


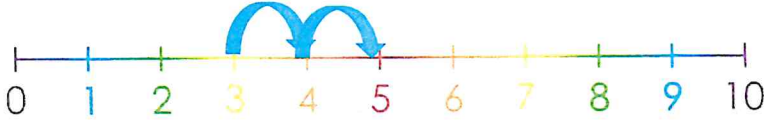
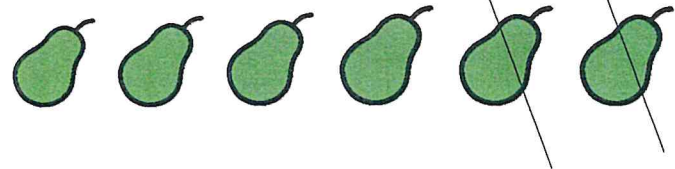
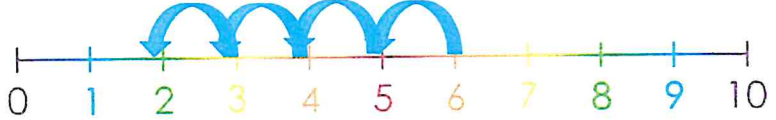


Year	Addition	Subtraction
N U R S E R Y	<p>Uses the language of more to compare 2 sets.</p> <div>  </div> <p>"There are more apples than bananas"</p> <p>Says the number that is one more than a given number to 5 then 10</p> <p>"One more than 5 is 6"</p>	<p>Uses the language of fewer to compare 2 sets.</p> <div>  </div> <p>"There are fewer pears than oranges"</p> <p>Says the number that is one less than a given number to 5 then 10</p> <p>"One less than 4 is 3"</p>

Year	Addition	Subtraction
R E C E P T I O N	<p>Find the total number of items in two groups by counting all of them.</p> <div> <p>$3 + 2$</p>  </div> <p>Count on to find the answer</p> <div>  </div>	<p>Subtraction as take-away (using objects or drawing and crossing out)</p> <div> <p>$6 - 2$</p>  </div> <p>Count back to find the answer</p> <div>  </div>

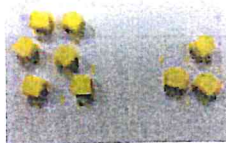
Year

Addition

Subtraction

1

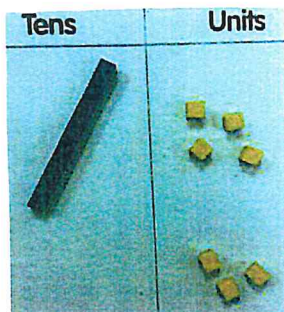
Add one and two digit numbers to 20, including zero



$$6 + 3 = 9$$

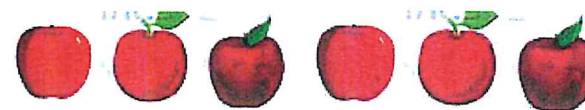


$$14 + 3 = 17$$

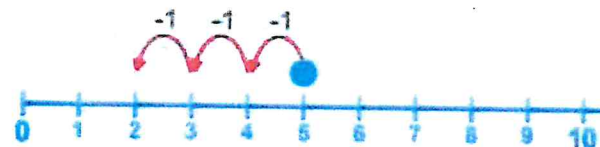


$$\begin{array}{r} 14 \\ + 3 \\ \hline \end{array}$$

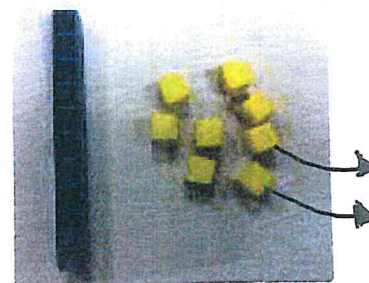
Subtract one digit and two digit numbers to 20



$$6 - 2 = 4$$



$$5 - 3 = 2$$



$$18 - 2 = 16$$

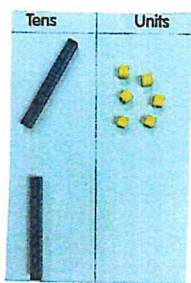
Go back to the number line for $20 - 4$ and $14 - 9$

2

Add a 2 digit number and ones
 Add a 2 digit number and tens
 Add 2, 2 digit numbers
 Add 3, 1 digit numbers (use a number line)

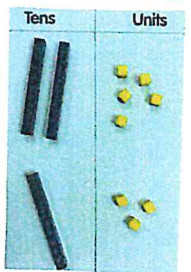


$$\begin{array}{r} 14 \\ + 3 \\ \hline 17 \end{array}$$



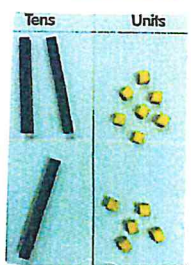
t	u
1	6
1	

$$\begin{array}{r} 16 \\ + 10 \\ \hline 26 \end{array}$$



t	u
11	5
1	3

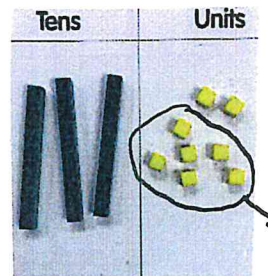
$$\begin{array}{r} 25 \\ + 13 \\ \hline 38 \end{array}$$



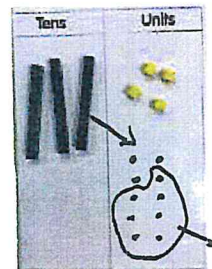
t	u
11	7
1	5

$$\begin{array}{r} 27 \\ + 15 \\ \hline 42 \end{array}$$

Subtract ones from a 2 digit number
 Subtract tens from a 2 digit number
 Subtract 2, 2 digit numbers



$$\begin{array}{r} 38 \\ - 6 \\ \hline 32 \end{array}$$



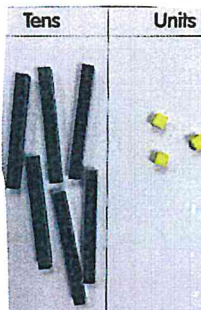
$$\begin{array}{r} 34 \\ - 7 \\ \hline 27 \end{array}$$

t	u
11	4
1	7



$$\begin{array}{r} 38 \\ - 12 \\ \hline 26 \end{array}$$

t	u
11	8
1	2

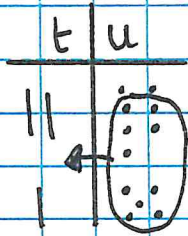


$$\begin{array}{r} 53 \\ - 15 \\ \hline 48 \end{array}$$

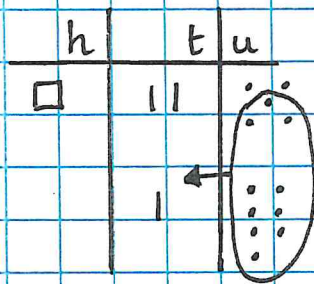
t	u
11	3
1	5

3

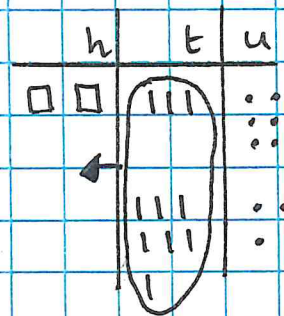
Add numbers with up to 3 digits



$$\begin{array}{r} 27 \\ + 15 \\ \hline 42 \\ \hline \end{array}$$

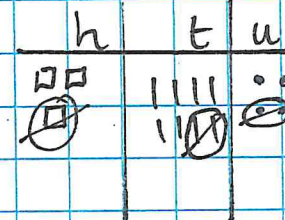


$$\begin{array}{r} 125 \\ + 17 \\ \hline 142 \\ \hline \end{array}$$

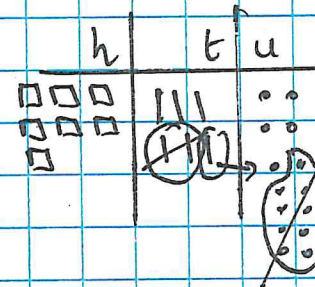


$$\begin{array}{r} 236 \\ + 73 \\ \hline 309 \\ \hline \end{array}$$

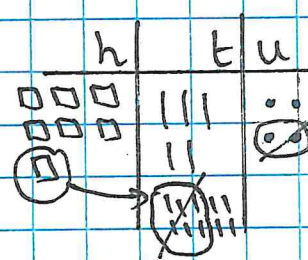
Subtract numbers with up to 3 digits.



$$\begin{array}{r} 384 \\ - 122 \\ \hline 262 \\ \hline \end{array}$$



$$\begin{array}{r} 754 \\ - 29 \\ \hline 735 \\ \hline \end{array}$$



$$\begin{array}{r} 6754 \\ - 562 \\ \hline 192 \\ \hline \end{array}$$

4

Add numbers with up to 4 digits

As year 3, but including
4 digits.

$$\begin{array}{r} 3517 \\ + \quad 396 \\ \hline 3913 \\ \hline 11 \end{array}$$

Subtract numbers with up to 4 digits

As year 3, but including 4
digits.

$$\begin{array}{r} 2754 \\ - 1562 \\ \hline 1192 \\ \hline \end{array}$$

5

Add numbers with more than 4 digits, including money, measure and decimals with different numbers of decimal places.

$$\begin{array}{r} 23481 \\ + 1362 \\ \hline 24843 \end{array}$$

$$\begin{array}{r} £23.59 \\ + £7.55 \\ \hline £31.14 \end{array}$$

Say 6 tenths and 7 tenths to reinforce place value

$$\begin{array}{r} 19.01 \\ + 3.65 \\ \hline 22.66 \end{array}$$

Empty decimal places can be filled to with zero to show the place value of each column

Subtract numbers with more than 4 digits

$$\begin{array}{r} 23481 \\ - 2128 \\ \hline 21353 \end{array}$$

$$\begin{array}{r} 769.0 \\ - 372.5 \\ \hline 396.5 \end{array}$$

Add a zero in any empty decimal place to aid understanding of what to subtract

6

Add several numbers of increasing complexity including money, measure and decimals with different numbers of decimal places.

$$\begin{array}{r}
 23.361 \\
 9.080 \\
 59.770 \\
 + 1.300 \\
 \hline
 93.511 \\
 2 \quad 1 \quad 2
 \end{array}$$






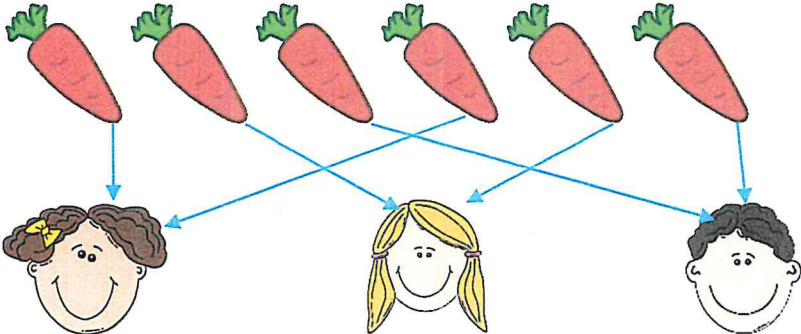
Tenths, hundredths and thousandths should be correctly aligned, with the decimal point aligned vertically, including in the answer.




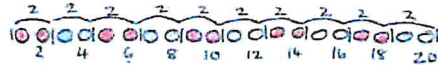
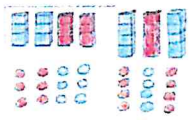

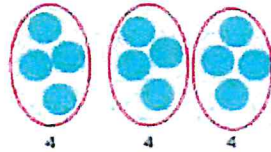
Empty decimal places can be filled to with zero to show the place value of each column

Subtracting with increasingly large and more complex numbers and decimal values.

$$\begin{array}{r}
 \cancel{^{\circ}}\cancel{X}^{\text{th}}\cancel{5}^{\text{h}}\cancel{10}^{\text{g}}.699 \\
 - \quad 899.49 \\
 \hline
 607.50
 \end{array}$$

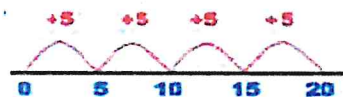
$$\begin{array}{r}
 \cancel{^{\circ}}\cancel{X}^{\text{h}}\cancel{10}^{\text{g}}5 \cdot \cancel{^{\circ}}\cancel{K}^{\text{h}}19 \text{ kg} \\
 - \quad 36.080 \text{ kg} \\
 \hline
 69.339 \text{ kg}
 \end{array}$$

Year	Multiplication	Division
R E C E P T I O N	<p>Solve problems such as doubling</p> <div>  </div> <div>  </div> <p>"I have 3 oranges, if I double them I have 6 oranges"</p>	<p>Solve problems including halving and sharing.</p> <p>Practical ways of halving – give half of your strawberries to a friend</p> <p>$4 \div 2$</p> <div>  </div> <div>  </div> <div>  </div> <p>Practical ways of sharing</p> <p>Share these carrots between 3 children</p> <p>$6 \div 3$</p> <div>  </div>

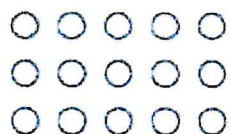
Year	Multiplication	Division
1	<p>Multiply with concrete objects, arrays and pictorial representations</p> <p>How many legs will 3 teddies have?</p>  <p>3 lots of 2 is 6 $3 \times 2 = 6$</p> <p>There are 3 sweets in one bag. How many sweets are in 5 bags altogether?</p>   <p>5 lots of 3 is 15 $5 \times 3 = 15$</p> <p>Count in 2s, 5s, 10s</p>  <p>Use visual and concrete arrays and 'sets of' objects to find the answers to '3 lots of 4', '2 lots of 5' etc</p> 	<p>Group and share small quantities.</p> <p>Grouping:</p>  <p>Sharing:</p>  <p>12 shared between 3 is 4</p>

2

Multiplication using arrays and repeated addition.



$$4 \times 5 = 20$$

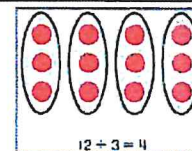


$$5 \times 3 = 15$$

$$3 \times 5 = 15$$

Group and share using the \div and $=$ signs.

Arrays:



This represents $12 \div 3$, posed as how many groups of 3 are in 12?

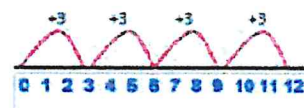
Pupils should also show that the same array can represent $12 \div 4 = 3$ if grouped horizontally.

Grouping using a number line

Group from zero in equal jumps to

find 'how many groups of _ in _?

Use bead-bars/strings to make link to number line.



$$12 \div 3 = 4$$

Pose $12 \div 3$ as
"How many
groups of 3 are
there in 12?"

3

Multiply 2-digit numbers by a single digit number.

$$35 \times 2$$

X	30	5
2		

$$23 \times 8 = 184$$

X	20	3
8	160	24

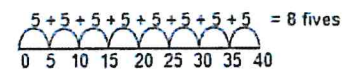
$$160 + 24 = 184$$

Divide 2-digit numbers by a single digit.

Example without remainder:

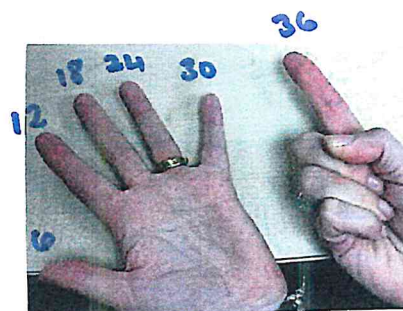
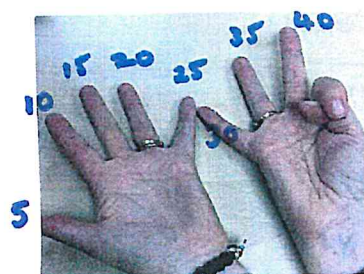
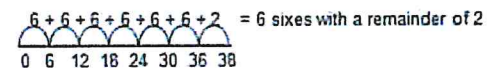
$$40 \div 5$$

Ask "How many 5s in 40?"



Example with remainder:

$$38 \div 6$$



4

Multiply 2 and 3 digits by a single digit using all multiplication tables up to 12×12

Developing the grid method:

Eg. $136 \times 5 = 680$

X	100	30	6
5	500	150	30

$$\begin{array}{r} 500 \\ 150 \\ + 30 \\ \hline 680 \end{array}$$

Encourage mental addition or use of column addition to add accurately.

$\begin{array}{r} 36 \\ \times 5 \\ \hline 180 \\ 3 \end{array}$	check with grid	$\begin{array}{r} \times 306 \\ 5 \mid 150 \mid 30 \\ \hline 150 \\ + 30 \\ \hline 180 \end{array}$
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Divide up to 3-digit numbers by a single digit.

Short division: Limit numbers to NO remainders in the answer OR carried (each digit must be a multiple of the divisor).

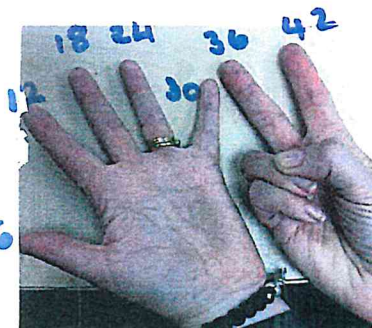
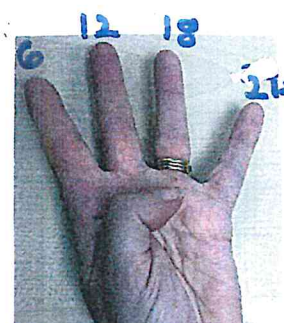
Remind children of correct place value, that 96 is equal to 90 and 6. Use Dienes to demonstrate.

$$\begin{array}{r} 32 \\ 3 \overline{)96} \end{array}$$

$$\begin{array}{r} 27 \\ 3 \overline{)81} \end{array}$$

Example with remainder

$$\begin{array}{r} 47r2 \\ 6 \overline{)284} \end{array}$$



5

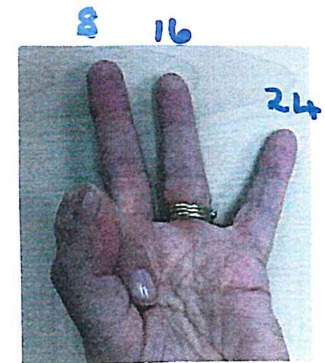
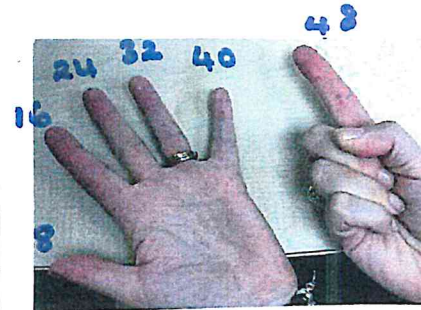
Multiply up to 4 digits by 1 or 2 digits.

$\begin{array}{r} 237 \\ \times 4 \\ \hline 948 \end{array}$	$\begin{array}{r} 3451 \\ \times 8 \\ \hline 27608 \end{array}$
$\begin{array}{r} 37 \\ \times 45 \\ \hline 185 \\ 1480 \\ \hline 1665 \end{array}$	$\begin{array}{r} 237 \\ \times 34 \\ \hline 948 \\ 7110 \\ \hline 8058 \end{array}$

Divide up to 4 digits by a single digit $<$ or $=$ to 12, including answers with remainders.

$$\begin{array}{r} 0663r5 \\ 8 \overline{)53509} \end{array}$$

The answer could be expressed as 663 remainder 5 or 663 and $\frac{5}{8}$ or as a decimal.



6

Short and long multiplication, as in year 5, and multiply decimals with up to 2 decimal places by a single digit.

$$2.3 \times 5 \rightarrow \begin{array}{r} 23 \\ \times 5 \\ \hline 115 \\ \hline \end{array}$$

Then replace the decimal point

$$\rightarrow 11.5$$

$$41.3 \times 5 \rightarrow \begin{array}{r} 413 \\ \times 5 \\ \hline 2065 \\ \hline \end{array} \rightarrow 20.65$$

Divide at least 4-digit numbers by single and 2-digit numbers (including decimals).

$$\begin{array}{r} 0812.125 \\ 8 \overline{)6497.000} \end{array}$$

$$\begin{array}{r} 032 \\ 14 \overline{)448} \end{array}$$

$$\begin{array}{l} 1 \times 14 = 14 \\ \rightarrow 2 \times 14 = 28 \\ \rightarrow 3 \times 14 = 42 \\ 4 \times 14 = 56 \end{array}$$