

YEAR 2

Addition & Subtraction

- Add 2-digit numbers (not crossing 10)
- Add 2-digit numbers (crossing 10)
- Subtract 2-digits (not crossing 10)



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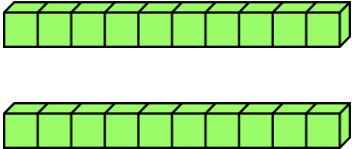
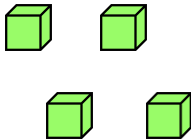
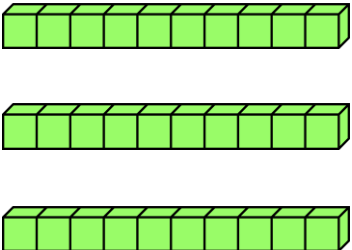
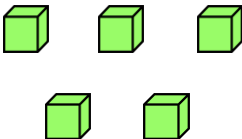
Block 2 – Week 7

Lesson 1

**Step: Add 2-digit numbers
(not crossing 10)**

(Practical)

Use the Base 10 to help you complete the addition calculations:

Tens	Ones
	
	
5	9

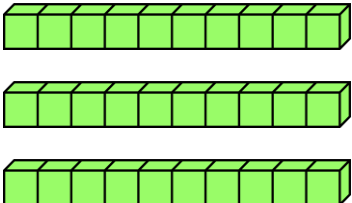

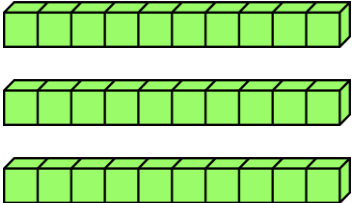
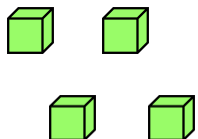
Column addition:

	2	4
+	3	5
	5	9

Number sentence:

24	+	35	=	59
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Use the Base 10 to help you complete the addition calculations:

Tens	Ones
	
	
6	6


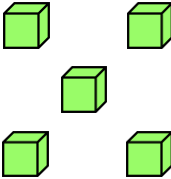
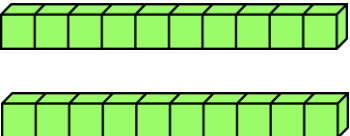
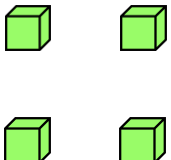
Column addition:

$$\begin{array}{r}
 \begin{array}{|c|} \hline 3 \\ \hline \end{array}
 \begin{array}{|c|} \hline 2 \\ \hline \end{array} \\
 + \begin{array}{|c|} \hline 3 \\ \hline \end{array}
 \begin{array}{|c|} \hline 4 \\ \hline \end{array} \\
 \hline
 \begin{array}{|c|} \hline 6 \\ \hline \end{array}
 \begin{array}{|c|} \hline 6 \\ \hline \end{array}
 \end{array}$$

Number sentence:

$$\begin{array}{|c|} \hline 32 \\ \hline \end{array}
 + \begin{array}{|c|} \hline 34 \\ \hline \end{array}
 = \begin{array}{|c|} \hline 66 \\ \hline \end{array}$$

Use the Base 10 to help you complete the addition calculations:

Tens	Ones
	
	
3	9

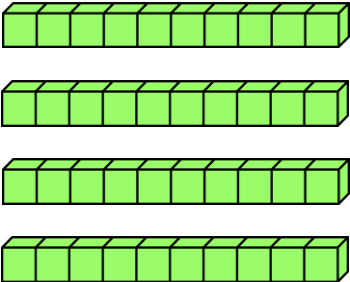
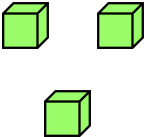
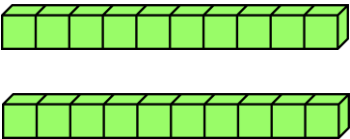
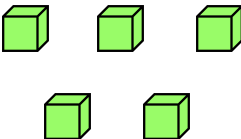
Column addition:

$$\begin{array}{r}
 \begin{array}{|c|} \hline 1 \\ \hline \end{array}
 \begin{array}{|c|} \hline 5 \\ \hline \end{array} \\
 + \begin{array}{|c|} \hline 2 \\ \hline \end{array}
 \begin{array}{|c|} \hline 4 \\ \hline \end{array} \\
 \hline
 \begin{array}{|c|} \hline 3 \\ \hline \end{array}
 \begin{array}{|c|} \hline 9 \\ \hline \end{array}
 \end{array}$$

Number sentence:

$$\begin{array}{|c|} \hline 15 \\ \hline \end{array}
 +
 \begin{array}{|c|} \hline 24 \\ \hline \end{array}
 =
 \begin{array}{|c|} \hline 39 \\ \hline \end{array}$$

Use the Base 10 to help you complete the addition calculations:

Tens	Ones
	
	
6	8

Column addition:

$$\begin{array}{r}
 \begin{array}{|c|} \hline 4 \\ \hline \end{array}
 \begin{array}{|c|} \hline 3 \\ \hline \end{array} \\
 + \begin{array}{|c|} \hline 2 \\ \hline \end{array}
 \begin{array}{|c|} \hline 5 \\ \hline \end{array} \\
 \hline
 \begin{array}{|c|} \hline 6 \\ \hline \end{array}
 \begin{array}{|c|} \hline 8 \\ \hline \end{array}
 \end{array}$$





Number sentence:

$$\begin{array}{|c|} \hline 43 \\ \hline \end{array}
 +
 \begin{array}{|c|} \hline 25 \\ \hline \end{array}
 =
 \begin{array}{|c|} \hline 68 \\ \hline \end{array}$$

Practical:

Select a calculation card and build it using equipment.
Solve and represent the calculation using column addition and a number sentence.

Addition board

Tens	Ones
	
	

Complete it:

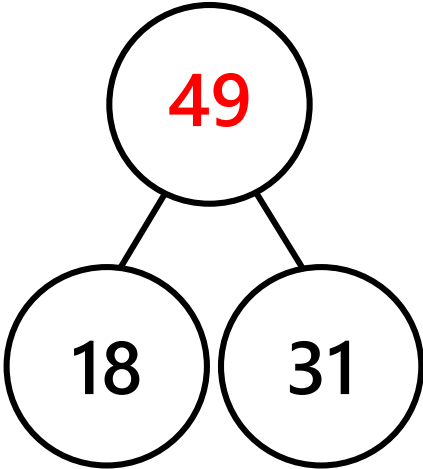
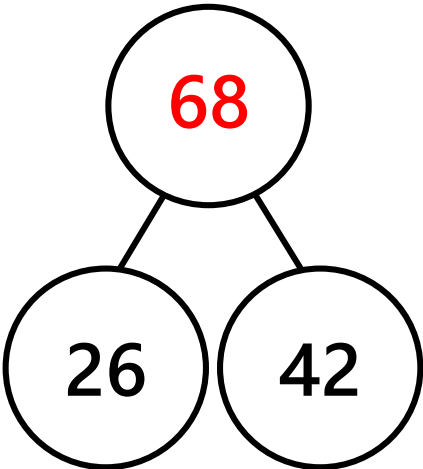
$$\begin{array}{r}
 \boxed{2} \boxed{7} \\
 + \boxed{1} \boxed{4} \\
 \hline
 \boxed{4} \boxed{1} \\
 \text{1}
 \end{array}$$

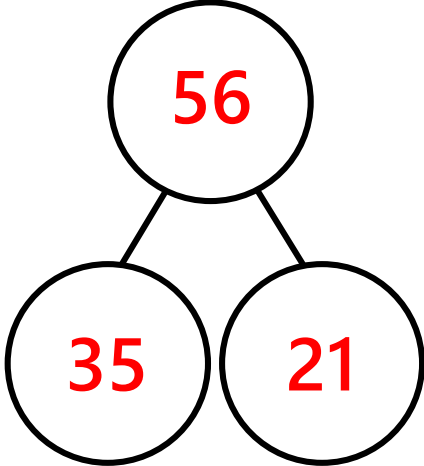
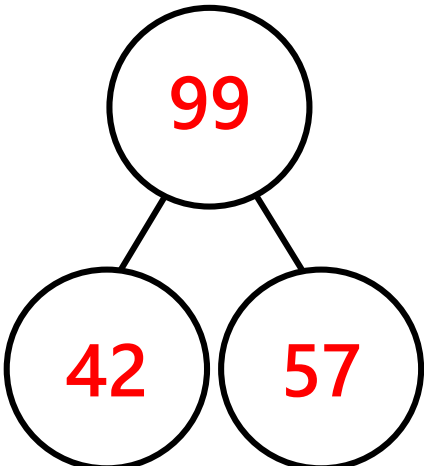
Number sentences:

$$\begin{array}{l}
 \underline{27} + \underline{14} = \underline{41} \\
 \underline{41} = \underline{27} + \underline{14}
 \end{array}$$



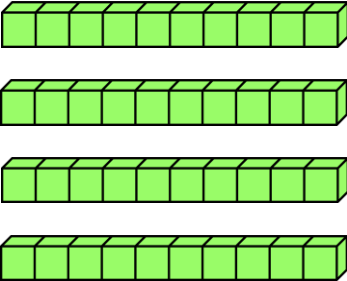

27 + 14

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Addition problem	Column addition	Part-whole model
$18 + 31 = \underline{49}$ 8 ones + 1 ones = <u>9</u> ones. 1 ten + 3 tens = <u>4</u> tens. <u>4</u> tens + <u>9</u> ones = <u>49</u>	$ \begin{array}{r} \begin{array}{ c c } \hline 1 & 8 \\ \hline \end{array} \\ + \begin{array}{ c c } \hline 3 & 1 \\ \hline \end{array} \\ \hline \begin{array}{ c c } \hline 4 & 9 \\ \hline \end{array} \end{array} $	
$26 + 42 = \underline{68}$ 6 ones + 2 ones = <u>8</u> ones. 2 tens + 4 tens = <u>6</u> tens. <u>6</u> tens + <u>8</u> ones = <u>68</u>	$ \begin{array}{r} \begin{array}{ c c } \hline 2 & 6 \\ \hline \end{array} \\ + \begin{array}{ c c } \hline 4 & 2 \\ \hline \end{array} \\ \hline \begin{array}{ c c } \hline 6 & 8 \\ \hline \end{array} \end{array} $	

Addition problem	Column addition	Part-whole model
$35 + 21 = \underline{56}$ 5 ones + 1 ones = <u>6</u> ones. 3 tens + 2 tens = <u>5</u> tens. <u>5</u> tens + <u>6</u> ones = <u>56</u>	$ \begin{array}{r} \begin{array}{ c c } \hline 3 & 5 \\ \hline 2 & 1 \\ \hline \hline 5 & 6 \\ \hline \end{array} \\ + \\ \hline \end{array} $	
$42 + 57 = \underline{99}$ 2 ones + 7 ones = <u>9</u> ones. 4 tens + 5 tens = <u>9</u> tens. <u>9</u> tens + <u>9</u> ones = <u>99</u>	$ \begin{array}{r} \begin{array}{ c c } \hline 4 & 2 \\ \hline 5 & 7 \\ \hline \hline 9 & 9 \\ \hline \end{array} \\ + \\ \hline \end{array} $	

Spot and explain the mistake made.

Tens	Ones
	
	
5	5

Column addition:

$$\begin{array}{r}
 \begin{array}{|c|} \hline 1 \\ \hline \end{array}
 \begin{array}{|c|} \hline 2 \\ \hline \end{array} \\
 + \begin{array}{|c|} \hline 4 \\ \hline \end{array}
 \begin{array}{|c|} \hline 3 \\ \hline \end{array} \\
 \hline
 \begin{array}{|c|} \hline 50 \\ \hline \end{array}
 \begin{array}{|c|} \hline 5 \\ \hline \end{array}
 \end{array}$$

The tens column has been completed incorrectly.
There are 5 tens (not 50 tens).

Complete the column addition calculations to make them true.

A

	5	4
+	3	3
<hr/>		
	8	7

B

	1	
+	4	
<hr/>		
	5	8

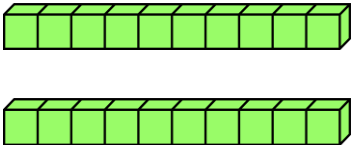
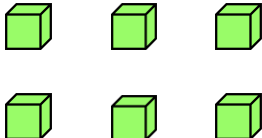
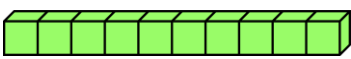
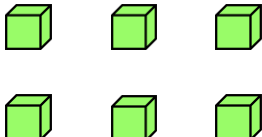
How many different ways can B be completed?

Lesson 2

**Step: Add 2-digit numbers
(crossing 10)**

(Practical)

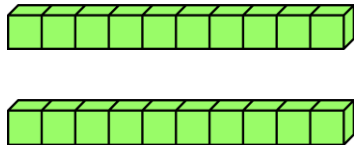
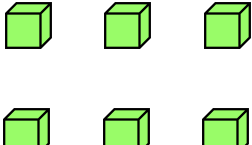
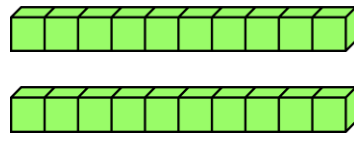
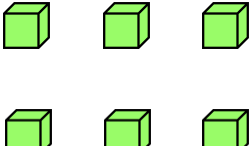
Expanded column addition:

Tens	Ones
	
	
40	12

	2	6
+	1	6
	1	2
+	3	0
	4	2

Expanded column addition shows the value of each digit.

Compact column addition:

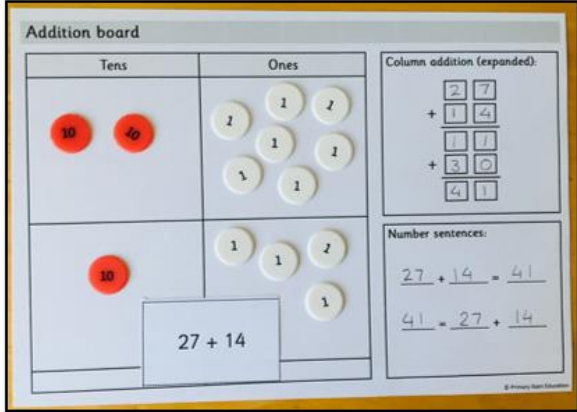
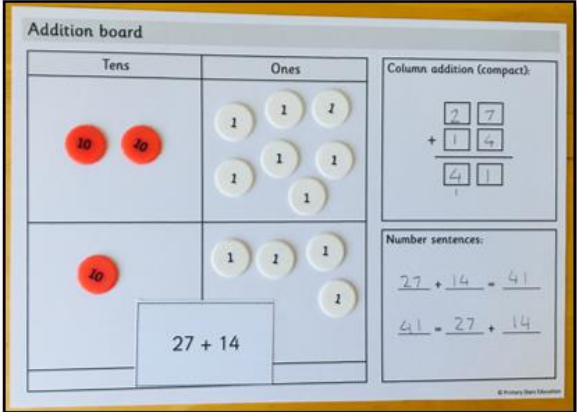
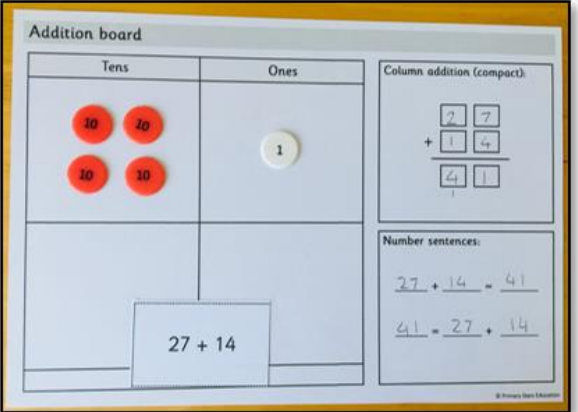
Tens	Ones
	
	
4	2

$$\begin{array}{r}
 \begin{array}{|c|c|} \hline 2 & 6 \\ \hline \end{array} \\
 + \begin{array}{|c|c|} \hline 1 & 6 \\ \hline \end{array} \\
 \hline
 \begin{array}{|c|c|} \hline 4 & 2 \\ \hline \end{array} \\
 1
 \end{array}$$

Compact column addition shows the exchange of ten ones to one ten.

Practical:

Select a calculation card and build it using Base 10.
Solve the calculation and show this as a column addition.

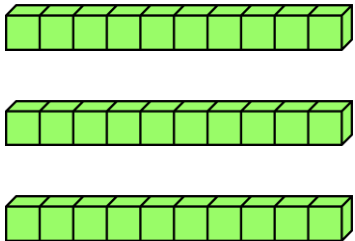
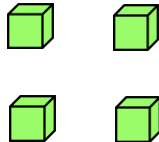
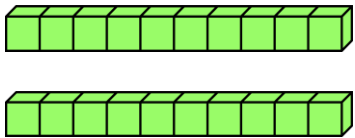
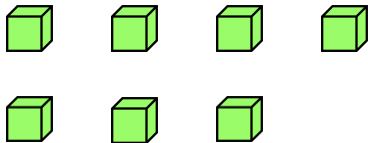
Expanded column addition	Compact column addition	
<p>Step 1: Build each number allowing you to visualise the number of tens and ones. Use this to complete the expanded column addition.</p> 	<p>Step 1: Build each number allowing you to visualise the number of tens and ones.</p> 	<p>Step 2: Exchange ten ones for one ten and show this using compact column addition.</p> 

Remember... ten ones can be exchanged for one ten.

Lesson 3

**Step: Add 2-digit numbers
(crossing 10)**

Expanded column addition:

Tens	Ones
	
	
50	11

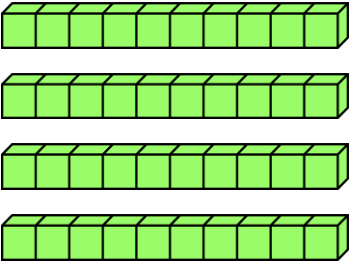
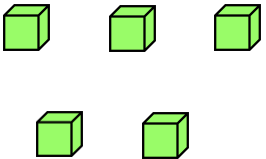

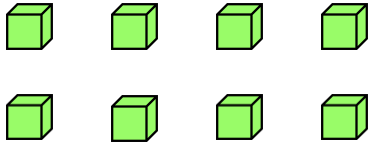
Column addition:

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

Number sentence:

34	+	27	=	61
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Expanded column addition:

Tens	Ones
	
	
50	13

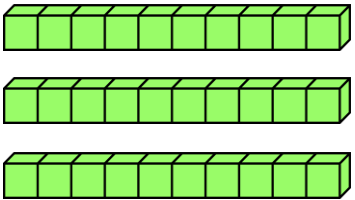
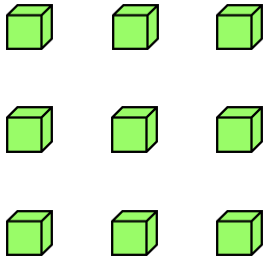
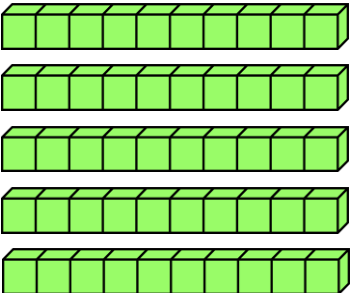
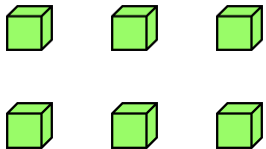
Column addition:

	4	5
+	1	8
	1	3
+	5	0
	6	3

Number sentence:

$$\boxed{45} + \boxed{18} = \boxed{63}$$

Expanded column addition:

Tens	Ones
	
	
80	15

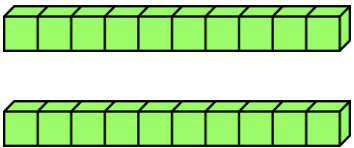
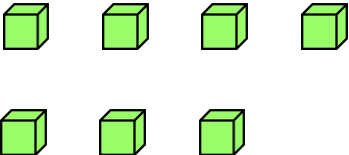
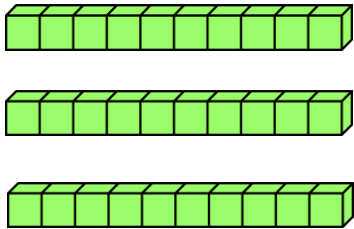
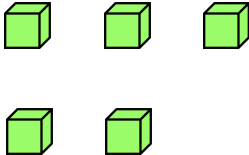
Column addition:

	3	9
+	5	6
	1	5
+	8	0
	9	5

Number sentence:

39	+	56	=	95
----	---	----	---	----

Compact column addition:

Tens	Ones
	
	
5	2

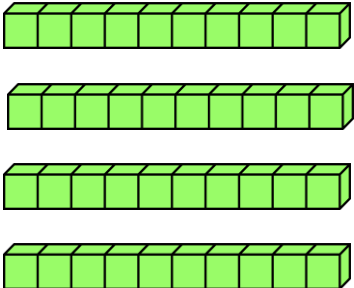
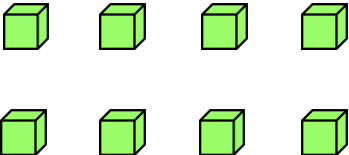
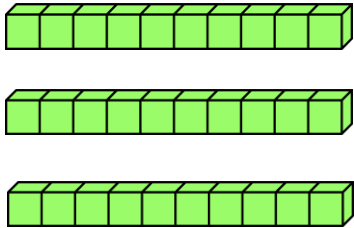
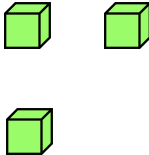
Column addition:

	2	7
+	2	5
	5	2
	1	

Number sentence:

27	+	25	=	52
----	---	----	---	----

Compact column addition:

Tens	Ones
	
	
7	1

Column addition:

$$\begin{array}{r}
 \begin{array}{|c|} \hline 4 \\ \hline \end{array}
 \begin{array}{|c|} \hline 8 \\ \hline \end{array} \\
 + \begin{array}{|c|} \hline 2 \\ \hline \end{array}
 \begin{array}{|c|} \hline 3 \\ \hline \end{array} \\
 \hline
 \begin{array}{|c|} \hline 7 \\ \hline \end{array}
 \begin{array}{|c|} \hline 1 \\ \hline \end{array} \\
 1
 \end{array}$$

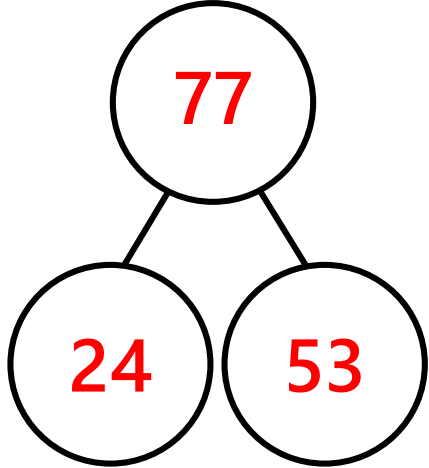
Number sentence:

$$\begin{array}{|c|} \hline 48 \\ \hline \end{array}
 +
 \begin{array}{|c|} \hline 23 \\ \hline \end{array}
 =
 \begin{array}{|c|} \hline 71 \\ \hline \end{array}$$

Complete:

Addition problem	Column addition	Part-whole model
<p>33 + 65 = <u>98</u></p> <p>3 ones + 5 ones = <u>8</u> ones.</p> <p>3 tens + 6 tens = <u>9</u> tens.</p> <p><u>9</u> tens + <u>8</u> ones = <u>98</u></p>	<div> <div> <div>3</div> <div>6</div> <div>9</div> </div> <div> <div>3</div> <div>5</div> <div>8</div> </div> </div>	

Complete:

Addition problem	Column addition	Part-whole model
$24 + 53 = \underline{77}$ 4 ones + 3 ones = <u>7</u> ones. 2 tens + 5 tens = <u>7</u> tens. <u>7</u> tens + <u>7</u> ones = <u>77</u>	$\begin{array}{ c c } \hline 2 & 4 \\ \hline 5 & 3 \\ \hline 7 & 7 \\ \hline \end{array}$	

Place all four digit cards in the number sentence below.

<div>3</div>	<div>5</div>	<div>2</div>	<div>4</div>		
<div></div>	<div></div>	+	<div></div>	<div></div>	= ?

What is the largest total you can make? $52 + 43 = 95$

What is the smallest total you can make? $25 + 34 = 59$

$$4 \text{ tens} + 3 \text{ ones} + 2 \text{ tens} + \underline{\quad} \text{ ones}$$

The missing number of ones is less than 3.

List all possible ways of completing the calculation.

$$43 + 22 = 65$$

$$43 + 21 = 64$$

$$43 + 20 = 63$$

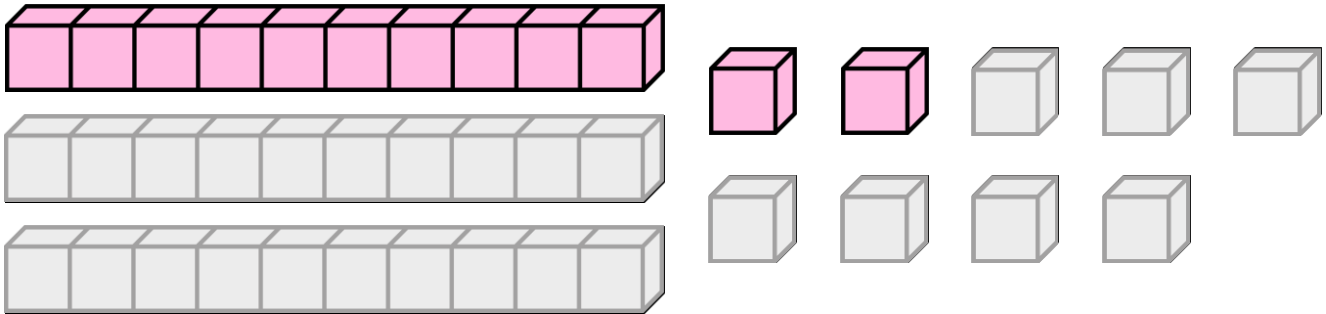
Lesson 4

**Step: Subtract with 2-digits
(not crossing 10)**

(Practical)

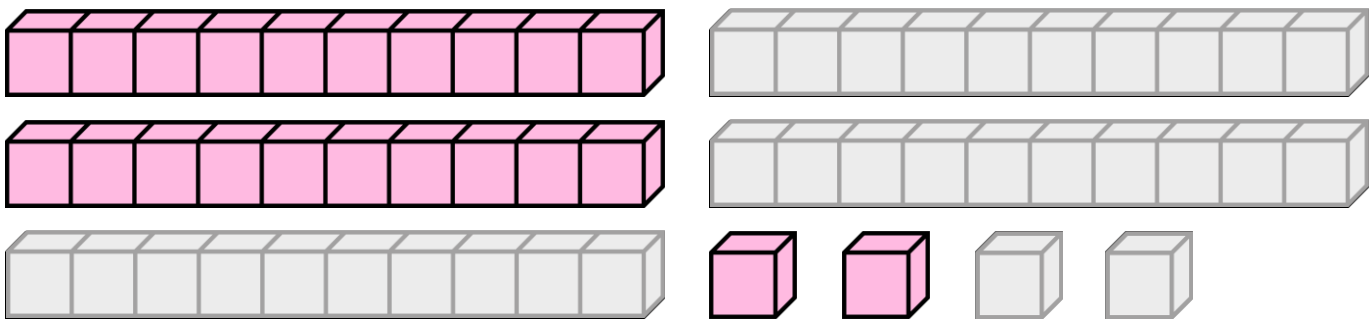
Use Base 10 to help you complete the subtraction calculations.

$$39 - 27$$



$$\begin{array}{r} 39 \\ - 27 \\ \hline 12 \end{array}$$

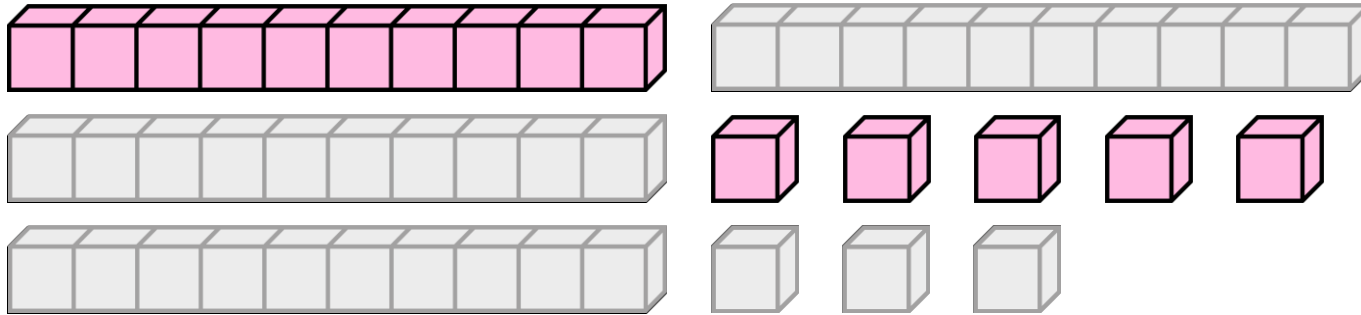
$$54 - 32$$



$$\begin{array}{r} 54 \\ - 32 \\ \hline 22 \end{array}$$

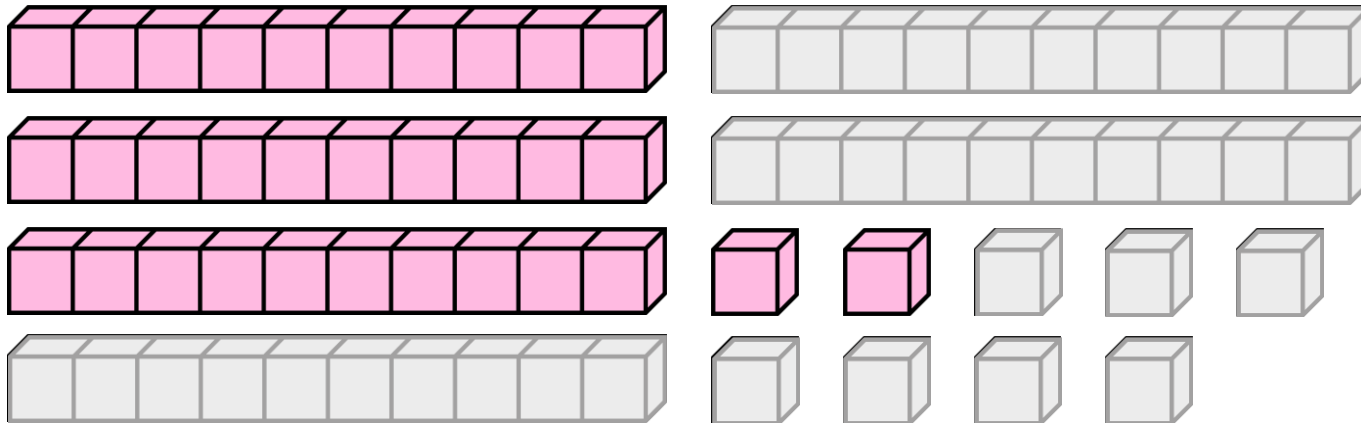
Use Base 10 to help you complete the subtraction calculations.

$$48 - 33$$



$$\begin{array}{r} 48 \\ - 33 \\ \hline 15 \end{array}$$

$$69 - 37$$



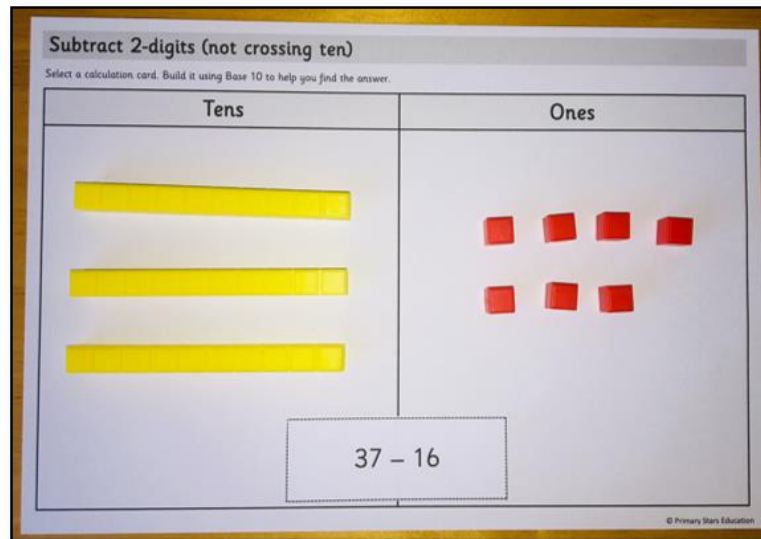
$$\begin{array}{r} 69 \\ - 37 \\ \hline 32 \end{array}$$

Practical:

Select a calculation card and build it using Base 10.
Solve the calculation and show this as a column subtraction.

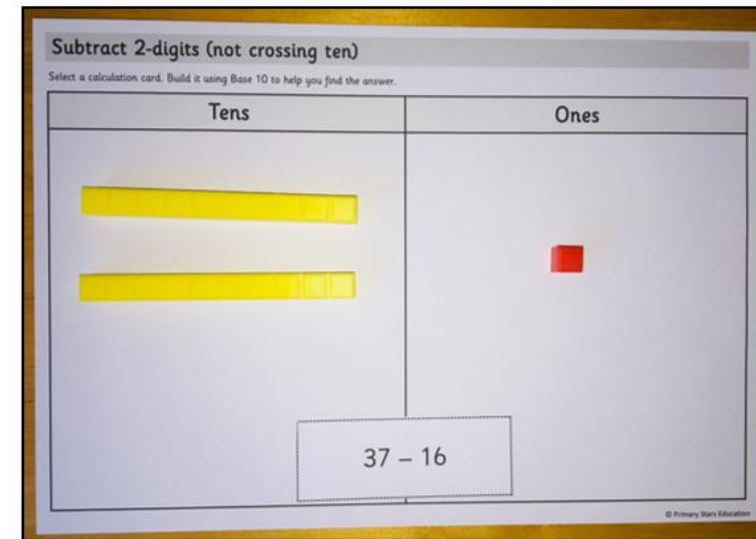
Step 1:

Build the first number in the calculation.



Step 2:

Take away the correct number of ones followed by the correct number of tens to reveal the answer.

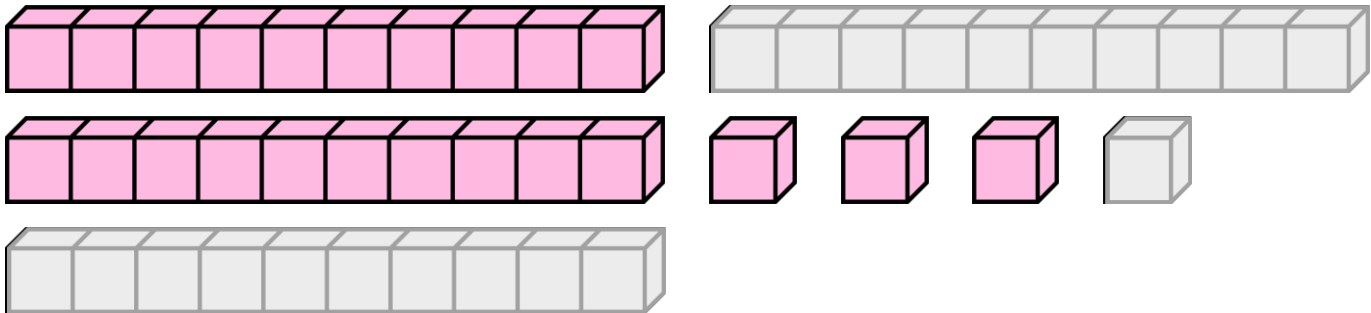


Lesson 5

**Step: Subtract with 2-digits
(not crossing 10)**

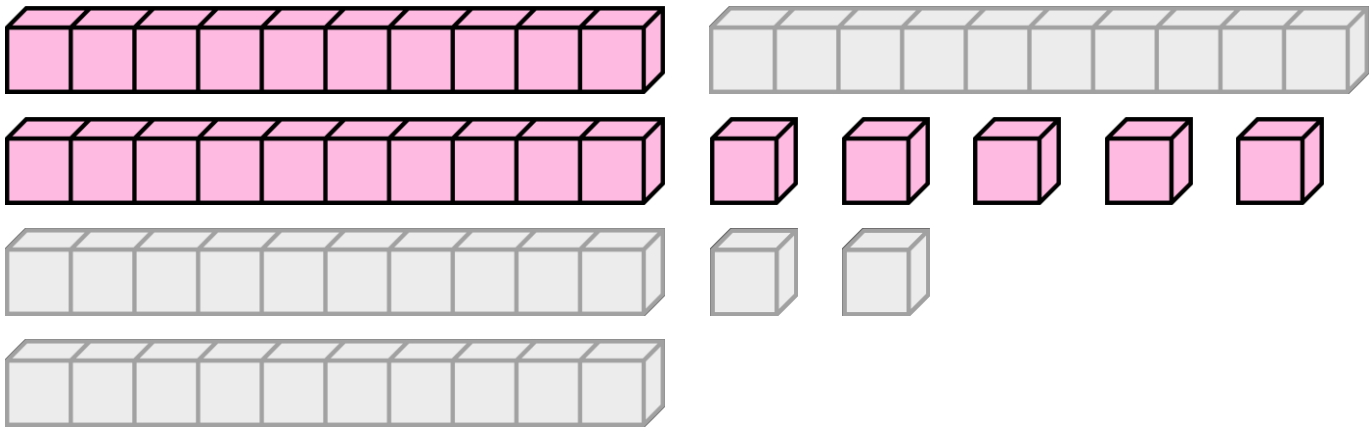
Use Base 10 to help you complete the subtraction calculations.

44 - 21

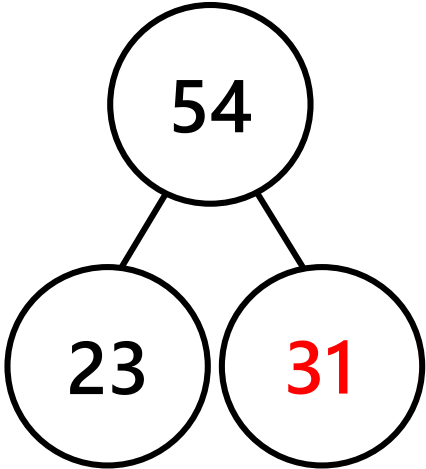
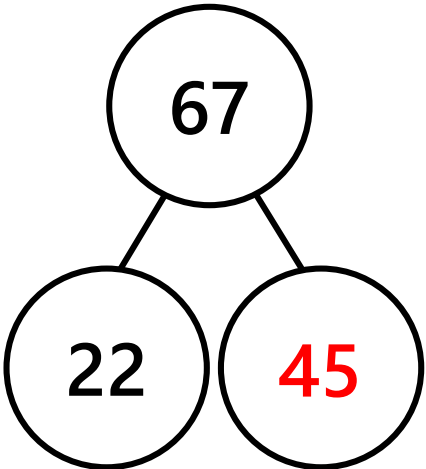


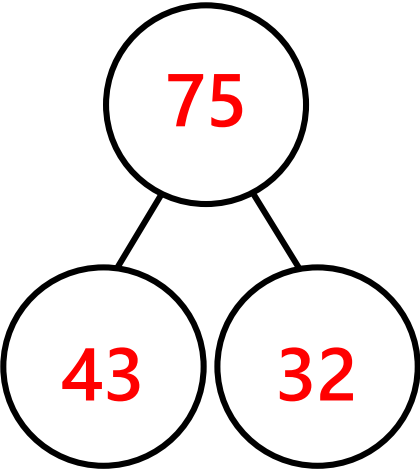
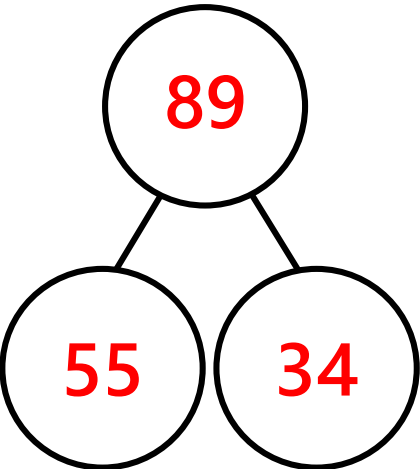
$$\begin{array}{r} 44 \\ - 21 \\ \hline 23 \end{array}$$

57 - 32



$$\begin{array}{r} 57 \\ - 32 \\ \hline 25 \end{array}$$

Subtraction problem	Column subtraction	Part-whole model
$54 - 23 = \underline{31}$ 4 ones – 3 ones = <u>1</u> one. 5 tens – 2 tens = <u>3</u> tens. <u>3</u> tens – <u>1</u> one = <u>31</u>	$\begin{array}{r} \boxed{5} \quad \boxed{4} \\ - \boxed{2} \quad \boxed{3} \\ \hline \boxed{3} \quad \boxed{1} \end{array}$	
$67 - 22 = \underline{45}$ 7 ones – 2 ones = <u>5</u> ones. 6 tens – 2 tens = <u>4</u> tens. <u>4</u> tens – <u>5</u> ones = <u>45</u>	$\begin{array}{r} \boxed{6} \quad \boxed{7} \\ - \boxed{2} \quad \boxed{2} \\ \hline \boxed{4} \quad \boxed{5} \end{array}$	

Subtraction problem	Column addition	Part-whole model
$75 - 43 = \underline{32}$ 5 ones – 3 ones = <u>2</u> ones. 7 tens – 4 tens = <u>3</u> tens. <u>3</u> tens – <u>2</u> ones = <u>32</u>	<div> <div>75</div> <div>– 43</div> <div>32</div> </div>	
$89 - 55 = \underline{34}$ 9 ones – 5 ones = <u>4</u> ones. 8 tens – 5 tens = <u>3</u> tens. <u>3</u> tens – <u>4</u> ones = <u>34</u>	<div> <div>89</div> <div>– 55</div> <div>34</div> </div>	



I have complete the subtraction calculation correctly.

$$78 - 3 \boxed{4} = 43$$

Is Jack correct?

Explain your answer.

No, $78 - 34 = 44$.

The number in the box should be 5 as $78 - 35 = 43$.

Jess has 11 marbles.
Dom has 35 marbles.
Asha has 23 marbles.

a) How many more marbles does
Asha have than Jess?

$$\boxed{23} - \boxed{11} = \boxed{12}$$

b) How many more marbles does
Dom have than Asha?

$$\boxed{35} - \boxed{23} = \boxed{12}$$

c) How many more marbles does
Dom have than Jess?

$$\boxed{35} - \boxed{11} = \boxed{24}$$