	0	6
X				7
5	0	4	4	2
	1		4	

Multiply numbers up to a 4-digit number by a 2-digit number.

	4	5	2	
X	2	7		
3	1	6	4	
9	0	4	0	
1	2	2	0	4

	3	6	9	4	
X		5	7		
2	5	8	5	8	
1	8	4	7	0	0
2	1	0	5	5	8

Multiply whole numbers and decimals by 10, 100 and 1000.

Hundreds	Tens	Units
2	2	3
	3	0

$23 \times 10 = 230$

Th	H	T	U	Tths	Thths
			4	1	
$\leftarrow \times 100$					
4	1	0			

$4.1 \times 100 = 410$

Year 6

Multiply decimals by a 1-digit number or a 2-digit number.

	9	7	6	2	.	2	3	
x				6				
<hr/>								
	5	8	5	7	3	.	3	8
	4	3	1	1	1			

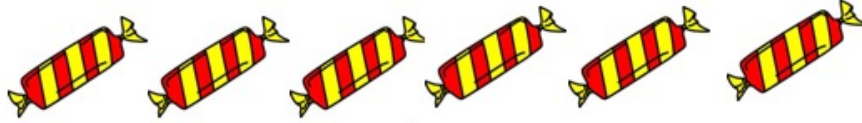
			6	7	3	.	2	9
	x		8	3				
<hr/>								
	2	0	1	9	.	8	7	
	5	3	8	6	3	.	2	0
<hr/>								
	5	5	8	8	3	.	0	7



Division

Nursery and Reception

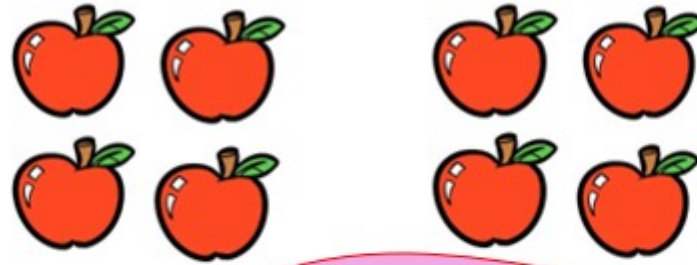
Use practical activities to explore halving and sharing.



Half of these sweets are for me and half are for you.

Share these sweets between two people.

Use objects and pictorial representations to solve problems involving division.



Share into equal groups.

Share these 8 apples equally between 2 children.
How many apples will each child have?

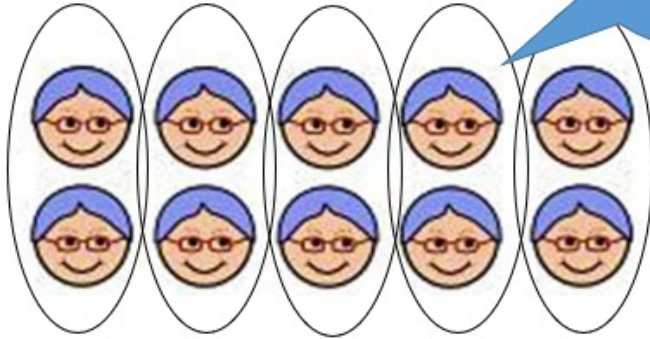
Share 20 crayons between 2 pots.
How many crayons will be in each pot?



Year 1

Use arrays to support division.

Move onto
grouping - how
many groups
are there?

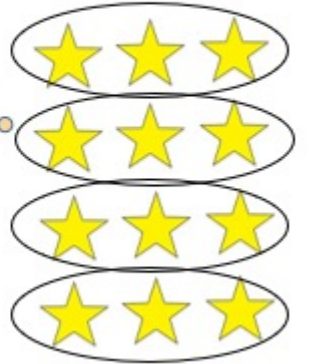


How many faces are there?
How many groups of 2 are there?

Five groups of 2.

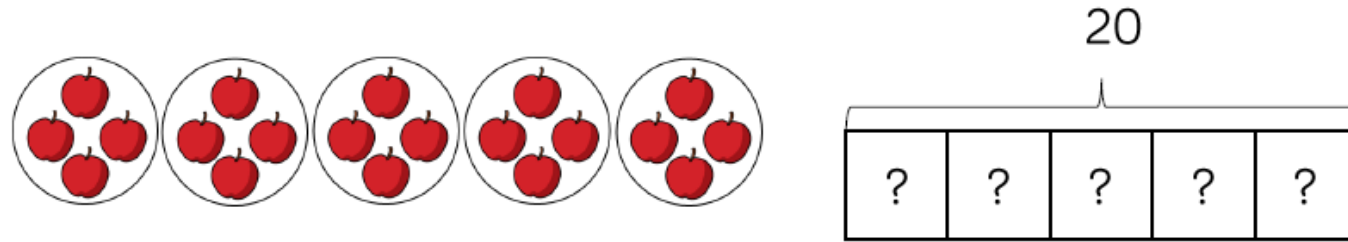
How many groups of 3
are there?

4 groups of 3

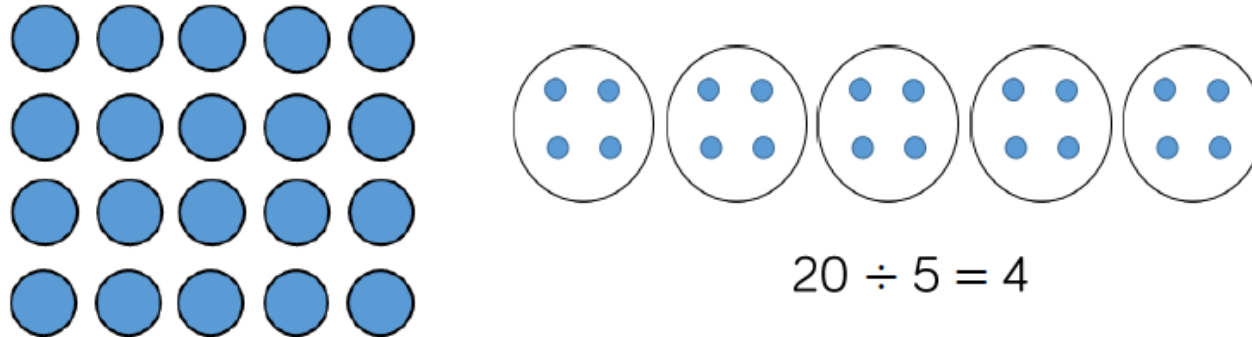


Year 1 and Year 2

Skill: Solve 1-step problems using multiplication (sharing)

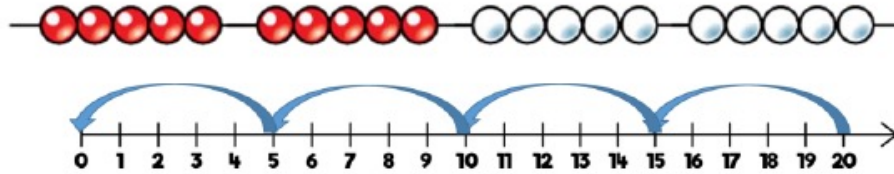
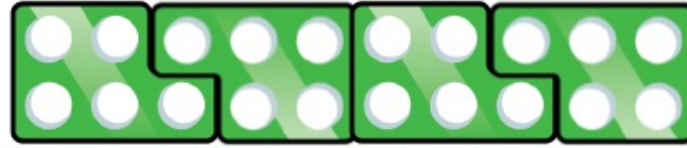
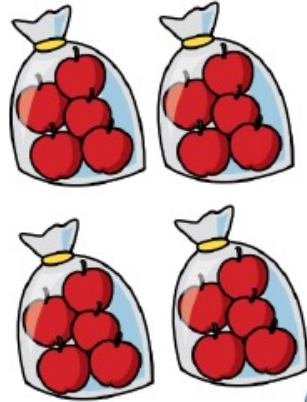


There are 20 apples altogether.
They are shared equally between 5 bags.
How many apples are in each bag?

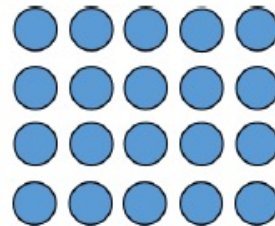
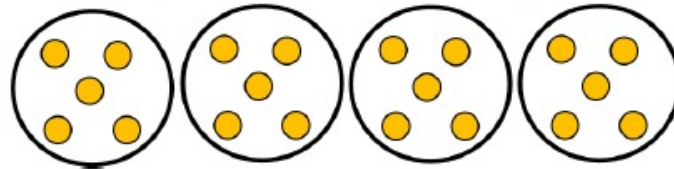
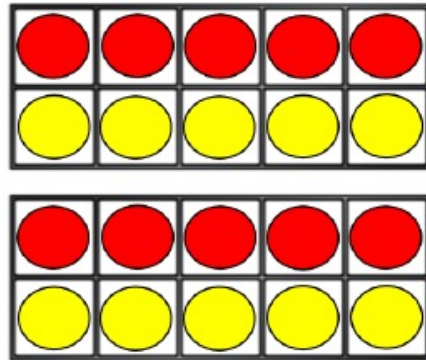


Year 1 and Year 2

Skill: Solve 1-step problems using division (grouping)



There are 20 apples altogether.
They are put in bags of 5.
How many bags are there?

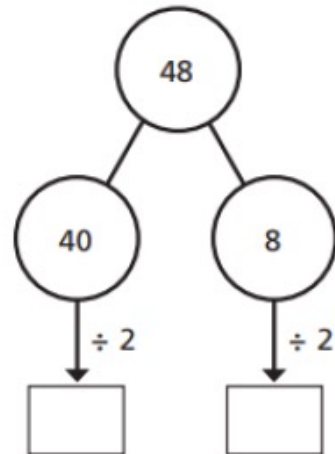
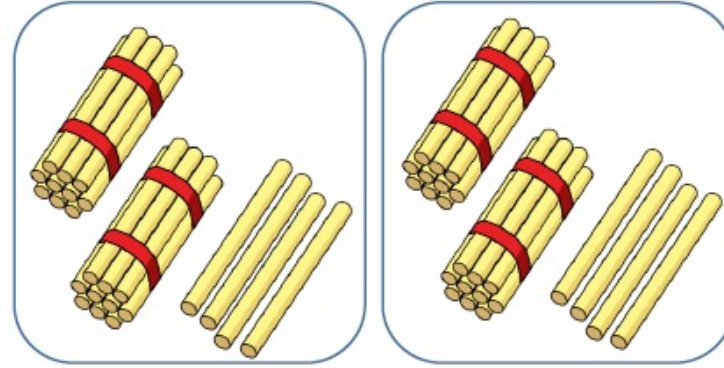


$$20 \div 5 = 4$$

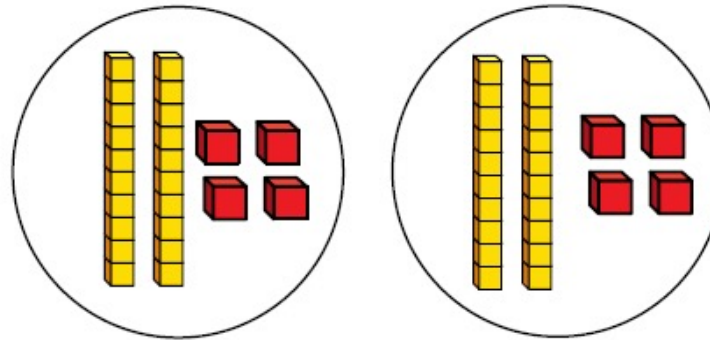
Year 1 and Year 2

Skill: Divide 2-digits by 1-digit (sharing with no exchange)

Tens		Ones			
10	10	1	1	1	1
10	10	1	1	1	1



$$48 \div 2 = 24$$



Year 2

Recall 2, 5 and 10 division facts.



Use materials, arrays and mental methods to solve problems involving division.

30 crayons are shared equally
between 3 pots.

How many in each pot? (Sharing)

We have 30 crayons and put 10
crayons in each pot.

How many pots do we need?
(Grouping)



30 divided by 3 is 10.

30 divided by 10 is 3.

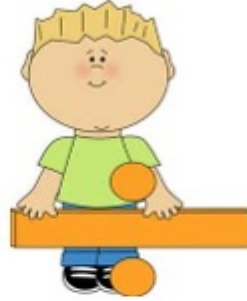
$$30 \div 3 = 10$$

$$30 \div 10 = 3$$

Year 3

Recall 2, 5, 10, 3, 4 and 8 division

Divide any whole number
by 10.



Use mental knowledge of times tables to solve division
calculations.

$$40 \div 8 =$$

$$12 \div 4 =$$

$$15 \div 3 =$$

$$80 \div 8 =$$

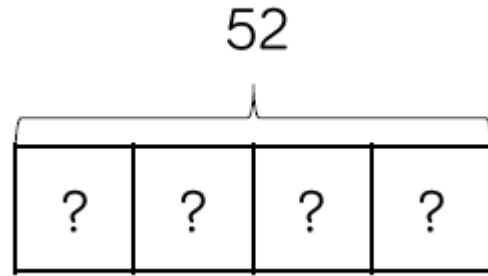
$$25 \div 5 =$$

I can count up in the times
table to calculate these.

Year 3 and Year 4

Skill: Divide 2-digits by 1-digit (sharing with exchange)

$$52 \div 4 = 13$$



Year 3 and Year 4

Skill: Divide 2-digits by 1-digit (sharing with remainders)

$$53 \div 4 = 13 \text{ r}1$$



Year 4

Recall all division facts up to and including the 12 times table.

1	2	3	4	5	6	7	8	9	10	11	12
1 x 1 = 1	2 x 1 = 2	3 x 1 = 3	4 x 1 = 4	5 x 1 = 5	6 x 1 = 6	7 x 1 = 7	8 x 1 = 8	9 x 1 = 9	10 x 1 = 10	11 x 1 = 11	12 x 1 = 12
1 x 2 = 2	2 x 2 = 4	3 x 2 = 6	4 x 2 = 8	5 x 2 = 10	6 x 2 = 12	7 x 2 = 14	8 x 2 = 16	9 x 2 = 18	10 x 2 = 20	11 x 2 = 22	12 x 2 = 24
1 x 3 = 3	2 x 3 = 6	3 x 3 = 9	4 x 3 = 12	5 x 3 = 15	6 x 3 = 18	7 x 3 = 21	8 x 3 = 24	9 x 3 = 27	10 x 3 = 30	11 x 3 = 33	12 x 3 = 36
1 x 4 = 4	2 x 4 = 8	3 x 4 = 12	4 x 4 = 16	5 x 4 = 20	6 x 4 = 24	7 x 4 = 28	8 x 4 = 32	9 x 4 = 36	10 x 4 = 40	11 x 4 = 44	12 x 4 = 48
1 x 5 = 5	2 x 5 = 10	3 x 5 = 15	4 x 5 = 20	5 x 5 = 25	6 x 5 = 30	7 x 5 = 35	8 x 5 = 40	9 x 5 = 45	10 x 5 = 50	11 x 5 = 55	12 x 5 = 60
1 x 6 = 6	2 x 6 = 12	3 x 6 = 18	4 x 6 = 24	5 x 6 = 30	6 x 6 = 36	7 x 6 = 42	8 x 6 = 48	9 x 6 = 54	10 x 6 = 60	11 x 6 = 66	12 x 6 = 72
1 x 7 = 7	2 x 7 = 14	3 x 7 = 21	4 x 7 = 28	5 x 7 = 35	6 x 7 = 42	7 x 7 = 49	8 x 7 = 56	9 x 7 = 63	10 x 7 = 70	11 x 7 = 77	12 x 7 = 84
1 x 8 = 8	2 x 8 = 16	3 x 8 = 24	4 x 8 = 32	5 x 8 = 40	6 x 8 = 48	7 x 8 = 56	8 x 8 = 64	9 x 8 = 72	10 x 8 = 80	11 x 8 = 88	12 x 8 = 96
1 x 9 = 9	2 x 9 = 18	3 x 9 = 27	4 x 9 = 36	5 x 9 = 45	6 x 9 = 54	7 x 9 = 63	8 x 9 = 72	9 x 9 = 81	10 x 9 = 90	11 x 9 = 99	12 x 9 = 108
1 x 10 = 10	2 x 10 = 20	3 x 10 = 30	4 x 10 = 40	5 x 10 = 50	6 x 10 = 60	7 x 10 = 70	8 x 10 = 80	9 x 10 = 90	10 x 10 = 100	11 x 10 = 110	12 x 10 = 120
1 x 11 = 11	2 x 11 = 22	3 x 11 = 33	4 x 11 = 44	5 x 11 = 55	6 x 11 = 66	7 x 11 = 77	8 x 11 = 88	9 x 11 = 99	10 x 11 = 110	11 x 11 = 121	12 x 11 = 132
1 x 12 = 12	2 x 12 = 24	3 x 12 = 36	4 x 12 = 48	5 x 12 = 60	6 x 12 = 72	7 x 12 = 84	8 x 12 = 96	9 x 12 = 108	10 x 12 = 120	11 x 12 = 132	12 x 12 = 144

Divide by 1.



Divide 2-digit numbers and 3-digit numbers by a 1-digit number.

	3	2
3	9	6

	1	2	4
4	4	9	6

Divide any whole number by 10, 100 and develop awareness of related facts.

If $9 \div 3 = 3$ then $90 \div 30 = 3$

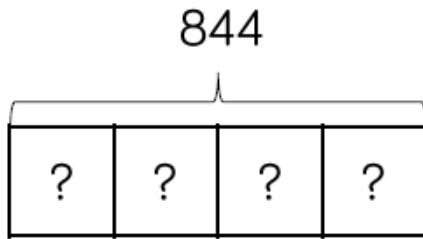
If $42 \div 6 = 7$ then $420 \div 60 = 7$

If $15 \div 5 = 3$ then $150 \div 50 = 3$

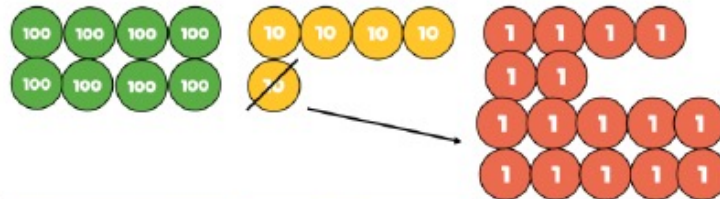
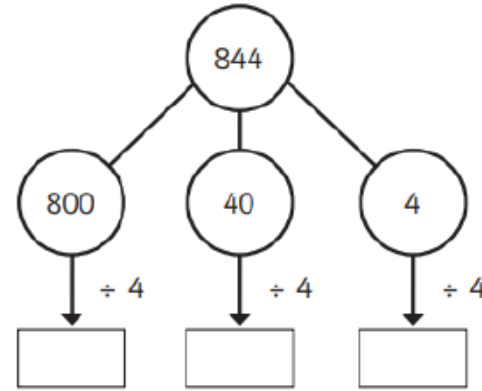
Year 4

Skill: Divide 3-digits by 1-digit (sharing)

$$844 \div 4 = 211$$



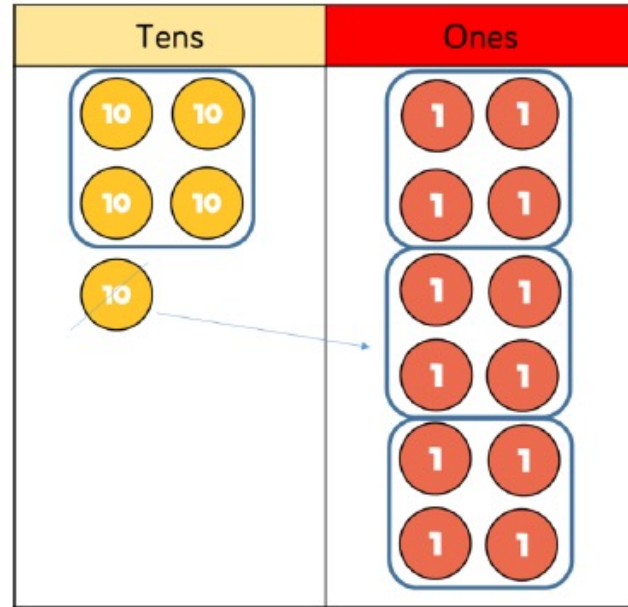
H	T	O
100 100	10	1
100 100	10	1
100 100	10	1
100 100	10	1



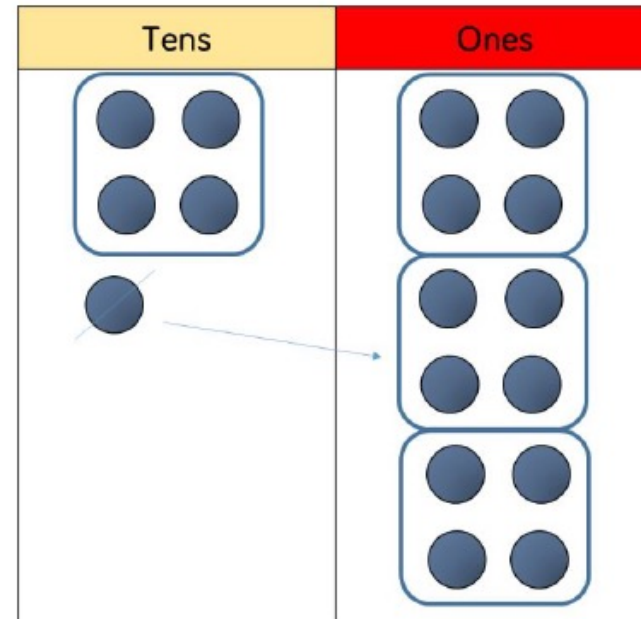
Hundreds	Tens	Ones
100 100	10	1 1 1 1
100 100	10	1 1 1 1
100 100	10	1 1 1 1
100 100	10	1 1 1 1

Year 4 and Year 5

Skill: Divide 2-digits by 1-digit (grouping)



		1	3	
	4	5	12	



$$52 \div 4 = 13$$

Year 5

Divide numbers up to a 4-digit number by a 1-digit number.

	1	5	2	1	r 2
6	9	³ 1	² 8		

	0	9	6	5
8	7	⁷ 7	⁵ 2	⁴ 0

Divide whole numbers and decimals by 10, 100 and 1000.

Th	H	T	U	.Ths	Ths
		3	2	.	
			3	.	2

$32 \div 10 =$

6	.			
	.	0	0	6

Year 6

Divide numbers up to a 4-digit number by a 1-digit number changing remainders to fractions and decimals.

$$\begin{array}{r} 0 \ 9 \ 3 \ 1 \ r3 \\ 8 \overline{) 7 \ 4 \ 5 \ 1} \end{array} \quad \rightarrow \quad \begin{array}{r} 9 \ 3 \ 1 \ 3 \\ 8 \end{array}$$

$$\begin{array}{r} 1 \ 3 \ 7 \ 6 \cdot 2 \ 8 \ 5 \\ 7 \overline{) 9 \ 6 \ 3 \ 4 \cdot 0 \ 0 \ 0} \end{array}$$

Divide numbers up to a 4-digit number by a 2-digit number.

$$\begin{array}{r} 0 \ 1 \ 7 \\ 2 \ 5 \overline{) 4 \ 2 \ 5} \\ \underline{0} \\ \cancel{4} \ 2 \\ \underline{2 \ 5} \\ 1 \ 7 \ 5 \\ \underline{1 \ 7 \ 5} \\ 0 \ 0 \ 0 \end{array}$$