

Year 3 /4

Addition

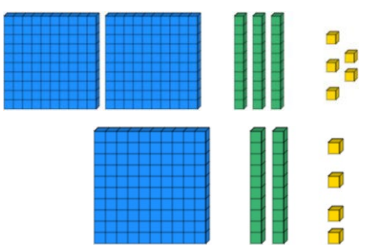
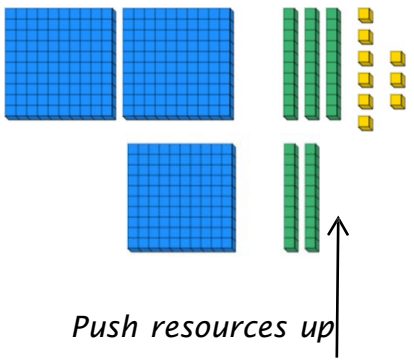
$$\text{addend} + \text{addend} = \text{sum}$$

$$\begin{array}{r}
 \text{addend} \\
 + \text{addend} \\
 \hline
 \text{sum} \\
 \hline
 \end{array}$$

Column addition expanded method

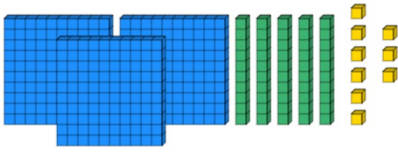
$$235 + 124 =$$

Compact method to be introduced to Year 3 in summer term. Year 4 to show both methods alongside one another until summer term and then only use the compact method.

<p>Step 1</p> <div style="text-align: center; margin-bottom: 10px;"> H T O </div> 	$ \begin{array}{r} 200 + 30 + 5 \\ + \underline{100 + 20 + 4} \\ \hline \end{array} $	<p>Children can draw squares for hundreds, lines for tens and small circles for ones.</p> <div style="margin-top: 10px;"> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> <div style="display: flex; flex-direction: column; gap: 5px;"> </div> </div> <div style="margin-top: 10px;"> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> <div style="display: flex; flex-direction: column; gap: 5px;"> </div> </div> </div> </div>
<p>Step 2</p> <div style="text-align: center; margin-bottom: 10px;"> H T O </div>  <p style="text-align: center; margin-top: 10px;">Push resources up ↑</p>	$ \begin{array}{r} 200 + 30 + 5 \\ + \underline{100 + 20 + 4} \\ \hline \underline{9} \end{array} $	$ \begin{array}{r} 2 3 5 \\ + 1 2 4 \\ \hline \underline{9} \end{array} $

Step 3

H T O



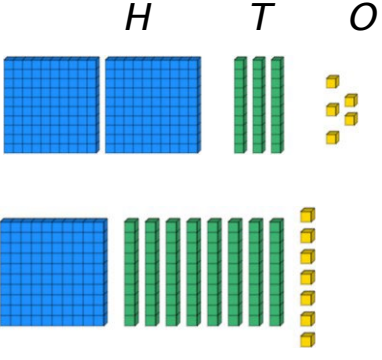
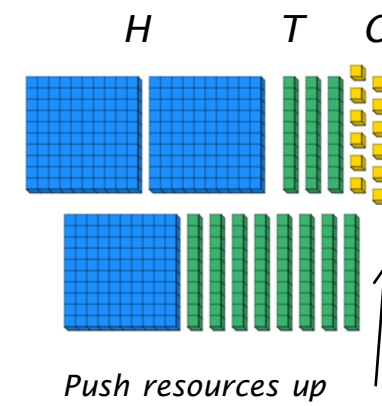
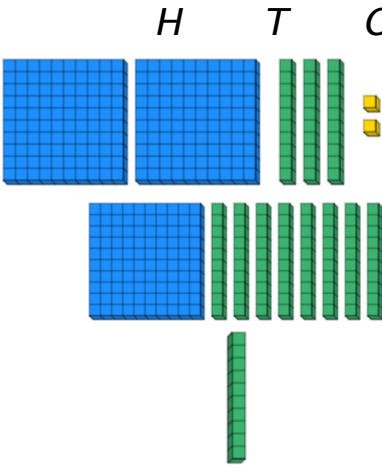
Push resources up

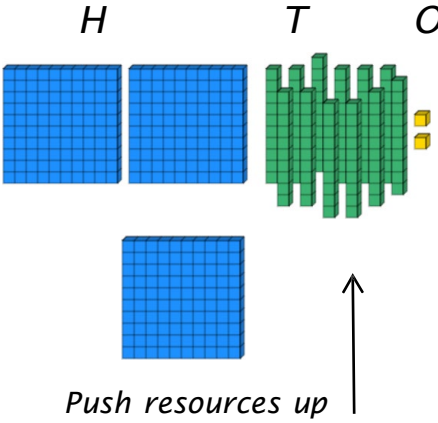
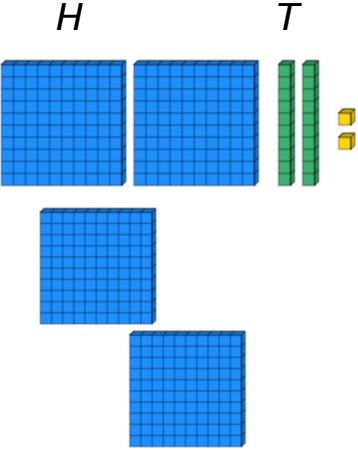
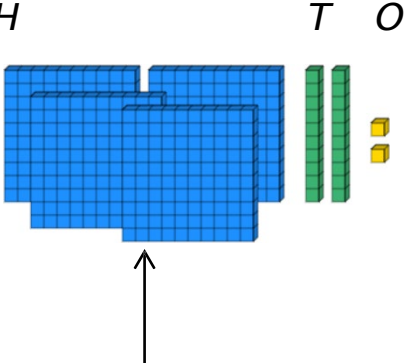
$$\begin{array}{r} 200 + 30 + 5 \\ + \quad 100 + 20 + 4 \\ \hline 300 + 50 + 9 \end{array}$$

$$\begin{array}{r} 235 \\ + 124 \\ \hline 359 \end{array}$$

359 whole	
235 part	124 part

$235 + 187 =$

<p>Step 1</p> <p style="text-align: center;">H T O</p> 	$200 + 30 + 5$ $+ \quad \underline{100 + 80 + 7}$ <hr/>	<p>Children can draw squares for hundreds, lines for tens and small circles for ones.</p> <p>□ □ </p> <p>□ </p>
<p>Step 2</p> <p style="text-align: center;">H T O</p>  <p>Push resources up</p>	$200 + 30 + 5$ $+ \quad \underline{100 + 80 + 7}$ <hr/>	$\begin{array}{r} 2 \ 3 \ 5 \\ + 1 \ 8 \ 7 \\ \hline \end{array}$ <hr/>
<p>Step 3</p> <p style="text-align: center;">H T O</p> 	$200 + 30 + 5$ $+ \quad \underline{100 + 80 + 7}$ $\quad \quad \quad + 2$ $\quad \quad \quad \underline{10}$ <p>I can regroup 10 ones for 1 ten.</p>	$\begin{array}{r} 2 \ 3 \ 5 \\ + 1 \ 8 \ 7 \\ \hline \quad \quad 2 \\ \hline \quad \quad \quad 1 \end{array}$

<p>Step 4</p> <p>H T O</p>  <p>Push resources up</p>	$ \begin{array}{r} 200 + 30 + 5 \\ + \underline{100 + 80 + 7} \\ \hline + 2 \\ 10 \end{array} $	$ \begin{array}{r} 235 \\ + \underline{187} \\ 2 \\ \hline 1 \end{array} $
<p>Step 5</p> <p>H T O</p>  <p>Push resources up</p>	$ \begin{array}{r} 200 + 30 + 5 \\ + \underline{100 + 80 + 7} \\ + 20 + 2 \\ \hline 100 \quad 10 \end{array} $ <p>I can regroup 10 tens for 1 hundred.</p>	$ \begin{array}{r} 235 \\ + \underline{187} \\ 22 \\ \hline 11 \end{array} $
<p>Step 6</p> <p>H T O</p>  <p>Push resources up</p>	$ \begin{array}{r} 200 + 30 + 5 \\ + \underline{100 + 80 + 7} \\ \hline 400 + 20 + 2 \\ 100 \quad 10 \end{array} $	$ \begin{array}{r} 235 \\ + \underline{187} \\ 422 \\ \hline 11 \end{array} $

422 whole	
235 part	187 part

Year 3

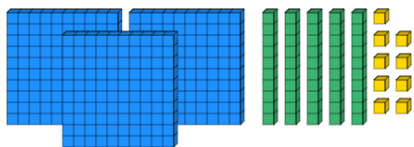
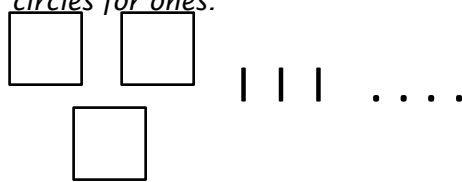
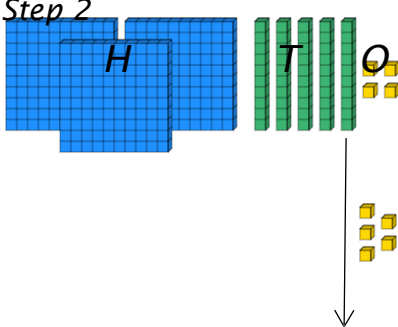
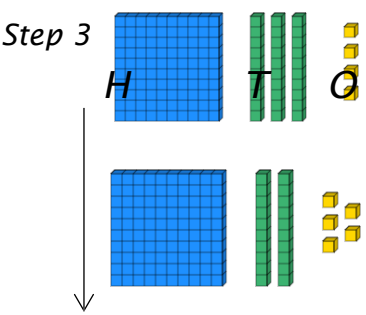
Subtraction

$$\text{minuend} - \text{subtrahend} = \text{difference}$$

Column subtraction expanded method

$$359 - 235 =$$

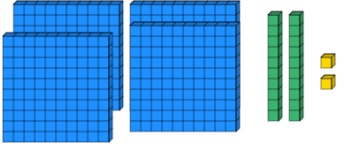
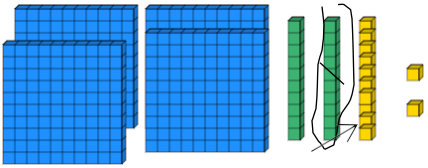
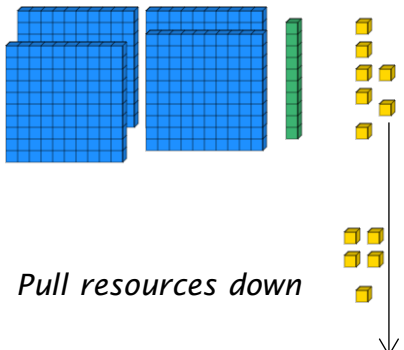
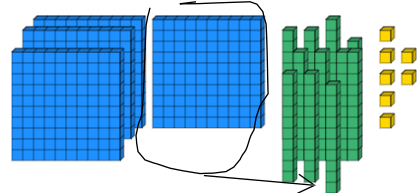
$\begin{array}{r} \text{minuend} \\ - \text{subtrahend} \\ \hline \text{difference} \end{array}$
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<p>Step 1</p> <p style="text-align: center;">H T O</p> 	$\begin{array}{r} 300 + 50 + 9 \\ - 200 + 30 + 5 \\ \hline \end{array}$	<p>Children can draw squares for hundreds, lines for tens and small circles for ones.</p> 				
<p>Step 2</p> 	$\begin{array}{r} 300 + 50 + 9 \\ - 200 + 30 + 5 \\ \hline 4 \end{array}$	$\begin{array}{r} 359 \\ - 235 \\ \hline 4 \end{array}$				
<p>Pull resources down</p> <p>Step 3</p> 	$\begin{array}{r} 300 + 50 + 9 \\ - 200 + 30 + 5 \\ \hline 100 + 20 + 4 \end{array}$	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="2" style="text-align: center;">359 whole</td> </tr> <tr> <td style="text-align: center;">235 part</td> <td style="text-align: center;">124 part</td> </tr> </table> $\begin{array}{r} 359 \\ - 235 \\ \hline 124 \end{array}$	359 whole		235 part	124 part
359 whole						
235 part	124 part					

Pull resources down

1 2 4

$$422 - 235 =$$

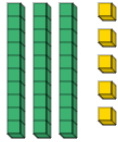
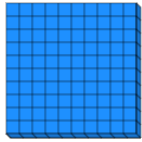
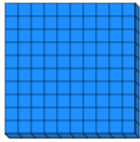
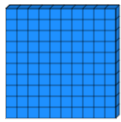
<p>Step 1</p> <p>H T O</p> 	$400 + 20 + 2$ $- \underline{200 + 30 + 5}$ <hr/>	$\begin{array}{r} 422 \\ - 235 \\ \hline \end{array}$ <hr/>
<p>Step 2</p> <p>H T O</p>  <p><i>I can regroup 1 ten for 10 ones.</i></p>	$\begin{array}{r} 10 \quad 10+ \\ 400 + \cancel{20} + 2 \\ - \underline{200 + 30 + 5} \end{array}$ <hr/>	$\begin{array}{r} 4 \quad \overset{10}{\cancel{2}} \quad \overset{10}{2} \\ - \underline{2 \quad 3 \quad 5} \\ \hline \end{array}$ <hr/>
<p>Step 3</p> <p>H T O</p>  <p><i>Pull resources down</i></p>	$\begin{array}{r} 10 \quad 10+ \\ 400 + \cancel{20} + 2 \\ - \underline{200 + 30 + 5} \end{array}$ <hr/>	$\begin{array}{r} 4 \quad \overset{10}{\cancel{2}} \quad \overset{10}{2} \\ - \underline{2 \quad 3 \quad 5} \\ \hline \end{array}$ <hr/>
<p>Step 4</p> <p>H T O</p>  <p><i>I can regroup 1 hundred for 10 tens.</i></p>	$\begin{array}{r} 10 \quad 10+ \\ 400 + \cancel{20} + 2 \\ - \underline{200 + 30 + 5} \\ \hline \quad \quad \quad 7 \end{array}$	$\begin{array}{r} 4 \quad \overset{10}{\cancel{2}} \quad \overset{10}{2} \\ - \underline{2 \quad 3 \quad 5} \\ \hline \quad \quad \quad 7 \end{array}$ <hr/>

Step 5

H

T

O



Pull resources down

$$\begin{array}{r}
 \begin{array}{ccc}
 300 & 100+ & 10+ \\
 & 10 & 10+
 \end{array} \\
 \cancel{400} + \cancel{20} + 2 \\
 - \quad \underline{200 + 30 + 5} \\
 100 + 80 + 7
 \end{array}$$

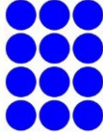
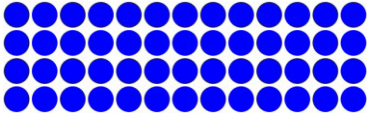
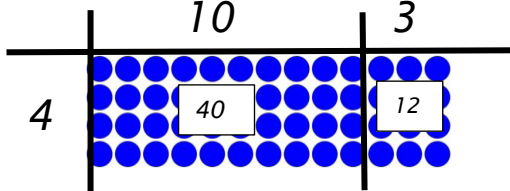
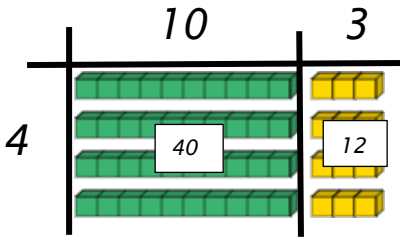
$$\begin{array}{r}
 \begin{array}{ccc}
 3 & 4 & 1 \\
 \cancel{4} & \cancel{1} & \cancel{2} \\
 & 2 & 12
 \end{array} \\
 - \quad \underline{235} \\
 187
 \end{array}$$

422 whole	
235 part	187 part

Year 3

Multiplication

multiplier x multiplicand = product

4×3  4 rows of 3							
4×13 4 rows of 13 	4×13 4 rows of 13 						
4×13 4 rows of 13 	4×13 <table border="1" data-bbox="810 1144 1369 1346"><tr><td>x</td><td>10</td><td>3</td></tr><tr><td>4</td><td>40</td><td>12</td></tr></table> $40 + 12 = 52$	x	10	3	4	40	12
x	10	3					
4	40	12					

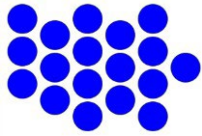
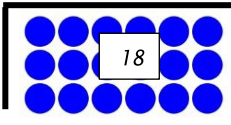
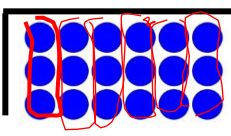
Year 3

Division

$$\text{dividend} \div \text{divisor} = \text{quotient}$$

$$\text{divisor} \overline{) \text{dividend}} \leftarrow \text{This is the division bracket.}$$

quotient

$18 \div 3 = 6$ 
$3 \overline{) 18}$ 
$3 \overline{) 18}$ 
$3 \overline{) 18}$