

Maths Recovery Curriculum

Autumn Term 2020

Medium Term Plan

Year 2/3

This learning schedule is based on the Hampshire Mathematics Scheme of Learning and is designed to take account of the national school closures between March 2020 and July 2020. Learners will begin a new academic year in need of catch-up and consolidation, together with some new learning from the previous academic year that has been missed. This document focusses on the core skills , knowledge and understanding that an ‘on-track’ learner would be expected to bring to the next stage of their learning and acknowledges that, for many, the habits of learning and the facility to recall previously embedded knowledge will need attention. For this reason, the first elements of this Autumn Term plan address the end of year objectives from the previous year. As the term progresses, the plan seeks to integrate expected prior learning, previously assumed and now no longer can be, into the standard units from the original scheme. In this way, the aim is to build on what is known and recalled in a moderately accelerated way to help learners get back on track for the end of the 20/21 academic year.

Teachers will need to adapt this schedule to meet the needs of their learners

National curriculum statements are in bold type and Hampshire Maths team guidance is in standard type.

The links to the Hampshire Assessment Model have been retained so that teacher assessment in each domain can be made at Milestone 1.

The Hampshire Mathematics team full scheme of learning for KS1 (Year 1 and Year 2) offers long and medium-term maps with more detail, with end of year expectations broken down into smaller steps, plus linked units of work with key tasks and teaching points. The Hampshire Mathematics team full scheme of learning for KS2 (Year 3- Year 6) offers long and medium-term maps with more detail, with end of year expectations broken down into smaller steps, plus linked units of work with key tasks and teaching points. These are available to schools by subscribing to Moodle Plus <https://maths.hias.hants.gov.uk/>

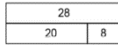
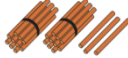
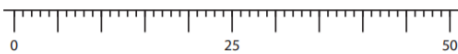
These plans will need to be adapted to meet the needs of pupils. Number of lessons provides a suggested structure, based on hourly lessons. It is expected that domains within units will be connected and integrated. The structure enables pupils to make links and connections across domains. Pupils should develop reasoning through solving problems in each unit of work.

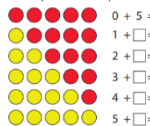
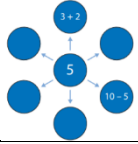
M1	M2	M3	ARE

Year 2	Year 3
Measurement: Find everyday opportunities to develop children’s understanding of telling the time (quarter past and to the hour) and language (days of the week and months of the year).	Measurement: Find everyday opportunities to tell the time from an analogue clock. Estimate and read time with increasing accuracy to the nearest minute . Use vocabulary of time (am/pm; morning / afternoon, noon / midnight) . Know the number of days in each month, year and leap year .
Calculation: Find everyday opportunities to develop children’s fluency with counting and addition and subtraction facts to 20 in context. E.g lunch/sandwiches	

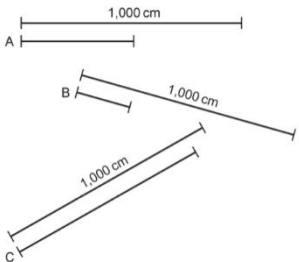
Subsequent units should continue to revisit material from previous units to deepen learning, encourage automaticity and allow rich connections to be made across the year.

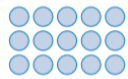
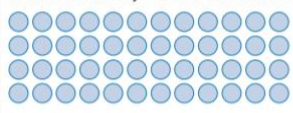
Date	Unit Focus Lessons	Year 2 Objectives Unit 2.1 20 Lessons	Year 3 Unit 3.1 15 Lessons	Types of tasks, Key teaching points, prior learning, Mastery– Year 2	
Types of tasks, Key teaching points, prior learning, Mastery– Year 3					
START OF NEW ACADEMIC YEAR					
Mon 7 th Sept - Fri 2 nd October	- NPV - Add & Sub	EOY Y1: Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	Types of task - Continue to practice whole class counting in different steps from different starting points. E.g. • “Counting Orchestra” – assign groups to count forwards or backwards in tens, fives or ones. As the “conductor” points to a group, they pick up the count. - Reasoning about counting sequences – e.g. “If I count back in tens from 89, will I say the number 59? 99? 37? “Get on the bus” – the bus conductor sets the “rules” for getting on the bus – but keeps them secret. Each pupil writes a number down, then is invited to get on the bus if their number fits the rules. (Rules might be odd numbers, even numbers, multiples of 2, 5, 10, under 50, over 50 etc.) - Give pupils opportunities to write “number riddles” for pupils to “guess the number”. Include language such as “greater than” “less than”, “lies between”, “multiple of two”, multiple of 10”. - Give pupils opportunities to label empty number lines with a start and finish number marked – “roughly, where would XX be?” “What number would sit here?” “Estimate how many” – Use wrapping paper or posters with repeated images on – can you estimate, for example, how many minions there are on the wrapping paper? Use multilink cubes to then match a cube to each minion, then group in tens to find how many - Count in groups, asking one pupil to count aloud then point to next child to carry on. This will encourage children to think about the ‘next’ number and count on from any number. Complete a number line with missing numbers from 0- 100. To make it more challenging for some pupils place more missing numbers where boundaries change or start with 1 at different places on square. Show 100 square and talk about the patterns. Cut it up into a linear number track and vice versa so pupils can see how they work. Complete missing numbers from 100 square too.		- Look at where pupils start. Do they have to complete, starting at 1 or can they use patterns to help them? Practise counting backwards aloud from 10 then 20 up to 50 (starting from). Complete parts of 100 squares showing numbers before or after a number missing and number tracks. Ten more and ten less: Continue to solve problems involving “ten more” and “ten less”. Encourage pupils to solve these mentally. Ensure pupils are developing confidence and depth of understanding so that they do this fluently and are moving on from counting on in ones to find ten more. Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf EOY1 Mastery questions: Compare amounts. What’s the same? What’s different? Children compare the bead strings and notice: One has 9 beads and the other has 6 beads. 9 is 3 more than 6. 6 is 3 less than 9. Pupils should be able to successfully respond to questions such as: - Count forwards from 36, etc. - Point to the third object in the line. - Show me 8 cubes. Pupils should demonstrate one to one correspondence, cardinality and conservation of number EOY1 Mastery with GD questions: I am going to count on from 20. Will I say the number 19? Convince me. I am going to count on in twos from 3. Will I say an even number? Convince me. I am going to count backwards from 20. How many steps will it take to reach 0? Convince me. - I am going to count backwards in twos from 20. How many steps will it take to reach 0? Convince me.
Mon 7 th Sept - Fri 25 th Sept				Refresh: - Counting forwards and backwards in multiples of 10 crossing hundreds boundary - Reading numbers fluently - Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; 10 10 10 10 10 10 10 10 10 10 apply this to identify and work out how many 10s there are in other three-digit multiples of 10. Example: 18 tens is equal to 10 tens and 8 more tens.” “10 tens is equal to 100.” “So 18 tens is equal to 100 and 8 more tens, which is 180.” 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10	

Date	Unit Focus Lessons	Year 2 Objectives Unit 2.1 20 Lessons	Year 3 Objectives Unit 3.1 15 Lessons	Types of tasks, Key teaching points, prior learning, Mastery– Year 2																																												
Types of tasks, Key teaching points, prior learning, Mastery– Year 3																																																
Mon 7 th Sept - Fri 2nd October	- NPV - Add & Sub	Read and write numbers to at least 100 in numerals and in words. Identify, represent and estimate numbers using different representations including the number line Compare and order numbers from 0 up to 100, use < , > and = signs Given a number, identify one/ten more and one/ ten less (include writing as a number sentence) - Use the language of two more than 19 is 21; two less than 31 is 29. • Use a context to solve problems involving ten more and ten less	Types of tasks - Make and represent numbers using Numicon, Diennes etc to help pupils articulate their reasoning, explanations and proof. - Ensure pupils use correct and precise place value language and can talk about, for instance “4 tens” being the same as “forty” – and can use this language accurately when describing numbers they have made, represented and ordered. - Introduce pupils to the symbols for <> and remind them of “=” which means “equivalent to”. Give pupils sets of numbers to order and compare - ask them to make and represent each number using a structured resource and explain how they know the relative size of numbers. Numberline: Focus on where numbers sit within the number system and position numbers on a partially completed blank number line. Use the number line to count on in steps of ten. Start from zero at first. Notice “multiples of ten” - marked in red on a number line. Can we start at other numbers and count in steps of ten? What do you notice? Use a range of resources to show which digit changes and why – e.g. arrow cards, alongside Numicon, dienes, tens frames etc. Start at a given number and work out jumps of ten on a number line. Problem solving: Begin to pose problems involving adding or subtracting ten to or from a number, expecting this to be done mentally, but checking / proving with resources. Ten more and ten less: Continue to solve problems involving “ten more” and “ten less”. Encourage pupils to solve these mentally. Ensure pupils are developing confidence and depth of understanding so that they do this fluently and are moving on from counting on in ones to find ten more. Mental strategies: Extend problems to a range of calculations involving 1 more / less, 2 more / less and 10 more / less. Ensure pupils are solving these mentally and not counting on or back in ones each time. Include a range of problems – e.g. Sam’s chickens lay 23 eggs on one day. The next day, he has a total of 33 eggs. Can you write this as a number sentence? (23 + ? = 33) How many eggs were laid on the second day? Complete the number sentence. Encourage pupils constantly to solve these problems mentally – using known facts (1 more/ less, 2 more/less, 10 more / less). Use resources to support if necessary, particularly for 10 more / less Key teaching points and prior learning – Year 2 EOY Y1: Identify and represent numbers using objects and pictorial representations, including the number-line, and use the language of: equal to, more than, less than (fewer), most, least. - Revise representations for NPV and recording calculation eg number sentences (expressions and equations) two part ‘cherry’ and bar models and number lines - Use the number-line with structured resources to develop understanding of how numbers relate to one another and to support ordering. e.g. Explore place value patterns such as 7,17,27..... and 57,47,37..... On a number-line marked in multiples of 10, explore ‘nearly numbers’ such as those ending in ‘8’ or ‘9’. E.g. ‘18 is close to (or nearly) 20’. - Develop a number sequence with missing numbers. Challenge your friend to describe your number sequence and identify the missing numbers.	- If you ordered these numbers, which would be the fourth? Explain why: 33, 53, 38, 27, 34, 43.  $20 + 8 = 28$$28 - 20 = 8$$8 + 20 = 28$$28 - 8 = 20$  Reference documents to support subject knowledge and CPA approach https://www.ncetm.org.uk/classroom-resources/primm-1-10-composition-of-numbers-11-19/ - composition of numbers 11-19 https://www.ncetm.org.uk/classroom-resources/primm-1-09-composition-of-numbers-20-100/ – composition of numbers 20-100 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf EOY1 Mastery questions: Write the numbers in order of size: 15 16 5 71 50 What is one more than...? What is one less than...? Complete: <table><tr><td>19</td><td></td><td>21</td><td>22</td><td></td><td></td></tr></table> Write the missing from these sequences. <table><tr><td>11</td><td></td><td>13</td><td>14</td><td>15</td></tr><tr><td></td><td></td><td>33</td><td></td><td></td></tr><tr><td></td><td></td><td>43</td><td></td><td></td></tr></table> Write the missing number in each box 19 $\xrightarrow{\text{is 1 less than}}$ 33 $\xrightarrow{\text{is 1 less than}}$ EOY1 Mastery with GD questions: Use two of the digit cards to make a number greater than 50. Use two of the digit cards to make a number less than 30. Use two of the digit cards to make an odd/even number. What is the smallest 2-digit number you can make? What is the largest 2-digit number you can make? <table><tr><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr></table><table><tr><td>40</td><td>71</td><td>65</td></tr></table> Which number could be the odd one out? Why? What’s the same? What’s different? 45 54 If Sam places these 5 numbers in order, starting with the smallest number, which number will be in fourth position <table><tr><td>46</td><td>64</td><td>24</td><td>42</td><td>50</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td>smallest</td><td></td><td></td><td></td><td>largest</td></tr></table>	19		21	22			11		13	14	15			33					43			2	3	4	5	6	40	71	65	46	64	24	42	50						smallest				largest
19		21	22																																													
11		13	14	15																																												
		33																																														
		43																																														
2	3	4	5	6																																												
40	71	65																																														
46	64	24	42	50																																												
smallest				largest																																												
Mon 7 th Sept - Fri 25 th Sept		Recognise the place value of each digit in the 3-digit number (hundreds, tens and ones) Up to 1000 Identify, represent and estimate numbers using different representations particularly including number-lines Find 10 or 100 more or less than a given number	Y2: Read and write numbers to at least 100 in numerals and in words Check Y2 understanding: Compare and order numbers from zero up to 100; using < , > and = signs Types of tasks Provide practical experiences of using a range of concrete resources to model 2 digit numbers e.g. use of Diennes, place value counters, arrow cards. Combine this with recording the number using number sentences, missing box number sentences, part whole, Gattegno chart, place value grid alongside numbers. - Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. <table><tr><td>100s</td><td>10s</td><td>1s</td></tr><tr><td></td><td></td><td>●</td></tr><tr><td>●</td><td>●</td><td></td></tr><tr><td></td><td></td><td></td></tr></table> ten times the size ten times the size - pupils should begin to describe 100 as 10 times the size of 10 Revise composition of 100: Addition/subtraction facts using multiples of 10, related to number bonds of 10, making links to 100 e.g. 9+1; 90+10 - Partition numbers flexibly e.g. 86 = 80+6, 70+16 - Make 2 digit numbers using Diennes and physically add or subtract 10s. Then make 3 digit numbers and physically add or subtract 10s / 100s. Use a range of number lines (appropriately pitched) to encourage pupils to position and compare numbers and find 10 or 100 more or less than a given number, relate to using Diennes by adding 10 or 100 more or less. - Record comparisons of pairs of numbers using < , > = signs.	100s	10s	1s			●	●	●					Key facts about 100 and 1000 using bar model: Number facts documents (Y2) (1/2, ¼, 2/4, ¾) of 100 – use of bar model – 100 as a whole compared to 1000. Reference documents to support subject knowledge and CPA approach https://www.ncetm.org.uk/classroom-resources/primm-1-17-composition-and-calculation-100-and-bridging-100/ https://www.ncetm.org.uk/media/ijogstuu/ncetm_mm_sp1_y3_se18_teach.pdf EOY2 Mastery questions: Put a circle around the larger number. 1) 50 48 2) 77 81 3) 78 87 Place these numbers on the number line: 10, 48, 30  EOY2 Mastery with GD questions: Write all the 2-digit numbers greater than 40 using these digits. <table><tr><td>2</td><td>4</td><td>6</td><td>6</td></tr></table> How do you know you have them all? Prove it. Place 47 on each of these empty number lines. <table><tr><td>0</td><td></td><td>100</td></tr><tr><td>40</td><td></td><td>60</td></tr><tr><td>33</td><td></td><td>50</td></tr></table>	2	4	6	6	0		100	40		60	33		50																			
100s	10s	1s																																														
		●																																														
●	●																																															
2	4	6	6																																													
0		100																																														
40		60																																														
33		50																																														

Date	Unit Focus Lessons	Year 2 Objectives Unit 2.1 20 Lessons	Year 3 Objectives Unit 3.1 15 Lessons	Types of tasks, Key teaching points, prior learning, Mastery– Year 2																								
Types of tasks, Key teaching points, prior learning, Mastery– Year 3																												
Mon 7 th Sept - Fri 2nd October	- NPV - Add & Sub	- Use place value and number facts to solve problems - Partition all numbers up to 10 into two parts in different ways using concrete objects (e.g.2-coloured counters or 2-coloured multi-link bars). Record pictorially.	Y1:Revise and develop fluency in : - the use of partitions of all numbers up to 20, recalling and deriving associated subtraction facts to solve problems. - using partitioning and part-whole diagrams to read, write and interpret mathematical statements to 20 when solving problems. - using known or derived number facts. - solving problems that involve addition and subtraction to 20, using concrete objects and pictorial representations. Types of task Number bonds: Following on from mental calculation adding / subtracting 1,2 or 10, revisit number bonds to 10 and then 20. Remind pupils that the purpose of learning these is so that we can calculate quickly and fluently without having to count. Problem solving: Use a problem to model use and application of number bonds to solve a problem – e.g. “Abigail has 13 sweets in one bag and 4 in another. How can we work out how many she has altogether? Explain how you know” Emphasise the use of 4 + 3 = 7, then adding the 10 etc. Involve pupils to draw a bar model to show the relationship (17 is the whole, 13 is a part and 4 is a part). Ask pupils to write the associated subtraction facts (17 – 4 = 13, 17 – 13 = 4).	Present pupils with a range of addition and subtraction contextual problems that involve: 2 digit + / - single digit (no bridging) E.g. 25 + 4 2 digit + / - 10 (e.g. 64 – 10) - Adding / subtraction within 20. Emphasise mental fluency – recalling and using known facts. Give pupils a range of missing number problems using number bonds to ten and 20, e.g. 25 + ? = 29 ? = 20 – 8 10 + 2 > 3 + ? This will recap on comparing numbers, and the use of “equivalence” in different places within a number sentence. Reference documents to support subject knowledge and CPA approach EOY1 Add and Sub Mastery questions: Use the pattern to complete the number sentences.  Use the first number sentence to complete the second number sentence. <table><tr><td>4 + 3 = □</td><td>7 + □ = 9</td></tr><tr><td>7 – □ = 4</td><td>9 – □ = 7</td></tr><tr><td>5 + 2 = □</td><td>□ + 3 = 9</td></tr><tr><td>□ – □ = 2</td><td>□ – □ = □</td></tr></table> Now do the same for rows of 6 counters, 7 counters, 8 counters, 9 counters and 10 counters. EOY1 add and sub Mastery with GD questions: If you know one fact, what other facts do you know? Complete:  Write a pair of numbers in the boxes to add to 12. □ + □ = 12 And another pair, and another, and another. Can you find all possibilities? Convince me!	4 + 3 = □	7 + □ = 9	7 – □ = 4	9 – □ = 7	5 + 2 = □	□ + 3 = 9	□ – □ = 2	□ – □ = □																
4 + 3 = □	7 + □ = 9																											
7 – □ = 4	9 – □ = 7																											
5 + 2 = □	□ + 3 = 9																											
□ – □ = 2	□ – □ = □																											
Mon 7 th Sept - Fri 25 th Sept	- Add and subtract numbers mentally including a 3-digit number and ones and a 3- digit number and hundreds - Estimate the answer to a calculation and use inverse operations to check answers	Y2: Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Types of task Problem solving Identify a few key tasks involving addition and subtraction in one step problems in context – adapt numbers to reinforce the key concepts and facts from place value work When solving problems, encourage pupils to estimate answers, show solutions using a range of representations including: bar model, equation, number line, part-part whole, checking for reasonableness of answers. Mental strategies Use unstructured number lines to record mental calculations discussing appropriate strategies depending on the number involved. ⋮	EOY2 Mastery questions What do you notice about each set of calculations? What's the same and what's different about the three sets of calculations? <table><tr><td>10 – 9 =</td></tr><tr><td>10 – 8 =</td></tr><tr><td>10 – 7 =</td></tr><tr><td>10 – 6 =</td></tr><tr><td>10 – 5 =</td></tr><tr><td>10 – 4 =</td></tr><tr><td>10 – 3 =</td></tr><tr><td>10 – 2 =</td></tr></table> <table><tr><td>20 – 19 =</td></tr><tr><td>20 – 18 =</td></tr><tr><td>20 – 17 =</td></tr><tr><td>20 – 16 =</td></tr><tr><td>20 – 15 =</td></tr><tr><td>20 – 14 =</td></tr><tr><td>20 – 13 =</td></tr><tr><td>20 – 12 =</td></tr></table> <table><tr><td>100 – 90 =</td></tr><tr><td>100 – 80 =</td></tr><tr><td>100 – 70 =</td></tr><tr><td>100 – 60 =</td></tr><tr><td>100 – 50 =</td></tr><tr><td>100 – 40 =</td></tr><tr><td>100 – 30 =</td></tr><tr><td>100 – 20 =</td></tr></table>	10 – 9 =	10 – 8 =	10 – 7 =	10 – 6 =	10 – 5 =	10 – 4 =	10 – 3 =	10 – 2 =	20 – 19 =	20 – 18 =	20 – 17 =	20 – 16 =	20 – 15 =	20 – 14 =	20 – 13 =	20 – 12 =	100 – 90 =	100 – 80 =	100 – 70 =	100 – 60 =	100 – 50 =	100 – 40 =	100 – 30 =	100 – 20 =	EOY2 Mastery with GD questions: Complete the calculations. 30 + 40 + □ = 100 40 + □ + 20 = 100 36 + 44 + □ = 100 36 + 54 + □ = 100 47 + □ + 20 = 100 47 + □ + 30 = 100
10 – 9 =																												
10 – 8 =																												
10 – 7 =																												
10 – 6 =																												
10 – 5 =																												
10 – 4 =																												
10 – 3 =																												
10 – 2 =																												
20 – 19 =																												
20 – 18 =																												
20 – 17 =																												
20 – 16 =																												
20 – 15 =																												
20 – 14 =																												
20 – 13 =																												
20 – 12 =																												
100 – 90 =																												
100 – 80 =																												
100 – 70 =																												
100 – 60 =																												
100 – 50 =																												
100 – 40 =																												
100 – 30 =																												
100 – 20 =																												

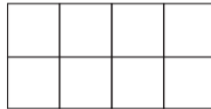
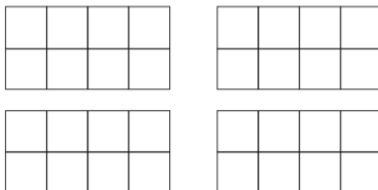
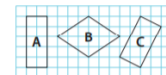
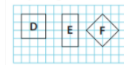
Date	Unit Focus Lessons	Year 2 Objectives Unit 2.2 15 Lessons	Year 3 Objectives Unit 3.2 10 Lessons	Types of tasks, Key teaching points, prior learning, Mastery – Year 2	
Types of tasks, Key teaching points, prior learning, Mastery– Year 3					
START OF NEW ACADEMIC YEAR					
Mon 5 th October Fri 23 rd October	Measurement (money / length) Addition and Subtraction Find everyday opportunities to read the time – Year 2’s - tell the time to the hour and half past the hour	- Find different combinations of coins that equal the same amounts of money. - Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. - Compare and order lengths using appropriate standard units (cms). - Record the results using > , < and =	Types of task Revise children’s knowledge of coin values by giving them a set of mixed coins and asking them to work out how much money they have. Explain how they know. Practise counting in 2’s, 5’s and 10’s using coins. Bu-tac these on a number line to support the count. Measuring: Give pupils a selection of ribbons, laces, or similar to measure. Pupils order them by length. Explain that they are priced according to how many centimetres long they are so we need to know the exact length. Ask them to measure and write a label for each one. Check use of a cm ruler to measure accurately. Problem solving: Karen has 4 lengths of coloured ribbon. This is how long each one is: Red: 25cm, Blue: 72cm Green: 52cm Yellow: 27 cm. Karen has written the following number sentences about the ribbons. Check them to see if she is correct: Red < Green Yellow > Green Green = red Blue > red Can you correct any of Karen’s that you think are incorrect and write 3 different ones? Use a metre stick marked in centimetres to prove your solutions. Check correct recording of “cm”. Look at metre stick and show that there are 100cm in a metre. Give pupils other sets of lengths to compare and order. Give pupils problems to solve such as: Sam’s liquorice lace is 10cm longer than Jacks as Jack has eaten some. How long is Jack’s if Sam’s measures 27cm? (Use bar model to show “difference” model).	Key teaching points and prior learning - Build on and make links with NPV and calculation from Unit 2.1 - Use 10p and 1p to represent place value and make links with representations as above Y1: Recognise and know the value of different denominations of coins and notes Y1: Revise the language for lengths and height (long/ short; longer/ shorter; tall/short) - Link the number line model with the use of rulers and tape measures Reference documents to support subject knowledge and CPA approach https://www.ncetm.org.uk/media/noahpyan/ncetm_spine2_segment01_y1.pdf https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf EOY1 Mastery questions: What is the total value of these coins?  Which line is longer? Explain your reasoning.  EOY1 Mastery with GD questions:  A long brick is twice the length of a short brick. Which is longer: 2 long bricks or 3 short bricks? 3 long bricks or 5 short bricks? 	
Mon 28 th Sept - Fri 9 th October	Addition and subtraction /Measurement (money) Addition and Subtraction measurement (length) Find everyday opportunities to read the time	Add and subtract amounts of money to give change using both £ and p in practical contexts	Key teaching points and prior learning - Build on and make links with NPV and calculation from Unit 3.1 - How many p = £1.00; - Counting in 2s, 5s and 10s; 20s, 50s - Link to use of bar models to show links Y2: Find different combinations of coins that equal the same amounts of money - Know 100p = £1; 2 x 50p = £1; 10 x 10p = £1; 5 x 20p = £1; 20 x 5p = £1; 50 x 2p = £1; relate to multiplication facts/ repeated addition in the context of money. - Relate above key number facts to parts of 1 metre/ 100 cm eg 2x 50cm = 1m etc - Use known and derived facts to work out change from £1 (100p) - Record addition and subtraction money calculations using pictorial representations such as a number-line and bar-models building on Unit 3.1 Types of task - Finding totals using different coins, comparing and finding the difference between the two totals. Record using addition and subtraction number sentences, number lines and bar models. Build upon Y2 work, finding different combinations of coins that equal the same amounts of money. E.g. How many different ways can you make the total 56p, 75p, 87p etc. Which totals can you make using only 2ps (5ps, 10ps, 50ps etc)? Ben has three silver coins in his pocket. What is the largest amount of money he could have? What is the smallest amount of money he could have? If all of his coins are different, how much money does he have? - Kate has 86p, which coins could she have in his purse? She finds 34p more. How much has she got altogether? (model on unstructured number line, bridging £1.00 = 100p). Shopping: Adding amounts (noticing any number bonds to 100) Burgers cost £1.60 and hotdogs cost £1.20. Carol buys a hotdog and fries and pays £1.75. How much do fries cost? How much would it cost to by a burger and fries and a hotdog and fries? Finding change as how much is left /‘taking away’ in a problem context e.g. pocket money From a £1.00 (mental strategies) A pencil costs 50p and a rubber costs 29p. How much change would I get from £1.00?	Reference documents to support subject knowledge and CPA approach https://www.ncetm.org.uk/classroom-resources/primm-1-18-composition-and-calculation-three-digit-numbers/ https://www.ncetm.org.uk/classroom-resources/primm-1-17-composition-and-calculation-100-and-bridging-100/ EOY2 Mastery questions: Holly uses a £1 coin to buy a pack of stickers. Here is the change she was given.  How much did the pack of stickers cost? Sid says, 'I have bought 2 items for my holiday. One item cost £9 more than the other. What might Sid have bought?' The _____ and the _____.  EOY2 Mastery with GD questions: - I spend £2 on a drink and sandwich. The sandwich costs 80p more than the drink. How much does the sandwich cost? - Grace uses a £2 coin to buy a can of drink which costs 85p. She is given four coins in change. Find all the possible combinations of coins she could have been given. Sid says, 'I have bought 2 items for my holiday. One item cost £9 more than the other. I spent over £15'. What two items did Sid buy? The _____ and the _____.  Make up your own problems using the holiday items.	

Date	Unit Focus Lessons	Year 2 Objectives Unit 2.2 15 Lessons	Year 3 Objectives Unit 3.2 10 Lessons	Types of tasks, Key teaching points, prior learning, Mastery – Year 2
				Types of tasks, Key teaching points, prior learning, Mastery– Year 3
Mon 5 th October Fri 23 rd October	Measurement (money / length) Addition and Subtraction Find everyday opportunities to read the time – Year 2's - tell the time to the hour and half past the hour	Solve problems in a practical context involving addition and subtraction of money of the same unit	Types of task Problem solving: Once pupils show that they know coin values, present them with problems that involve making an amount of money with different combinations of coins. E.g. How could you pay for something that costs 20p? Find one way, find another way, have you found them all? Prove it! Kila has 23p in her purse. What could she have? Give pupils problems related a price list to provide addition and subtraction practice in a context. Keep amounts within the range worked on in 2.1 (addition and subtraction) – i.e: • 2 digit + / - single digit (no bridging) E.g. 25p + 4p • 2 digit + / - 10 (e.g. 64p – 10p) • Adding / subtraction within 20 (e.g. 16p + 3p) For subtraction, as pupils to solve problems such as “Philip has 79p He spends 20p. how much money has he left?” Keep these amounts to: • 2 digit – single digit (no bridging) e.g. 28p – 7p. • 2 digit – multiple of 10 e.g. 67p – 20p. • Multiple of 10 – single digit e.g. 60p – 9p Include adding together amount involving 3 single digit numbers – e.g. 5p + 3p + 5p. Use amounts that require pupils to use number facts and explain how they know. (E.g. “I know that 5p + 3p + 5p is 13p because I know that 5 and 5 is ten, then there are three more.” Relentlessly focus on mental fluency and applying known facts - not counting in ones.	Key teaching points and prior learning – Year 2 Solve problems with addition and subtraction, applying their increasing knowledge of mental recall of number bonds to 20. Add and subtract numbers using concrete objects, pictorial representations and mentally, including a 2- digit number and ones; a 2-digit number and tens Add thee one-digit numbers Check Children can ... - Count and understand place value in 2-digit numbers - The concept of “standard measures” Reference documents to support subject knowledge and CPA approach https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/number-addition-and-subtraction/ - whole spine https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf
Mon 28 th Sept - Fri 9 th October	Addition and subtraction /Measurement (money) Addition and Subtraction measurement (length)	Measure, compare, add and subtract length (m / cm) Measure the perimeter of simple 2-D shapes	Key teaching points and prior learning Y2: Choose and use appropriate standard units to estimate and measure length / height in any direction (m / cm); to the nearest appropriate unit, using rulers - How many cm = m? Types of task - Practical activities: e.g. Measuring a range of lengths of ribbon to compare and order on a number line. Model how to ensure children read from zero on a ruler to avoid misconceptions. Problem solving in the context of measures: encourage pupils to represent problem as a bar model and on a number line. e.g. Jen did a sponsored walk and managed to walk 745 metres. Toby also did the sponsored walk but he walked 100 metres less. How far did Toby walk? I have a length of string 57 cm long. How much more do I need to make a metre? - Measure the perimeter of simple 2-D shapes	Reference documents to support subject knowledge and CPA approach https://www.ncetm.org.uk/classroom-resources/primm-1-18-composition-and-calculation-three-digit-numbers/ https://www.ncetm.org.uk/classroom-resources/primm-1-17-composition-and-calculation-100-and-bridging-100/ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897801/Maths_guidance_year_3.pdf How long is the pencil?  The pencil is ____ cm long. Look at lines A, B and C. Can you estimate how long they are by comparing them to the 1,000cm lines? 

Date	Unit Focus Lessons		Year 3 Objectives Unit 3.3 10 Lessons	Types of tasks, Key teaching points, prior learning, Mastery– Year 3
Mon 12 th Oct Fri 23 October	Multiplication and Division	- Count in multiples of 3 and 4 from zero. - Derive, recall and use multiplication and division facts for 3 and 4 multiplication tables - Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, using mental strategies - Solve problems including missing number problems involving multiplication and division, recording solutions with a range of representations to include number-lines, bar-models and arrays.	Key teaching points and prior learning - Represent multiplication and division facts as arrays using a grid (rather than dots) and a number-line Y2: Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts Y2 Recall and use multiplication and division facts for the 2,5,and 10 multiplication tables, including recognising odd and even numbers Y2: Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x) , division (÷) and equals (=) signs Y2: Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Types of task Using counters to model multiplication on number lines and as arrays (grid) making links between the two representations building on 2s, 5s and 10s from KS1. - Practising counting in 3s and 4s identifying specific places where pupils get stuck in the number sequence, looking at ways to work out those products using reasoning with known related facts e.g. recalling 3 x 9 could be linked to knowing 3x10=30 or 3x6 is double 3x3 etc Applying tables facts to solve problems: multiplication Representing solutions to problems involving groups of 3 and 4 with arrays and number lines alongside the number sentence. Derive families of facts for particular tables linked to arrays eg 4x8, 8x4, 32÷4, 32÷8. Using tables facts to solve division facts focused on groups of 2s, 5s and 10s. - Use representations as above to show solutions. Use word problems and missing box calculation examples. Division as grouping with multiples of 2s, 5s and 10s Show how to use number lines and arrays to model division as grouping. Introduce bar model alongside number sentence	Resources/subject knowledge https://www.ncetm.org.uk/classroom-resources/primm-2-03-times-tables-groups-of-2-and-commutativity-part-1/ https://www.ncetm.org.uk/classroom-resources/primm-2-04-times-tables-groups-of-10-and-of-5-and-factors-of-0-and-1/ https://www.ncetm.org.uk/classroom-resources/primm-2-02-structures-multiplication-representing-equal-groups/ https://www.ncetm.org.uk/classroom-resources/primm-2-07-times-tables-2-4-and-8-and-the-relationship-between-them/ https://www.ncetm.org.uk/classroom-resources/primm-2-08-times-tables-3-6-and-9-and-the-relationship-between-them/ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897801/Maths_guidance_year_3.pdf EOY2 Mastery questions: Two friends share 12 sweets equally between them. How many do they each get? Write this as a division number sentence. Make up two more sharing stories like this one. Chocolate biscuits come in packs (groups) of 5. Sally wants to buy 20 biscuits in total. How many packs will she need to buy? Write this as a division number sentence. Make up two more grouping stories like this one. Write these addition sentences as multiplication sentences. The first one has been completed. $5 + 5 + 5 + 5 + 5 = 5 \times 5$ $2 + 2 + 2 + 2 + 2 =$ $2 + 2 + 2 =$ $10 + 10 + 10 + 10 =$ This array represents $5 \times 3 = 15$.  Write three other multiplication or addition facts that this array shows. Write one division fact that this array shows. EOY2 Mastery with GD questions: Two friends want to buy some marbles and then share them out equally between them. They could buy a bag of 13 marbles, a bag of 14 marbles or a bag of 19 marbles. What size bag should they buy so that they can share them equally? What other numbers of marbles could be shared equally? Explain your reasoning Write these addition sentences as multiplication sentences. $10 + 10 + 10 + 5 + 5 =$ $2 + 2 + 2 + 4 =$ $2 + 2 + 4 + 4 =$ $5 + 5 + 5 + 2 + 3 =$ Find different ways to find the answer to 12×4.  Children are expected to use their 2, 5 and 10 times tables to answer this question.

Half Term

Date	Unit Focus Lessons	Year 2 Objectives Unit 2.3 15 Lessons	Year 3 Objectives Unit 3.4 20 Lessons	Types of tasks, Key teaching points, prior learning, Mastery – Year 2
				Types of tasks, Key teaching points, prior learning, Mastery– Year 3
Mon 2 nd Nov - Fri 21 st Nov	Multiplication and Division (10 lessons)	Count reliably in 2s, 5s and 10s from zero. Introduce counting in 3s from zero. (multiples) Construct arrays with concrete objects. Notice that $2 \times 5 = 5 \times 2$ etc. (Commutativity). Record pictorially. - Develop the concept of sharing and grouping into different sized groups (not just 2s) Recognise, name and write a half as one of two equal parts of a quantity - Write a half as a word and as a number.	Types of task Practise counting in steps of 2, 5 and 10 (from Year 1). - Accompany rote counting with drawing attention to the jumps along a number line, and also link to counting collections of things. Explore the patterns when counting in 2's, 5's and 10's from zero. What do you notice? - Explore the patterns when starting at other numbers. What do you notice and explain why this happens? Introduce pupils to counting in 3's from zero. Use a number line, numicon tiles etc to support counting in 3's. - Discuss if this is easier / harder than counting in 2's, 5's or 10's. Why? Use different contexts for finding how many groups of "X" there are in a collection of things. E.g. There are 24 pupils in the hall. Could they get into teams of 2/3/4/5 with none left over? If they are in groups of 4, then we need groups of 3, will there be more groups or fewer groups? Do this practically with pupils. Organise pupils into arrays. Use practical counting objects to solve problems involving putting things into equal sized groups e.g. Sid has 25 marbles. He wants to put them in boxes of 5. How many boxes will he need? Explore arrays – egg boxes, baking trays, photographs of windows, arrays in walls etc. Discuss how many are in each row / column. How many altogether? - Label the arrays to show repeated addition calculations, then model how we can simplify this using the "x" symbol (so $5 + 5 + 5 + 4$ becomes 5×4). - Use the different written algorithms to draw attention to commutativity ($5 + 5 + 5 = 3 + 3 + 3 + 3 + 3$, or $5 \times 3 = 3 \times 5$). Ensure practical tasks give opportunities for sharing and grouping (e.g. 20 apples shared between 2 people / 20 apples sold in bags of two). Key teaching points and prior learning – Year 2 Y1: Count in multiples of 2s, 5s and 10s. Y1: Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. - Link counting in 2s, 5s ,10s to grouping objects and to the pattern of numbers on a number-line. - Solve problems involving groups of 2, 5 and 10 objects using pictorial recording. - Rehearse together the language of 'How many groups of 2 (5, 10) are there?' ~ 'There are 3 groups of 2 (5,10)'	Check Children can ... - Rote counting in 2's, 5's and 10's from zero. - Using counting in 2's, 5's and 10's to solve problems Watch out for: - Insecurity with counting in 2's, 5's and 10's. - Pupils who can rote count in 2's, 5's and 10's but are unable to use this to count a collection of objects efficiently of solve a problem. - Pupils who are not spotting patterns in multiples – therefore won't be able to generalise or predict. - Pupils confused over "number of groups" and "group size". Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf https://www.ncetm.org.uk/classroom-resources/primm-2-02-structures-multiplication-representing-equal-groups/ https://www.ncetm.org.uk/classroom-resources/primm-2-03-times-tables-groups-of-2-and-commutativity-part-1/ https://www.ncetm.org.uk/classroom-resources/primm-2-04-times-tables-groups-of-10-and-of-5-and-factors-of-0-and-1/ EOY1 Mastery questions: Show pupils pictures or groups of objects like the examples below. Ask questions such as 'How many biscuits are there altogether?' 'How many cherries are there altogether?' Observe how pupils count the objects. Do they count in twos, fives etc. or do they count in ones?  Anna is counting in fives: 5, 10, , 20, , , ... Fill in the missing numbers. EOY1 Mastery with GD questions: If I start on 0 and count on in fives will I say the number 55? If I start on 4 and count on in twos will I say the number 17? If I start at 10 and count on in tens will I say 100? If you counted back from 50 in tens, would you say 0? Can you explain?
Mon 2 nd Nov - Fri 27 th Nov	Fractions (10 lessons) Geometry (10 lessons)	Recognise, find and write fractions of a discrete set of objects: unit fractions (include 1/10) Compare and order fractions with the same denominators (show on a bar-model) Count up and down in tenths; recognise that tenths arise from dividing and object into ten equal parts.	Key teaching points and prior learning - Build on the idea of 'fraction families' ($Y2: \frac{1}{2} = \frac{2}{4}$) developing to halves, quarters and eighths; thirds and sixths; fifths and tenths (use a bar model or fraction wall to explore equivalence) - Count in halves, quarters and thirds on a number-line. Y2: Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity Y2: Write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ Types of task Counting in fractional steps recording on a number line: - revise $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$ and then look at $\frac{1}{5}$ths and $\frac{1}{10}$ths. Discuss the links between a number line showing 1/5th and 1/10ths. Identify examples of equivalence e.g. $\frac{1}{2} = \frac{2}{4} = \frac{5}{10}$ etc - Model this using same length bars e.g. Solve problems needing to count in fractional steps Show solutions using number lines, bar models and fraction notation. e.g. I eat $\frac{1}{10}$ of a bar of chocolate on Monday, Tuesday and Wednesday. How much do I eat? After 5 days? After 1 week? etc $\frac{1}{10} + \frac{1}{10} + \frac{1}{10} = \frac{3}{10}$; $\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} = \frac{5}{10} = \frac{1}{2}$ etc Revise drawing bar models to show families of fractions e.g. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ and $\frac{1}{3}$, $\frac{1}{6}$ and $\frac{1}{5}$, $\frac{1}{10}$ Model tenths with Diennes Using Diennes 'tens stick' to represent one whole and units to represents a tenth of the whole 'tens stick.' Record using bar model to show ten equal parts in a whole Comparing fractions with the same denominator and identifying equivalent fractions - Use problems like: Would you rather have $\frac{1}{3}$ or $\frac{1}{2}$ of the same bar of chocolate? Would you rather have $\frac{5}{10}$ of £30 or $\frac{1}{2}$ of £30? Put these fractions in order: $\frac{5}{10}$, $\frac{3}{10}$ and $\frac{7}{10}$ Use jottings of bar models alongside to support reasoning. Record solutions on number lines.	Check and refresh ... $\frac{1}{2}$; $\frac{1}{4}$; $\frac{2}{4}$, $\frac{3}{4}$, $\frac{1}{3}$ (Year 2 work) - Able to independently record families of fractions as bar models - Able to use a number line to record counting in fractional steps - Able to identify some equivalent fractions particularly = $\frac{1}{2}$ Watch out for ... Accurate use of vocabulary for fractions e.g. equal parts, numerator, denominator, whole, tens / tenths etc Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897801/Maths_guidance_year_3.pdf https://www.ncetm.org.uk/classroom-resources/primm-3-01-preparing-for-fractions-the-part-whole-relationship/ https://www.ncetm.org.uk/classroom-resources/primm-3-02-unit-fractions-identifying-representing-and-comparing/ EOY2 Mastery questions: If you count in steps of starting from 0, how many steps will it take to reach: 2, 4 or 6 What do you notice? EOY2 Mastery with GD questions: $\frac{1}{3}$ of 3 = 1 $\frac{1}{3}$ of 6 = 2 $\frac{1}{3}$ of 9 = 3 $\frac{1}{3}$ of 12 = Continue the pattern. What do you notice?

Date	Unit Focus Lessons	Year 2 Objectives Unit 2.3 15 Lessons	Year 3 Objectives Unit 3.4 10 Lessons	Types of tasks, Key teaching points, prior learning, Mastery – Year 2	
Types of tasks, Key teaching points, prior learning, Mastery– Year 3					
Mon 2 nd Nov - Fri 21st Nov	Multiplication and Division Fractions/ Geometry (5 lessons)	- Recognise, name and write a half as one of two equal parts of a quantity - Write a half as a word and as a number. - Identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line - Identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid. - Recognise, find, name and write fractions as equal parts of a shape (link to symmetry and folding). Focus on ½, ¼ , 2/4 = ½ - Measurement: tell and write the time to five minutes, including quarter past/ to the hour and draw the hands on the clock face to show these times	Types of task - Use food packaging boxes alongside 3D shapes to discuss the properties of the shapes they can see. Draw attention to the 2D shapes that make up the faces of the 3D shapes. Use this to recap the properties of common 2D and 3D shapes, ensuring that correct mathematical vocabulary is modelled and then used. - Show pupils pictures that show reflective symmetry in a vertical line – e.g. butterflies, the Taj Mahal, symmetrical buildings, windows, flowers etc. Emphasise the reflective nature of the “sameness” by folding over symmetrical shapes and using mirrors on the line of symmetry. - When folding shapes on the line of symmetry, use the language of folding in “half” and checking that both halves are the same size. - Continue to fold a range of 2D shapes to find a “half” and a “quarter” of each shape. Emphasise that each “half” or “quarter” must be equal in in size. Give pupils time to fold shapes so that they can explore different ways to find a quarter of a square and a rectangle. - Make coloured “puzzle pieces” – halves and quarters. Ask pupils to use the pieces to make “wholes” Encourage them to notice that 2/4 = ½. (Shapes can be contextual – e.g. pizzas, cakes). - Set contextual problems e.g. “Sam and Tom have the same sized pizza each. Tom cuts his pizza into 2 equal pieces and eats one piece. Sam cuts his into 4 equal pieces and eats two pieces. Who has eaten the most pizza?” Explain / prove your thinking. - Count in fractional steps of ½ and ¼ using representations and a number line. - Place fractions (1/2, ¼, 2/4) on a number line marked 0 – 1. What do you notice? What would happen after 1? Key teaching points and prior learning – Year 2 - Y1: Recognise find and name a half as one of two equal parts of an object, shape or quantity. - Y1: Recognise find and name a quarter as one of four equal parts of an object, shape or quantity Check Children can ... - Pupils use of mathematical language to name and describe 2D and 3D shapes. - Pupils understanding that fractions are about “equal parts of a whole”. Watch out for: - Pupils who cannot explain and prove that a fractions of a shape must be equal in size. - Pupils who cannot accurately place the fractions they know on a number line.	Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf https://www.ncetm.org.uk/classroom-resources/primm-3-0-guidance-on-the-teaching-of-fractions-in-key-stage-1/ EOY1 Mastery questions: Shade to show half of the whole shape.  Circle half of this group of strawberries.  Have a range of shapes in a ‘feely bag’. Can you feel for the triangle, the square, the rectangle? Explain how you know. Sort a range of 3-D objects into groups:  Explain how you have sorted them using mathematical names for the shapes. Sam leaves for school at 8 o'clock. Jay leaves half an hour later than Sam. Circle the clock which shows when Jay leaves for school. Explain your reasoning.  Circle the times which are shorter than 1 week. 1 year 1 day 1 minute 1 hour 1 month EOY1 Mastery with GD questions: Shade each whole shape to show half in four different ways.  What is half of this amount?  What's the same and what's different about these shapes?  Which could be the odd one out and why? Could each one be the odd one out? Provide children with a variety of 3-D shapes and ask: What's the same and what's different between these shapes? Children make comparisons, drawing out the properties of shape and using language such as straight, curved, number of vertices. Tom says, 'My shape has 4 rectangular faces and 2 square faces. What is my shape?' Sam says, 'My shape has 2 triangular faces and 3 rectangular faces. How many vertices does my shape have?' I walk to school every day. On Monday my journey takes 10 minutes. On Tuesday I walk more slowly. Does my journey take more or less time than on Monday? Explain your answer. On Wednesday it takes me 8 minutes to walk to school. On which of the 3 days do I walk quickest? On which of the 3 days do I walk slowest? Explain your reasoning.	
Mon 2 nd Nov - Fri 27 th Nov	Fractions (10 lessons) Geometry (10 lessons)	- Draw 2-D shapes and make 3-D shapes using modelling materials (include simple nets) - Identify right angles - Identify horizontal and vertical lines.	Key teaching points and prior learning - Sort and classify using different diagrams (Carroll diagrams, Venn diagrams, decision trees). - Sort and classify using properties such as symmetry; faces, edges and vertices. - Y2: Recognise and name common 2-D shapes, including squares, circles, rectangles and triangles - Y2: Recognise and name 3-D shapes, including cuboids, pyramids and spheres. - Y2: Describe position, directions and movements including half, quarter and three-quarter turns. Types of task - As indicated by the NC statement... - Draw 2D shapes and make 3D shapes (including simple nets) using modelling materials. - Model how to describe the 2D and 3D shapes using key vocabulary. - Use sorting diagrams e.g. Carroll and Venn diagrams to classify a range of 2D shapes (regular polygons) looking at number of sides, number of right angles etc. - Repeat for 3D shapes classifying by properties such as symmetry, number of faces, edges and vertices.	Geometry/Fractions link: Find different ways to fold a cut out square or rectangle in half (and quarters) and explore finding non-examples of a half and a quarter e.g. a square folded into two parts that are not equal. Record different solutions- discuss what is the same and what is different. Make links with fractions of a shape. Watch out for ... - Accurate use of vocabulary for geometry: - Polygon, right angles, symmetry, horizontal and vertical lines, faces, edges and vertices etc Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897801/Maths_guidance_year_3.pdf EOY2 Mastery questions: Captain Conjecture says, 'All of these shapes are rectangles because they have four sides.' Do you agree?  Explain your reasoning.  EOY2 Mastery with GD questions: Captain Conjecture says, 'All of these shapes are rectangles because they have four sides.' Do you agree?  Explain your reasoning. Children should appreciate that a square is a rectangle because it has 4 right angles and opposite sides are of equal length. 	

Date	Unit Focus Lessons	Year 2 Objectives Unit 2.4 20 Lessons	Year 3 Objectives Unit 3.5 15 Lessons	Types of tasks, Key teaching points, prior learning, Mastery – Year 2	
Types of tasks, Key teaching points, prior learning, Mastery– Year 3					
Mon 23 rd Nov - Fri 18 th Dec	NPV Addition and Subtraction (10 lessons) Statistics (10 lessons)	- Count in steps of 10 from any number forward or backwards, modelling on a number-line - Read and write numbers to at least 100 in numerals and in words - Compare and order numbers from zero up to 100 using <, > and =. - Count back from any given number - Given a number, identify one (ten) more and one (ten) less within 100. - Solve one-step problems that involve addition and subtractions, using concrete objects and pictorial representations including on the number-line, bridging through 10 using number bonds of all numbers, where appropriate	Types of task - Explore what happens when we start at any number and count forwards ten? What do you notice? Show on a structured number line. Predict the next number...and the next? Use Numicon / Diennes alongside arrow cards. Which digit changes and which stays the same? Explain why. - Set challenges such as “When I add a multiple of ten to any number, the ones digit will always stay the same...always, sometimes, never.” Ensure pupils reason about their solutions and develop a proof using resources - Revisit the use of the < > and = symbols. - Combine the use of these with other number facts – e.g. ask pupils to compare the numbers of days in a week with the number of hours in a day – so generating “7 < 24” or 24 > 7”. - Ensure counting is part of on-going routine practice – building in appropriate challenge e.g. different starting / finishing / turning around points, forward AND backwards. - Ensure that counting backwards becomes as fluent as forwards, particularly across tens boundaries. - Set mental maths challenges – e.g. “my starting number is 27. I add 1, subtract 10, then subtract 1. What is my new number? Encourage mental recall and the use of quick jottings if necessary. - Set problems that require pupils to add / subtract a single digit number to / from a two-digit number. E.g. Toni has 28 friends at her party. Six have to leave early. How many are left? - Pupils should do this mental and explain that they know 8 – 6 is 2, so 28 – 6 is 22. Then, introduce bridging forwards and backwards where bridging through the tens number is necessary. E.g. “25 friends have already arrived at Toni’s party. Another 7 arrive. How many are there now? - Use a number line to model “bridging through the tens number” Be explicit about using number bonds to do this quickly and fluently – “I know that if I add 5 to 25, that makes 30, then 2 more makes 32 (I know this because I can partition 7 into 5 and 2”). - Give pupils purposeful practice opportunities to continue to do this fluently, ensuring they focus on applying known number facts to their calculation and do not revert to counting on or back in ones. - Build in opportunities for pupils to practise spelling “number” words. Pupils should be able to write numbers to twenty in words by the end of Year 2, so now need to spell multiples of ten correctly and combine these with the numbers they already know – e.g. “thirty four” Key teaching points and prior learning – Year 2 - Y1: Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. - Y1: Solve one-step problems that involve addition and subtraction using concrete objects and pictorial representations, and missing number problems such as 7 = Δ - 9	- Use resources to show partitioning any two -digit number into different combinations of tens and ones, explaining their thinking Use structured number-lines to record addition and subtraction number sentences revising calculation within 20 using number bonds (not counting in ones on fingers etc). Then... - Adding 2 single digit numbers (bridging through ten) e.g. 8 + 7 - A 2-digit number and ones (no bridging +/-) e.g. 24 + 5, 38 – 6 - A 2-digit number and ten (+ / -) e.g. 34 + 10, 68 - 10 Check Children can ... Accurate counting skills - Accurate articulation of numbers – particularly “ty” and “teen”. - Correct formation of digits when writing numbers in numerals. - Correct place of digits in two-digit numbers. - Counting forwards and/ or backwards through a multiple of ten accurately. - Recall and use number bonds for efficient calculation. Watch out for: - Incorrect articulation of “teen” and “ty” numbers. - Reversal of digits in two-digit numbers. (ask pupils to “make and represent” 2-digit numbers and find them on a number line if reversal of digits is an on-going problem.) - Pupils who revert to counting in ones to calculate rather than using and applying quickly recalled facts. - Pupils who revert to counting in ones to add/subtract ten a number. - Pupils incorrectly using “” symbols – check conceptual understanding Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/number-addition-and-subtraction/ - All Year 2 spine units	
Mon 30 th Nov - Fri 18 th Dec	NPV Measurement (length, mass) (10 lessons) Time (5 lessons)	- Measure and compare lengths (mm/cm/m) - Measure and compare mass (g/kg) - Count up and down in tenths; recognising that tenths arise from dividing an object into ten equal parts. - Recognise the place value of each digit in a 3-digit number (100s, 10s and ones) - Find 10 or 100 more or less than a given number	Key teaching points and prior learning - Build on Units 3.1, 3.2 and 3.4 - Know that there are 10mm in 1 cm; 100cm in 1m; 1000mm in 1m - Derive associated facts: 50cm in ½ m, 25cm in 1/4m and 75cm in ¾ m - Know that there are 1000g = 1 kg and derive associated facts: 500g = ½ kg ; 250 g = ¼ kg ; 750 g = ¾ kg; 100g = 1/10 kg Types of task - Use bar models showing ½ and ¼ and 1/5s and 1/10s to model proportions of the whole unit related to key facts for units of length e.g. ½ ,¼, ¾ , 1/10s of 1cm, 1m and 1km to identify key facts and derive associated facts. Repeat for mass to discuss related facts (g/kg) and represent on a bar model. - Count up and down in tenths - Use place value counters, Diennes and number lines to model. - Use a context e.g. a metre stick to link with recording on a number line when solving problems. - Practical tasks involving appropriate measuring equipment for length and mass to solve problems. - Make links between a scale and a number line and place value models. Reasoning tasks involving place value, addition and subtraction in the context of measures. E.g. a length of rope is 2m in length and ¾ of it is cut off. How much rope is left? E.g. a sack of potatoes weighs 750g and 100g are added. How much does the sack weigh now? - Give solutions as a bar model alongside number sentence.	Check Children can - Units of measurement for length, mass - Reading a scale with - all numbers there; - in divisions of 1s, 2s,5s and 10s, - with marks indicating half way between whole units - Reading a scale where not all numbers on the scale are given and estimate points in between Watch out for ... - Confusing the relationship between units of measurement not realising that the smaller the unit the greater the number of units needed to measure. - Measuring from the end of the ruler rather than from the beginning of the scale Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897801/Maths_guidance_year_3.pdf	

Date	Unit Focus Lessons	Year 2 Objectives Unit 2.4 20 Lessons	Year 3 Objectives Unit 3.5 10 Lessons	Types of tasks, Key teaching points, prior learning, Mastery – Year 2
				Types of tasks, Key teaching points, prior learning, Mastery– Year 3
Mon 23 rd Nov - Fri 18 th Dec	NPV Addition and Subtraction Statistics	- Construct simple pictograms and tally charts. - Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	Types of task - Show pupils a selection of pictograms and tally charts for discussion. - Encourage discussions about what information the chart is giving us and how the information is presented. Ask questions such as “why is a tallying an efficient way to count?”. - Make links with counting in 5’s / 10’s. - Ensure pictograms include some where one symbol is representative of more than one item. - Encourage pupils to engage with a pictogram or tally chart in pairs and ask each other questions – e.g.” how many pupils had the vegetarian meal on Wednesday?”, “Which was the most popular meat option?” How many fewer pupils ate the roast dinner than ate the pizza?” - Ensure pupils are exposed to comparative language – including “more”, “fewer”, “the same” and use these terms accurately in their explanations. - Establish a data set for pupils to represent using a tally chart and / or a pictogram. - Use interesting contexts for data – making links to other areas of the curriculum – e.g. science, history etc.	Check Children can ... - Accurate counting in 1’s, 5’s and 10’s - Accurate use of recording tally’s in 5’s. Watch out for: - Incorrect “tallying” – e.g. more/ less than 5 in each tally) Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897800/Maths_guidance_year_2.pdf
Mon 30 th Nov - Fri 18 th Dec	NPV Measurement (length, mass) Time	- Tell and write the time from an analogue clock (12-hour). - Use vocabulary such as am/pm, morning, afternoon, noon and midnight. - Solve number and practical problems involving these ideas.	Key teaching points and prior learning - Y2: Compare and sequence intervals of time - Y2: Tell and write the time to 5 minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. - Y2: Know the number of minutes in an hour and the number of hours in a day. Types of task Tasks as indicated by the NC statement... Identify key facts using bar models to show $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$ of 1 hour, 1 day, 1 minute Check for ... Reading the time to the nearest minute Reference documents to support subject knowledge and CPA approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897801/Maths_guidance_year_3.pdf	EOY2 Mastery questions: Which of these clock faces shows a time between 5 o'clock and 7 o'clock?  EOY2 Mastery with GD questions: Jack says, ‘There isn’t any point in having a minute hand on a clock because I can still tell the time without it.’ Do you agree with him? Explain your answer. 