

Year 2 Numbers and calculating planning (Weekly)




Term: Spring 1



Week 1

DAY	We Are Learning To (WALT):	MODEL / INTRODUCTION	INDEPENDENT WORK	PLENARY
M	<p>Mental: To be able to count up from 10 to 100</p> <p>Main: Read and write numbers in words</p> <p>Spr001</p>	<p>Mental: Have children sit in rows opposite each other in pairs. Give them a number to count up from (focusing on crossing over tens boundaries). Children take it in turns to say a number</p> <p>Main: Teacher (with remainder of class): Open hundred square on IWB http://www.taw.org.uk/lic/itp/itps/number_grid_4_0.swf. Children to count with teacher from 11 to 20 Children to count with children down the tens column on the hundred square (ten, twenty etc) Emphasise the different sounds at the end of the teen numbers and tens numbers numbers e.g. thirteen and thirty. Show children names of the teen and tens with endings highlighted. Emphasise how eleven and twelve are awkward. Revise how 2-digit numbers have tens and units, writing a capital U above the units and a capital T above the tens. Revise how to read 2-digit numbers e.g. 32 by looking at the tens number first and saying it e.g. thirty, then saying the units number e.g. two Make deliberate mistakes swapping digits e.g. fourteen as 41. Ask children if this is right? (You may choose to let lower ability children get started on their independent work at this point) Revise how 3-digit numbers have tens and units, writing a capital U above the units and a capital T above the tens and a capital H above the hundreds. Revise how to read 3-digit numbers e.g. 654 by looking at the hundreds number first and saying it e.g. six hundred, then saying the tens number e.g. fifty and finally the units number e.g. four (six hundred and fifty-four) Repeat above process with numbers with thousands and ten thousands Tell the children 'I am going to write the number 72' and write it as 702. Ask them to discuss with their talk partner if this is correct. Why / why not? Ask some children what they think Explain that we don't need the zero to make seventy because the 7 is in the tens column. This number would be seven hundred and two. Repeat with other numbers e.g. sixty-nine as 609 Repeat with numbers with hundreds e.g. two hundred and sixty-two as 2062. Tell the children 'I am going to write the number five hundred and four' and write it as 54. Ask them to discuss with their talk partner if this is correct. Why / why not? Ask some children what they think Explain that we need a zero in the tens column, so we should write 504. Repeat with other numbers with zeros in the tens, hundred or thousands columns e.g. 703, 8,024, 1,029, 30,062, 61,207</p>	<p>Lower ability (write the names of numbers up to 20 in figures in words e.g. 7 as seven, and numbers in words in figures e.g. eighteen as 18).</p> <p>Middle ability - write the names of two-digit numbers in figures in words e.g. 72 as seventy-two, and numbers in words in figures e.g. sixty-eight as 68.</p> <p>Higher ability – as middle ability, but with three-digit numbers</p> <p>Gifted and talented - as middle ability, but with four-digit numbers</p> <p>Early finishers can play the ICT game at http://www.sheppardsoftware.com/mathgames/earlymath/fruitShootNumbersWords.htm on the smartboard as reinforcement / a reward</p>	<p>Give each child a card with a number either in figures or in words. Each child needs to find their corresponding partner e.g. the child with 5, needs to find the child with 'five'. Cards will focus on numbers that are difficult to read / remember how to spell e.g. one, two, eight. Give children numbers to match the level of work that they completed</p>

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Tu	<p>Mental: To be able to count back from 10 to 100</p> <p>Main: Understand place value</p> <p>Spr002</p>	<p>Mental: Have children sit in rows opposite each other in pairs. Give them a number to count back from (focusing on crossing over tens boundaries). Children take it in turns to say a number</p> <p>Main: TA to take children who are unable to count reliably (if unsure if can count reliably ask child to quickly count a number of items) and cover the following principles: One-to-one – each item should only be counted once. TA to make deliberate mistake of continuously counting each item more than once, until children say 'No! That's wrong'. Ask them to explain why Stable-order – that the order of number names does not change. TA to make deliberate mistake of counting incorrectly e.g. one, two, five, three, eight, until children say 'No! That's wrong'. Ask them to explain why. Practice counting up and down to 20. Cardinal – the last number counted tells us 'how many' items there are Abstraction – that anything can be counted, including unrelated and mixed items. TA to count mixed objects e.g. pencils, rubbers and sharpeners, as one group. Order-irrelevance – that we can count from any object; we don't have to start from right to left. TA to count from objects in the middle and on the right. Conservation of number – TA to show children a smaller number of larger items e.g. 4 biscuits and a larger number of smaller items e.g. 6 small coins. Discuss with the children which group has 'more' items. Discuss how we can make it easier to not make mistakes when we count e.g. arranging the items in to a row or moving the 'counted' objects away from the 'to be counted' ones Children to practice counting groups of items correctly in pairs. (If all children can count to 20, have TA take G+T and explain how units and tenths) Teacher (with remainder of class): Revise how we need to look at the position, or place, of a number to know what it is worth i.e. is it in the hundreds, tens or units column. Use place value ITP from http://www.taw.org.uk/lic/itp/place_val.html to model how 4 is worth 4 units, 40 is worth 4 tens and 400 is worth 4 hundreds, so 40 is worth more than 4 and 400 is worth more than 40. Repeat with other similar numbers e.g. 6, 60 and 600. Also explain with base-ten materials http://www.worldwideshoppingmall.co.uk/toys/shelves/numeracy-base-10.asp (if have them) Model how we can 'exchange, ten units for one stick of ten and explain how ten units are worth the same as one stick of ten. Show children a real Slavonic abacus (if you have one) or show them an image of one if you don't and explain how to use one Explain how to complete independent work (see below), modelling some examples</p>	<p>Lower ability – count objects up to 20</p> <p>Middle ability – write 2-digit numbers to match representations of them on an abacus e.g.</p> <p>Higher ability – write 3-digit numbers to match representations of them on an abacus e.g.</p> <p>Gifted and talented – as higher ability, but with numbers to one decimal place</p> <p>Extension – think of own numbers to draw representations of, and draw them</p>	<p>In ability partners give children a pupil whiteboard and a pen. Ask children to give their partners a number to draw a representation of on an abacus. Discuss if they think their partner drew a suitable representation. Why / why not? Repeat</p>

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W	<p>Mental: To be able to count up in tens from any number</p> <p>Main: Compare and order numbers</p> <p>Spr003</p>	<p>Mental: Have the hundred square on the IWB from http://www.taw.org.uk/lic/itp/num_grid.html Highlight a number. Practice counting up in tens from it</p> <p>Main: Have TA take G+T children to work on comparing and ordering numbers to one decimal place: Show children a stick of ten in units and a similar stick divided in to tenths Explain how each unit in the second ten has been split in to tenths Give each child a unit that has been split in to tenths and have them cut it up in to ten strips. Explain that each of these is called a tenth, so a unit is made up of ten tenths Show children some examples of numbers, representing them using these units squares and tenths strips e.g. 3.2 would be 3 unit squares and 2 tenth strips, 8.9 would be 8 unit squares and 9 tenth strips etc Ask the children to show you some examples of their own Show children how 1.0 and 1, 2.0 and 2, 3.0 and 3 (etc) are the same Emphasise how 1.0 is not worth more than 1 even though it has more digits. Same for 2.0 and 2, 3.0 and 3 etc Model how to order numbers with one decimal place Teacher (with remainder of class) For each explanation below you can use the Place Value ITP (which allows you to see a representation of each / all digits in a number) (http://www.taw.org.uk/lic/itp/place_val.html) to compare the numbers:</p> <ol style="list-style-type: none"> 1. Choose a number to display by clicking on the arrows above the boxes in the bottom right-hand corner and clicking on the numbers 2. Use the arrows to change the number you wish to display, click on the numbers again and you should have both numbers there to compare <p>Revise how the first thing that you need to do to compare numbers is to see how many digits each number has. If one number has more digits than another, the one with more digits is the highest e.g. 50 is higher / more than 5, and 500 is greater than 50. Repeat with similar examples e.g. 56 and 8, 243 and 87 If two numbers have the same number of digits e.g. 45 and 72, first you need to look at the number furthest on the left e.g. the 4 in 45 or the 7 in 72, because the tens are worth more than the units. Repeat with similar examples e.g. 81 and 32 If two numbers have the same number furthest on the left e.g. 45 and 41, then you need to look at the next number along and compare them e.g. the 5 in 45 and the 1 in 41. Repeat with similar numbers e.g. 67 and 62. Repeat these explanations for numbers with 3 digits. Revise how < means 'less than' and > means 'more than'. Write these on the board. Explain that each one is a picture of a crocodile's mouth. Crocodiles are always hungry so the crocodile always gets ready to eat the biggest / highest / greatest number. Model how to use these symbols with several examples, always reminding children that the crocodile eats the biggest / highest / greatest number Model how to order numbers from highest to lowest (keep reminding children of this)</p>	<p>Lower ability – compare numbers below 20 (use number line if needed)</p> <p>Middle ability – compare numbers up to 100</p> <p>Higher ability – compare numbers up to 1,000</p> <p>Gifted and talented – compare numbers up to 10,000 and to 1 decimal place</p> <p>Extension – play game on IWB at http://www.crickweb.co.uk/ks2numeracy-calculation.html (3rd game down) as a reward and to reinforce lesson</p>	<p>ICT activity on IWB at http://www.crickweb.co.uk/ks2numeracy-calculation.html (3rd game down) where children need to choose < > or = and drag and drop it between two numbers</p>

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Th	<p>Mental: To be able to count back in tens from any number</p> <p>Main: Partition numbers</p> <p>Spr004</p>	<p>Mental: Have the hundred square on the IWB from http://www.taw.org.uk/lic/itp/num_grid.html Highlight a number. Practice counting back in tens from it</p> <p>Main: TA to ask G + T children to partition some 4-digit numbers; if confident with this go with TA to work on partitioning numbers with a decimal place; if not stay with the rest of the class</p> <p>Have TA take G+T children to work on partitioning numbers with a decimal place: </p> <p>Show children a stick of ten: </p> <p>Show children another version of it: </p> <p>Revise how each unit can be split in to tenths Give each child a unit that has been split in to tenths and have them cut it up in to ten strips. Revise how each of these is called a tenth, so a unit is made up of ten tenths Show children some examples of numbers, representing them using these units squares and tenths strips e.g. 3.2 would be 3 unit squares and 2 tenth strips, 8.9 would be 8 unit squares and 9 tenth strips etc Ask the children to show you some examples of their own Model how to partition numbers with one decimal place (Teacher with remainder of class) Revise how columns in 2-digit numbers are tens and units and columns in 3-digit numbers are hundreds, tens and units Use Place Value ITP at http://www.taw.org.uk/lic/itp/place_val.html (if link does not work, just Google 'Place Value ITP') to show how a number in the tens column is worth ten times as many as a number in the units column e.g. a 1 in the tens column is worth 10, whereas a 1 in the units column is worth only 1. Repeat to show how a number in the hundreds column is worth ten times as many as a number in the tens column e.g. the 1 in 100 is worth ten lots of ten Model how we can partition numbers e.g. $43 = 40 + 3$ or $572 = 500 + 70 + 2$ Repeat above model, but for thousands as well e.g. $3,891 = 3,000 + 800 + 90 + 1$</p>	<p>Lower ability – partition 2-digit numbers</p> <p>Middle ability – partition 3-digit numbers</p> <p>Higher ability – partition 4-digit numbers</p> <p>G+T – partition numbers with 1 decimal place</p> <p>Extension – make up own numbers to partition on pupil whiteboards</p>	<p>Ask children to come up with some of their own numbers and partition them on their pupil whiteboards. Explain what they have done to a partner</p>

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F	<p>Mental: To be able to count up and back in tens from any number</p> <p>Main: Partition numbers in different ways</p> <p>Spr005</p>	<p>Mental: Have the hundred square on the IWB from http://www.taw.org.uk/lic/itp/num_grid.html Highlight a number. Practice counting up / down in tens from it</p> <p>Main: TA to ask G + T children to partition some 4-digit numbers; if confident with this go with TA to work on partitioning numbers with a decimal place; if not stay with the rest of the class Have TA take G+T children to work on partitioning numbers with a decimal place: Show children a stick of ten:  Show children another version of it: </p> <p>Revise how each unit can be split in to tenths Give each child a unit that has been split in to tenths and have them cut it up in to ten strips. Revise how each of these is called a tenth, so a unit is made up of ten tenths Show children some examples of numbers, representing them using these units squares and tenths strips e.g. 3.2 would be 3 unit squares and 2 tenth strips, 8.9 would be 8 unit squares and 9 tenth strips etc Model how to partition numbers with one decimal place in different ways Ask the children to show you some ways of partitioning numbers with a decimal place (Teacher with remainder of class) Revise how columns in 2-digit numbers are tens and units and columns in 3-digit numbers are hundreds, tens and units Use Place Value ITP at http://www.taw.org.uk/lic/itp/place_val.html (if link does not work, just Google 'Place Value ITP') to show how a number in the tens column is worth ten times as many as a number in the units column e.g. a 1 in the tens column is worth 10, whereas a 1 in the units column is worth only 1. Repeat to show how a number in the hundreds column is worth ten times as many as a number in the tens column e.g. the 1 in 100 is worth ten lots of ten Model how we can partition numbers in different ways e.g. $43 = 40 + 3$ or $40 + 2 + 1$ or $20 + 20 + 3$ etc Repeat above model for 3 and 4-digit numbers as well</p>	<p>Lower ability – partition numbers up to 20</p> <p>Middle ability – partition 2-digit numbers</p> <p>Higher ability – partition 3-digit numbers</p> <p>G+T – partition 4-digit numbers and numbers with 1 decimal place</p> <p>Extension – make up own numbers to partition in different ways on pupil whiteboards</p>	<p>Ask children to come up with some of their own numbers and partition them in more than one way on their pupil whiteboards. Explain what they have done to a partner</p>