

## Column addition (with carrying) lesson plan

<b>Subject:</b> Maths	<b>Lesson Title:</b> Column addition (with carrying)
<b>Date:</b>	<b>Time Span:</b>
<b>Year Group:</b> Year 3	<b>Group Size:</b> 30

<b>Desired Learning Outcomes</b>	<b>NC PoS ref:</b>
To be able to add in columns (with carrying)	

<b>Key Language:</b> Column, horizontal, vertical, units, tens, hundreds, thousands, tenths and carry	<b>Use of ICT:</b> Smartboard for introduction
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<b>Assessment (Make reference to each section of the lesson)</b> Intro – Level of work based on ongoing assessment Main – Mark children’s work as they complete it. Sit with any children who are struggling, bringing them back to the carpet if necessary. If still unsure by end of lesson sit with TA during plenary. Plenary – Can children explain their working out to a partner, using the correct terminology e.g. column, units, tens etc?
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<b>Use of Other Adults</b> TA to monitor progress of children once they begin working TA to sit and continue working with children (of any ability) who struggled in plenary
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<b>Anticipated Misconceptions/Difficulties</b> Children starting on the left Children not putting numbers in the correct columns e.g. putting units under tens Children not putting only 1 number in each square and thus getting columns confused Children forgetting to write the + sign to show the operation being calculated Children forgetting to write the 1 when they carry
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<b>Resources</b> Number line up to 50 available from <a href="http://www.sparklebox.co.uk/2576-2580/sb2579.html#.UFmg1BgQmPo">http://www.sparklebox.co.uk/2576-2580/sb2579.html#.UFmg1BgQmPo</a> (laminated and cut up) Squared paper for plenary Copies of success criteria on children’s tables (not for lower ability)
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	<b>Time</b>																																	
<p><b>Introduction</b></p> <p>TA to take children who are unable to add a 1-digit number to a 2-digit number (e.g. <math>47 + 8</math>) and / or are unable to add multiples of 10 (e.g. <math>40 + 20</math>)</p> <p>Practice counting up to 100, especially focusing on crossing tens barriers</p> <p>Practice counting up to 100 in tens</p> <p>Calculate mentally by putting first number in head and counting on, using fingers to keep count</p> <p>Work on setting these questions out in columns and calculating them mentally</p> <p>Go through PowerPoint with the following:</p> <ul style="list-style-type: none"> <li>• Revise what column and vertical mean</li> <li>• Revise 4 key teaching points (see below)</li> <li>• Explanation of how when the units column is full i.e. has 10 units in it, these 10 units need to move next door to the tens and become 1 ten, with several examples</li> <li>• Go through examples of how to add 2-digit and 3-digit numbers e.g.</li> </ul> <table border="1" data-bbox="220 689 577 833"> <tr> <td>1)</td> <td>4</td> <td>7</td> <td>2)</td> <td>2</td> <td>3</td> <td>9</td> </tr> <tr> <td></td> <td>+</td> <td>2</td> <td>5</td> <td></td> <td>+</td> <td>5</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>7</td> <td>2</td> <td></td> <td></td> <td>2</td> <td>9</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> </table> <p>(With every example reinforce four main teaching points:</p> <ul style="list-style-type: none"> <li>➤ Start on the right-hand side</li> <li>➤ Put only 1 number in a square</li> <li>➤ Write the +</li> <li>➤ Put units under units and tens under tens and so on</li> <li>➤ Putting the 1 you carry in the correct column</li> </ul> <p>Middle and higher ability start work go to stick success criteria in books</p> <ul style="list-style-type: none"> <li>• Model for G+T how to use column addition with number with decimal places</li> </ul> <p>Remind children to leave space between calculations and not squash them together</p> <p>Have a copy of the success criteria to stick at the top of their page on each child's desk (except for lower ability as they do not need to think about all of the criteria)</p>	1)	4	7	2)	2	3	9		+	2	5		+	5	2			7	2			2	9	1			1				1			15 mins
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<p><b>Main (including differentiated tasks)</b></p> <p>(At regular intervals have children stop and check their work against success criteria)</p> <p>Lower ability – add 1-digit numbers to 2-digit numbers (give number line if really cannot work without it)</p> <p>Middle ability – add 2-digit numbers (with carrying)</p> <p>Higher ability – add 3-digit numbers (with carrying)</p> <p>Extension – add 4-digit numbers and numbers with decimal places (with carrying)</p>	20 mins																																	
<p><b>Plenary</b></p> <p>Have children self-asses their work against the success criteria</p> <p>In ability partners give children 1 question to do each</p> <p>Children need to talk to their partner, explaining what they are doing e.g. I will put the 6 under the 5 because they are both units. Then I will put the 40 under the 20 because they are both tens. Then I draw my equals line with a ruler. Then I start on the right and add the units first, carrying a ten and writing it under the tens, and then add the tens</p> <p>Children swap over and partner who spoke first now listens</p>	10 mins																																	