

Year 3 Maths Planning (Weekly)

Term: Spring 1 Week 2

DAY	We Are Learning To (WALT):	MODEL / INTRODUCTION	INDEPENDENT WORK	PLENARY
M	<p>Mental: Count in halves</p> <p>Main: Use column addition (with several numbers)</p> <p>Spr006</p>	<p>Mental: Show children a number line jumping in halves i.e. 0, ½ 1 1 ½ 2 etc. Have them count in halves along the number line</p> <p>Main: Teacher to work with children who found basic column addition difficult yesterday</p> <p>TA to take children who were confident with basic column addition yesterday and model for them how to complete several examples of adding several numbers together</p> <p>Revise 5 key teaching points (see below)</p> <p>With every example reinforce 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>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>	<p>(At regular intervals have children stop and check their work against success criteria)</p> <p>Children who found basic column addition difficult in the previous lesson to work on this again</p> <p>Lower ability – add several 1-digit numbers (give number line if really cannot work without it)</p> <p>Middle ability – add several 2-digit numbers</p> <p>Higher ability – add several 3-digit numbers</p> <p>Extension – add several numbers with decimal places</p>	<p>Have children self-assess their work against the success criteria</p> <p>In ability partners children to make up an example of their own (tell them that it needs to require them to carry)</p> <p>Children to complete they created</p> <p>Swap boards and check if agree with answers</p>

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Tu	<p>Mental: Count in thirds</p> <p>Main: Use column subtraction (<b>no</b> zeros in the top number)</p> <p>Spr007</p>	<p>Mental: Show children a number line jumping in thirds i.e. 0, <math>\frac{1}{3}</math>, <math>\frac{2}{3}</math>, 1, <math>1\frac{1}{3}</math>, <math>1\frac{2}{3}</math>, 2 etc. Have them count in thirds along the number line</p> <p>Main: TA to take children who are unable to subtract a 1-digit number from a 2-digit number that requires crossing tens barriers (e.g. 42 - 4) Practice counting down from 100, especially focusing on crossing tens barriers Practice counting down from 100 in tens Calculate mentally by putting first number in head and counting back, using fingers to keep count Work on setting these questions out in columns and calculating them mentally 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 bottom number in a column is larger than the top number, you need to take a ten / hundred / thousand from the next column to the left, with several examples</li> <li>• Go through examples of how to subtract 2-digit and 3-digit numbers e.g.</li> </ul> <table border="1" data-bbox="528 887 913 1027"> <tr> <td></td><td></td><td>3</td><td></td><td></td><td></td><td></td><td>7</td><td></td><td></td> </tr> <tr> <td>1)</td><td></td><td>4</td><td>2</td><td>2)</td><td></td><td>2</td><td>8</td><td>2</td><td></td> </tr> <tr> <td></td><td></td><td>-</td><td>2</td><td></td><td></td><td>-</td><td></td><td>5</td><td>7</td> </tr> <tr> <td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td>2</td><td></td><td>5</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>➤ Cross out the number you take from and write its replacement above it</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 subtraction with number with decimal places</li> </ul> <p>Remind children to leave space between calculations and not squash them together 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>			3					7			1)		4	2	2)		2	8	2				-	2			-		5	7				1				2		5	<p>(At regular intervals have children stop and check their work against the success criteria)</p> <p>Lower ability – subtract 1-digit numbers from 2-digit numbers (give number line if really needed)</p> <p>Middle ability – subtract 2-digit numbers</p> <p>Higher ability – subtract 3-digit numbers</p> <p>Extension – subtract 4-digit numbers and numbers with decimal places</p>	<p>Have children self-assesses their work against the success criteria In ability partners give children 1 question to do each 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 20 under the 40 because they are both tens. Then I draw my equals line with a ruler. Then I start on the right and subtract the units first, borrowing a ten. I cross out the old tens number and write the new number in the tens, and then I subtract the tens Children swap over and partner who spoke first now listens</p>
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W	<p>Mental: Count in quarters</p> <p>Main: Use column subtraction (<b>with</b> zeros in the top number)</p> <p>Spr008</p>	<p>Mental: Show children a number line jumping in quarters i.e. 0, <math>\frac{1}{4}</math> <math>\frac{2}{4}</math> <math>\frac{3}{4}</math> 1 <math>1\frac{1}{4}</math> <math>1\frac{2}{4}</math> <math>1\frac{3}{4}</math> 2 etc. Have them count in quarters along the number line</p> <p>Main: TA to take children who were insecure on column subtraction in previous lesson, in which the top numbers never had zeros Revise teaching points from this lesson and go through corrections and some more examples Go through PowerPoint with the following:</p> <ul style="list-style-type: none"> <li>• Revise what column and vertical mean</li> <li>• Revise 5 key teaching points (see below)</li> <li>• Explanation of how when the bottom number in a column is larger than the top number, you need to take a ten / hundred / thousand from the next column to the left, with several examples of numbers with a top number containing a zero</li> <li>• Go through examples of how to subtract 2-digit and 3-digit numbers by going to the next column to the left to borrow to replace the zero e.g. (With every example reinforce main teaching points: <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>➤ Cross out the number you take from and write its replacement above it</li> <li>➤ <b>Go to the next column to replace the zero. Do not swap the numbers around</b></li> </ul> </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 subtraction with number with decimal places where writing in the decimal point followed by some zeros is helpful e.g. 7 – 1.65</li> </ul> <p>Remind children to leave space between calculations and not squash them together 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>	<p>(At regular intervals have children stop and check their work against the success criteria)</p> <p>Lower ability – subtract 1-digit numbers from 2-digit numbers (give number line if really needed)</p> <p>Middle ability – subtract 2-digit numbers (with a zero in the top number)</p> <p>Higher ability – subtract 3-digit numbers (with a zero in the top number)</p> <p>Extension – subtract 4-digit numbers and numbers with decimal places (with a zero in the top number)</p>	<p>Have children self-assess their work against the success criteria In ability partners give children 1 question to do each Children need to talk to their partner, explaining what they are doing e.g. I will put the 6 under the 0 because they are both units. Then I will put the 20 under the 40 because they are both tens. Then I draw my equals line with a ruler. Then I start on the right and subtract the units first, borrowing a ten. I cross out the old tens number and write the new number in the tens, and then I subtract the tens Children swap over and partner who spoke first now listens</p>

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Th	<p>Mental: Count in tenths</p> <p>Main: Use column addition and subtraction</p> <p>Spr009</p>	<p>Mental: Show children a number line jumping in tenths i.e. 0, <math>\frac{1}{10}</math>, <math>\frac{2}{10}</math>, <math>\frac{3}{10}</math>, <math>\frac{4}{10}</math> etc. Have them count in quarters along the number line</p> <p>Main: TA to take children who are unable to add / subtract a 1-digit number from / to a 2-digit number that requires crossing tens barriers (e.g. <math>48 + 4</math> or <math>42 - 4</math>) Practice counting up and down from 100, especially focusing on crossing tens barriers Practice counting up and down from 100 in tens Calculate mentally by putting first number in head and counting on / back, using fingers to keep count Work on setting these questions out in columns and calculating them mentally 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 when the two digits in a column add up to 10 or more you need to carry a ten / hundred / thousand to the next column to the left</li> <li>• Explanation of how when the bottom number in a column is greater than the top number, you need to take a ten / hundred / thousand from the next column to the left</li> <li>• Go through examples of how to add and subtract 2-digit and 3-digit numbers e.g.</li> </ul> <table border="1" data-bbox="546 858 913 992"> <tr> <td></td><td></td><td>3</td><td></td><td></td><td></td><td></td><td></td><td>7</td><td></td><td></td> </tr> <tr> <td>1)</td><td></td><td>4</td><td>2</td><td>2)</td><td></td><td>2</td><td>8</td><td>2</td><td></td><td></td> </tr> <tr> <td></td><td></td><td>-</td><td>2</td><td>5</td><td></td><td>-</td><td></td><td>5</td><td>7</td><td></td> </tr> <tr> <td></td><td></td><td></td><td>1</td><td>8</td><td></td><td></td><td>2</td><td>2</td><td>5</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>➤ Carry / the ten / hundred / thousand or cross out the number you take from and write its replacement above it</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 and subtraction with number with decimal places</li> </ul> <p>Remind children to leave space between calculations and not squash them together 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>			3						7			1)		4	2	2)		2	8	2					-	2	5		-		5	7					1	8			2	2	5		<p>(At regular intervals have children stop and check their work against the success criteria)</p> <p>Lower ability – add and subtract 1-digit numbers from 2-digit numbers (give number line if really needed)</p> <p>Middle ability – add and subtract 2-digit numbers</p> <p>Higher ability – add and subtract 3-digit numbers</p> <p>Extension – add and subtract 4-digit numbers and numbers with decimal places</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 20 under the 40 because they are both tens. Then I draw my equals line with a ruler. Then I start on the right and subtract the units first, borrowing a ten. I cross out the old tens number and write the new number in the tens, and then I subtract the tens</p> <p>Children swap over and partner who spoke first now listens</p>
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F	<p>Mental: Know different vocabulary for operations</p> <p>Main: Understand multiplication and division as arrays and inverses</p> <p>Spr010</p>	<p>Mental: Show children cards with vocabulary for different operations e.g. add, sum, plus etc</p> <p>Main: More able children to attempt to use a given multiplication or division sentence to derive 3 related sentences without listening to teacher. TA to monitor their progress. If confident, allow to finish; if insecure send back to carpet to listen to teacher e.g. given <math>4 \times 0.3 = 1.2</math>, derive <math>0.3 \times 4 = 1.2</math>, <math>1.2 \div 4 = 0.3</math> and <math>1.2 \div 0.3 = 4</math></p> <p>Teacher (with remainder of class): Explain that we will be looking at multiplication and division as 'arrays' and using each array to write 4 related number sentences, all using the same numbers Revise how an array is a grid – it has columns and rows A column is vertical and a row is horizontal Use children to make an array e.g. 4 rows of 2 What 2 multiplication and 2 division sentences can we make from this array? (<math>4 \times 2 = 8</math>, <math>2 \times 4 = 8</math>, <math>8 \div 4 = 2</math> and <math>8 \div 2 = 4</math>) Repeat this model for several arrays, including squares e.g. <math>2 \times 2 = 4</math> / <math>4 \div 2 = 2</math>, <math>3 \times 3 = 9</math>, <math>9 \div 3 = 3</math> etc and how these can only be written one way Model how to complete independent work Emphasise the need to have the numbers in the correct order in each number sentence (can give children clue that divisions always start with greatest number and multiplications always end with the greatest number, although this is not true when working with decimals) With more able children who were secure on higher ability work explain area and perimeter Go through PowerPoint covering the following:</p> <ul style="list-style-type: none"> <li>• Multiplication as arrays and how this is the same as calculating area</li> <li>• Explain perimeter as the length of the fence around a field and area as the space inside the field and how to calculate perimeter by totalling the length of all of the sides and calculate area by multiplying a long side by a short side, and write as <math>\text{cm}^2</math></li> <li>• Model how to find perimeter and area of two rectangles</li> <li>• Model how to find perimeter and area of two irregular shapes by counting squares</li> </ul> <p>Remind children to write perimeter as cm and area as <math>\text{cm}^2</math></p>	<p>Lower ability – derive 2 multiplication and 2 division sentences from arrays (multiplying and dividing by 2, 3, 4 and 5) (slow workers to work on worksheet)</p> <p>Middle ability – derive 2 multiplication and 2 division sentences from arrays (multiplying and dividing by 6, 7, 8 and 9)</p> <p>Higher ability – use known facts to calculate with decimals e.g. <math>4 \times 0.3 = 1.2</math>, <math>0.3 \times 4 = 1.2</math>, <math>1.2 \div 4 = 0.3</math> and <math>1.2 \div 0.3 = 4</math></p> <p>G+T – calculate area and perimeter</p> <p>Extension – make up own arrays and related multiplication and division sentences on pupil whiteboards or draw own shapes to calculate area and perimeter of</p>	<p>Ask the class to split themselves in to groups, with each group being an array Tell class that all children in the class need to be in a group; no one can be left out Ask children to give a multiplication sentence or division sentence that could come from their array G+T – draw a shape of their own for a partner to calculate the area and perimeter of</p>