St Bridget's CE Primary Maths Progression Map

REFERENCING: NC14, NCETM PD MATERIALS, KS1/KS2 DFE TEST FRAMEWORK, DFE Ready To Progress Guidance

MNP DFE/NCETM ACCREDITED TEXTBOOK

Specific NCETM PD Materials have been referenced but the whole spine for each area should be studied to ensure sequencing and progression of ideas

Please use the non statutory guidance (Ready to Progress materials) to support identifying key learning at each stage

Number and Place Value

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
COUNTING						
Verbally count beyond 20 recognising the pattern of the counting system **Subitise (recognise without counting) up to 5** Begin to develop a sense of the number system by counting forward and beyond to 20, pausing at each multiple of 10 *NCETM EXEMPLIFICATION* *Counting: saying number words in sequence* *Know the number names initially to five, then ten. Extend to larger numbers, including crossing boundaries 19/20 and 29/30* *Counting back introduced recognising the demand it places on working memory* *Counting: tagging each object with one number word*	**Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number** *NCETM PD MATERIALS LINK* *1.1 Comparison of quantities and measures* *1.2 Introducing 'whole' and 'parts': part–part–whole* *1.3 Composition of numbers: 0–5* *1.4 Composition of numbers: 6–10* *1.8 Composition of numbers: multiples of 10 up to 100* *1.9 Composition of numbers: 20–100* *1.10 Composition of numbers: 11–19* *2.1 counting, unitising and coins* *MNP Chapter 1 Link*		*NCETM PD MATERIALS LINK* *All previous segments and:* *1.17 Composition and calculation: 100 and bridging 100* *1.18 Composition and calculation: three-digit numbers*	**Count backwards through zero to include negative numbers** *NCETM PD MATERIALS LINK* *1.22 Composition and calculation: 1,000 and four-digit numbers* *1.27 negative numbers: counting, comparing, calculating* *MNP Chapter 1 Link* *In this chapter, pupils will learn to count in multiples of 25, 100 and 1000 in order to count larger numbers comprehensively. They will learn about the relative size of numbers and complete number sequences within 10 000.*	**Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero** *NCETM PD MATERIALS LINK* *1.26 Composition and calculation: multiples of 1,000 up to 1,000,000* *1.27 Negative numbers: counting, comparing and calculating* *1.28 Common structures and the part–part–whole relationship* *MNP Chapter 11 Link* *In this chapter, pupils are exploring the measurement of mass, temperature, time and length. The chapter begins with pupils converting units of length from millimetres to centimetres and from*	**Use negative numbers in context, and calculate intervals across zero** *NCETM PD MATERIALS as detailed in previous year: 1.27* *MNP Chapter 13 Link* *In this chapter, pupils work with polygons on coordinate grids. They differentiate between translation and reflection before moving on to express movement using algebra. In the first lesson, pupils review negative*

Pupils bridge previous learning through deep exploration of numbers to 10. They count using 1-1 correspondence and using ten frames to represent numbers. They will be counting using one-to-one correspondence and using ten frames to represent numbers. They will then be writing numbers using both numerals and words. Pupils are introduced to the concept of 0 by counting backwards from numbers below 10. To complete the learning in the unit, pupils will be comparing numbers using the terms greater than, less than and as many as. Pupils explore which numbers are greatest and smallest in a series, and order numbers to show value. In the final lesson, pupils are showing 1 more and 1 less using concrete materials *MNP Chapter 6 Link* *In this chapter, we look at numbers up to 20 focusing in particular on numbers between 10 and 20. Pupils will be able count and write to 20, compare and order numbers, and see patterns within 20* *MNP Chapter 10 Link* *In this chapter, pupils will be exploring numbers to 40 in a variety of ways. The beginning of the chapter focuses on counting to 40 in different ways and writing numbers to 40. As*			*Pupils will learn about place value to 4 digits and they will link numbers in numerals and in words. They will compare numbers using language such as 'greater', 'smaller', 'less' and 'more', using the mathematical symbols <, > and =. They will use their knowledge of number and place value to help complete number patterns. They will also learn about rounding numbers to the nearest 1000, 100 and 10; children will apply this knowledge to approximate, total and find the difference* **Chapter 1** **Lesson 14 Round Numbers to Estimate**	*centimetres to metres. They quickly move on to converting metres to kilometres before looking at converting imperial measures to metric measures. Pupils explore converting units of mass in the same manner, finishing with imperial and metric conversions. They look at units of time in days,* *weeks, months and years, then in seconds, minutes and hours. The last lesson looks at temperature and how to use a vertical number line (thermometer). The chapter ends with a very challenging problem about changing length* **Chapter 11** **Lesson 14 Telling the Temperature**	*numbers on horizontal and vertical axes. They then learn to describe the position of objects in relation to a common starting point. Pupils begin to use a coordinate grid from different starting points and recode the coordinates of the points. The coordinate grids become more complex as the chapter progresses, using all four quadrants and translating and reflecting objects. The chapter ends by describing movement (translation and reflection) on a grid using algebra* *MNP Chapter 15 Link* *This is a short chapter on adding and subtracting negative numbers. The first lesson involves recognising patterns that arise when adding and subtracting negative numbers on a number line. The second lesson has pupils developing number stories for equations involving a negative number* **Chapter 13** **Lesson 1 Showing Negative Numbers** **Chapter 15** **Lesson 1 add and Subtract negative Numbers** **Lesson 2 Using Negative Numbers**

	the sequence progresses, pupils are comparing numbers and looking at number patterns. This chapter will consolidate pupils' previous work with *numbers to 20 and prepare them for Chapter 15, Numbers to 100* *MNP Chapter 15 Link* *This is the final chapter on counting in Year 1. It will reinforce some concepts* *previously taught in addition to increasing the complexity of number comparisons and number patterns. Pupils will begin by counting in tens and ones, followed by using number bonds to partition numbers. After this, pupils will be expected to compare numbers to 100 and find number patterns looking at 100-charts.* **Chapter 1** **Lesson 1 Counting to ten** **Lesson 2 Counting object to 10** **Lesson 4 Counting to Zero** **Chapter 6** **Lesson 1 Counting to 20** **Lesson 2 Writing to 20** **Chapter 10** **Lesson 1 Counting to 40** **Lesson 3 Counting in Tens and Ones** **Lesson 5 Finding How much more** **Chapter 15** **Lesson 1 Counting to 100**				

	Lesson 3 Comparing Numbers					
Understand the cardinal value of number words eg. Understanding that four relates to four objects. Subitise up to 5 items Automatically show a given number using fingers

NCETM Exemplification Counting; knowing the last number counted gives the total so far *Subitising: recognising small quantities without needing to count them at all* *Numeral meanings: match a number symbol with a number of things* *Conservation: recognise that amounts that have been rearranged and generalise that if nothing has been added or taken away, then the amount is the same* | **Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens**

NCETM PD MATERIALS LINK *As detailed above* *1.1, 1.2, 1.3, 1.4, 1.8, 1.9, 1.10, 2.1 plus* *2.2 Structure: multiplication representing equal groups* *2.3 times tables: groups of 2* *2.4 times tables: groups of 10 and of 5*

MNP Link as above with Chapter 1, 6, 10, 15 *MNP Chapter 12 LINK* *This is the first chapter on multiplication. Pupils will learn the foundations of equal groupings, repeated addition, arrays and doubling. By the end of the chapter, pupils will be able to apply that knowledge to solve word problems. Previous lessons using ten frames and visual linear organisation will prove useful in this chapter* **Chapter 10** **Lesson 2 Writing numbers to 40** **Lesson 6 Making Number Patterns** **Chapter 15** | **Count in steps of 2,3, and 5 from 0, and in tens from any number, forward or backward**

NCETM PD MATERIALS LINK *Previous segments as detailed in year 1: 1.8 plus 1.14 addition and subtraction: two digit and multiples of ten* *2.2 Structures: multiplication representing equal groups* *2.3 times tables: groups of 2 and commutativity (part 1)* *2.4 Times tables: groups of 10 and of 5, and factors of 0 and 1* *MNP Chapter 1 Link* *This chapter concentrates on various aspects of numbers to 100. Pupils will be able to count to 100 through different steps, including counting up in tens. Place value will have a major role throughout the chapter. Pupils will also look at comparing numbers using their place-value knowledge and they will go through number bonds. The final two chapters will allow pupils to explore numbers to see patterns within 100.* | **Count from 0 in multiples of 4,8,50 and 100**

NCETM PD MATERIALS LINK *2.7 Times tables: 2, 4 and 8, and the relationship between them* *2.8 Times tables: 3, 6 and 9, and the relationship between them*

 MNP chapter 3 Link *In this chapter, pupils will cover the multiplication and division of 3, 4 and 8. Pupils will then get to use their experience of multiplication and division to solve word problems* **Chapter 1** **Lesson 1 Counting in Hundreds** **Lesson 5 Counting in Fifties** **Lesson 8 Counting in 4s and 8s** | **Count in multiples of 6,7,9,25 and 1000**

NCETM PD MATERIALS LINK: *2.8 Times tables 3, 6,9* *2.9 Times tables : 7* *2.13 calculation: multiplying and dividing by 10 or 100* *2.7 Times tables: 2, 4 and 8, and the relationship between them* *2.8 Times tables: 3, 6 and 9, and the relationship between them* *2.9 Times tables: 7 and patterns within/across times tables*

MNP Chapter 1 Link as above *MNP Chapter 3 Link* *In this chapter, pupils will learn how to multiply and divide by 6, 7, 9, 11 and 12. They will begin to understand mathematical vocabulary such as 'quotient' in relation to division. They will learn how to calculate multiplication equations using the multiplication facts that they know. They will understand the difference between sharing and grouping and they will* | **Count forwards or backwards in steps of powers of 10 for any given number up to 1000 000**

NCETM PD MATERIALS LINK *2.13 Calculation: multiplying and dividing by 10 or 100* *2.19 calculation : decimals fractions by whole numbers*

MNP Chapter 1 Link *In this chapter, pupils will be looking at numbers and their place value to 1 000 000. The chapter begins reviewing how to read and write numbers to 100 000, quickly moving onto numbers to 1 000 000. Time is spent using concrete materials to represent numbers to 1 000 000, including number discs and place-value charts. Pupils then compare numbers to 1 000 000 using their knowledge of place value in addition to bar model supports to assist them. Pupils complete the unit by making number patterns and rounding numbers to the nearest 10, 1000, 10 000 and 100 000* **Chapter 1** | |

	Lesson 4 Making Number Patterns	*MNP Link Chapter 3* *This chapter investigates the multiplication of 2, 5 and 10. Pupils will also have the opportunity to understand what multiplication means and what it looks like. Patterns in multiplication and commutative law are also covered in this chapter* *MNP Chapter 3 Link* *This chapter investigates the multiplication of 2, 5 and 10. Pupils will also have the opportunity to understand what multiplication means and what it looks like. Patterns in multiplication and commutative law are also covered in this chapter* **Chapter 1** **Lesson 1 Counting to 100** **Lesson 5 Number Patterns** **Lesson 6 Number Patterns**		*understand the commutative law in multiplication. They will also solve problems involving multiplication and division* **Chapter 1** **Lesson 1 Counting in Hundreds and 25s** **Lesson 2 Counting in thousands** **Lesson 10 Counting in 6s, 7s, 9s**	**Lesson 6 Comparing Numbers to 1000 000** **Lesson 7 Comparing Numbers to 1000 000** **Lesson 8 making Number Patterns** **Lesson 9 making Number Patterns** **Chapter 11** **Lesson 14 Telling the Temperature**	
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity NCETM Exemplification See and begin to generalise the one more/one less relationship between sequential numbers	**Given a number identify one more and one less** *NCETM PD MATERIALS LINK as detailed above: 1.1* *MNP Chapter 1, 6, 10, 15 link as detailed above* **Chapter 1** **Lesson 7 Comparing Numbers** **Chapter 6** **Lesson 5 Number Patterns** **Chapter 10** **Lesson 4 Comparing Numbers**		**Find 10 or 100 more or less than a given number** *NCETM PD MATERIALS LINK as detailed above:* *1.14 plus* *1.17 composition and calculation :100 and bridging 100* *MNP Chapter 1 Link* *This chapter covers numbers up to 1000 and focuses on the value of each digit: place value. Pupils will learn how to compose and decompose*	**Find 1000 more or less than a given number** *NCETM PD MATERIALS LINK as detailed above and in previous years plus:* *1.22 composition and calculation: 1000 and four-digit numbers* *MNP Chapter 1 link as above* **Chapter 1** **Lesson 9 Making Number Patterns**		

	Lesson 5 Finding How much more **Chapter 15** **Lesson 3 Comparing Numbers** **Lesson 4 making Number patterns** **Chapter 11** **Lesson 2 Solving Word Problems**		*numbers, compare, order and look for patterns* **Chapter 1** **Lesson 1 Counting in Hundreds** **Lesson 6 Number Patterns** **Lesson 7 Number Patterns**			

COMPARING NUMBERS

Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity NCETM Exemplification More than/less than: progressive experiences where children can compare collections and begin to talk about which group has more things. Attention should be focused on the numerosity of the group through the use of collections including ranges of sized objects Identifying groups with the same number of things: the opportunity to see that groups can consist of equal numbers	**Use the language of: equal to, more than, less than (fewer), most, least** *NCETM PD MATERIALS LINK as detailed above: 1.1,* *MNP Chapter 1 link as detailed above* **Chapter 1** **Lesson 5 Comparing Numbers of Objects** **Lesson 6 Ordering Numbers** **Chapter 6** **Lesson 3 Comparing Numbers** **Lesson 4 Ordering Numbers** **Chapter 10** **Lesson 1 Counting to 40** **Lesson 4 Comparing Numbers** **Lesson 6 Making Number Patterns** **Chapter 15** **Lesson 1 Counting to 100** **Lesson 2 Finding tens and ones**	**Compare and order numbers from 0 up to 100; use < > and = signs** *NCETM PD MATERIALS LINK* *Previous segments as detailed in year 1 plus:* *1.5 additive structures: introduction to aggregation and partitioning* *1.6 additive structures: introduction to augmentation and reduction* *1.17 Composition and calculation: 100* *MNP Chapter 1 link as detailed above* **Chapter 1** **Lesson 3 Comparing Numbers**	**Compare and order numbers up to 1000** *NCETM PD MATERIALS LINK as detailed above plus:* *1.18 composition and calculation : three digit numbers* *MNP Chapter 1 Link* **Chapter 1** **Lesson 4 Comparing and Ordering**	**Order and compare numbers beyond 1000** *NCETM PD MATERIALS LINK as detailed above: 1.22* *MNP Chapter 1 Link* **Chapter 1** **Lesson 1 Counting in Thousands, Hundreds, Tens and Ones** **Lesson 7 Comparing and Ordering Numbers**	**Read , write , order and compare numbers to at least 1000 000 and determine the value of each digit** *NCETM PD MATERIALS LINK as detailed above and in previous years: 1.26* *MNP Chapter 1 Link as detailed above* **Chapter 1** **Lesson 1 Reading and Writing numbers to 1000 000** **Lesson 2 Reading and Writing numbers to 1000 000** **Lesson 3 Reading and Writing numbers to 1000 000** **Lesson 4 Comparing numbers to 1000 000** **Lesson 5 Comparing numbers to 1000 000** **Lesson 6 Comparing numbers to 1000 000** **Lesson 7 Comparing numbers to 1000 000** **Lesson 8 making Number Patterns** **Lesson 9 Making Number Patterns**	**Read , write , order and compare numbers to at least 10 000 000 and determine the value of each digit** *NCETM PD MATERIALS LINK* 1.30 Composition and calculation: numbers up to 10,000,000 *MNP Chapter 1 Link* *In this first unit of Year 6, pupils are refining their knowledge of place value, working with numbers between 1 000 000 and 10 000 000. They begin the chapter reading and writing numbers to 10 000 000 using number discs, numerals and words. An additional lesson using an abacus is provided to deepen and extend their sense of number and place value. Pupils are then asked to round and compare numbers to 10 000 000, followed by placing them in order from smallest to greatest. The unit ends with pupils rounding numbers to*

						various values and determining when it is appropriate to round number **Chapter 1** **Lesson 1 Reading and Writing Numbers to 10 million** **Lesson 2 Reading and writing Numbers to 10 Million** **Lesson 3 reading and Writing Numbers to 10 Million** **Lesson 4 Comparing Numbers to 10 Million** **Lesson 5 Comparing and Ordering Numbers to 10 Million**
NCETM Exemplification Compare actual numbers and explain which is more. Compare two numerals and say which is larger by counting or matching 1-1				**Compare numbers with the same number of decimals places up to two decimal places** *NCETM PD MATERIALS LINK :* *1.23 composition and calculation: tenths* *1.24 Composition and calculation : hundredths and thousandths* *MNP Chapter 8 Link* *In this chapter, pupils will learn about tenths and hundredths. They will learn how to count, order and record the decimals in different ways. They will begin to see equivalence between tenths and hundredths and will be able to compare and order the numbers. Pupils will* *learn to continue linear number sequences as well as round decimals to the*		

				nearest whole number. They will also link tenths and hundredths with dividing by 10 and 100 **Chapter 8** **Lesson 9 Comparing and Ordering Decimals** **Lesson 10 Comparing and Ordering Decimals** **Lesson 11 Comparing and Ordering Decimals** **Lesson 12 Making Number Patterns**		
IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS (see concrete resources/manipulatives section)						
Play games that involve moving along a numbered track and understand that larger numbers are further along the track	**Identify and represent numbers using objects and pictorial representations including the number line** This is implicit in all MNP lessons see resource list. **Chapter 1** **Lesson 2 Counting Objects to 10** **Lesson 5 Comparing Numbers of Objects** **Lesson 6 Ordering Numbers** **Chapter 6** **Lesson 3 Comparing Numbers** **Lesson 4 Ordering Numbers** **Chapter 10** **Lesson 1 Counting to 40** **Lesson 3 Counting in Tens and Ones** **Lesson 4 Comparing Numbers** **Lesson 6 Making Number Patterns** **Chapter 7** **Lesson 1 Add by counting on** **Lesson 2 Add by making 10**	**Identify, represent and estimate numbers using different representations, including the number line** This is implicit in all MNP lessons see resource list. **Chapter 1** **Lesson 5 Number patterns** **Lesson 6 Number patterns**	**Identify, represent and estimate numbers using different representations** This is implicit in all MNP lessons see resource list. **Chapter 1** **Lesson 2 Counting in Hundreds, Tens and Ones**	**Identify, represent and estimate numbers using different representations** This is implicit in all MNP lessons see resource list **Chapter 1** **Lesson 6 Comparing and Ordering Numbers** **Lesson 7 Comparing and Ordering Numbers** **Lesson 8 making Number Patterns** **Lesson 13 Rounding Numbers to Estimate** **Lesson 14 Rounding Numbers to Estimate** .		

	Lesson 3 Add by adding ones **Chapter 15** **Lesson 1 Counting to 100** **Lesson 2 Finding tens and ones**					
			READING AND WRITING NUMBERS INCLUDING ROMAN NUMERALS			
Have a deep understanding of number to 10, including the composition of each number	**Read and write numbers from 1 to 20 in numerals and words** *NCETM PD MATERIALS LINK as detailed above: 1.10* *MNP Chapter 6 link as detailed above* **Chapter 1** **Lesson 3 Writing to 10** **Chapter 6** **Lesson 2 Writing to 20** **Chapter 10** **Lesson 1 Counting to 40** **Lesson 2 Writing numbers to 40**	**Read and write numbers to at least 100 in numerals and words** *NCETM PD MATERIALS LINK as detailed above and in previous years also: 1.17 composition and calculation : 100 and bridging 100* *MNP Chapter 1 link as detailed above* **Chapter 1** **Lesson 1 Counting to 100**	**Read and write numbers up to 1000 in numerals and words** *NCETM PD MATERIALS LINK as detailed above and in previous years* 1.17 1.18 *MNP Chapter 1 Link* **Chapter 1** **Lesson 1 Counting in Hundreds**		**Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit** *LINK as detailed above and in previous years: 1.26* *MNP Chapter 1 Link as detailed above* **Chapter 1** **Lesson 1 Reading and Writing numbers to 1000 000** **Lesson 2 Reading and Writing numbers to 1000 000** **Lesson 3 Reading and Writing numbers to 1000 000** **Lesson 4 Comparing numbers to 1000 000** **Lesson 5 Comparing numbers to 1000 000** **Lesson 6 Comparing numbers to 1000 000** **Lesson 7 Comparing numbers to 1000 000** **Lesson 8 making Number Patterns** **Lesson 9 Making Number Patterns**	**Read, write, order and compare numbers to at least 10 000 000 and determine the value of each digit** *NCETM PD MATERIALS as previously detailed: 1.30* *MNP Chapter 1 Link as detailed above* **Chapter 1** **Lesson 1 Reading and Writing Numbers to 10 million** **Lesson 2 Reading and writing Numbers to 10 Million** **Lesson 3 reading and Writing Numbers to 10 Million** **Lesson 4 Comparing Numbers to 10 Million** **Lesson 5 Comparing and Ordering Numbers to 10 Million**
			Tell and write the time from an analogue clock, including using Roman	**Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include**	**Read Roman numerals to 1000 (M) and recognise years written in Roman numerals**	

			numerals from 1 to XII and 12 hour and 24 hour clocks *MNP Chapter 9 link* *Pupils begin this chapter by telling the time using 'a.m.' and 'p.m.', telling time to the minute, using analogue and digital time and telling time by using both the minute and hour hands. Pupils then learn to use the 24-hour clock and clocks using roman numerals. After this, pupils are measuring and comparing time in seconds, hours and minutes. Pupils will then complete the chapter by converting units of time* *and then finding a number of days in lengths of time* **Chapter 9** **Lesson 6 Telling the time** **Lesson 7 Telling the time** **Lesson 12 Measuring time in hours** **Lesson 13 Measuring time in Hours** **Lesson 1 4 Measuring time in minutes** **Lesson 15 Measuring time in Minutes** **Lesson 16 Measuring time in minutes**	the concept of 0 and place value *MNP Chapter 14 Link* *In this chapter, pupils will learn to read and write Roman numerals. They will learn how Roman numerals were used and how they are still used today* **Chapter 14** **Lesson 1 Writing Roman Numerals for 1 to 20** **Lesson 2 Writing Roman numerals to 100**	*MNP Chapter 14 Link* *In this short chapter, pupils are identifying and using Roman numerals. In the first lesson, pupils learn to* *write Roman numerals to 1000, determining rules to apply to the written number. In the second lesson, pupils learn how to write years above 1000. The chapter ends with applying knowledge of Roman numerals to real-life scenarios* **Chapter 14** **Lesson 1 Writing Roman Numerals to 1000** **Lesson 2 Writing Years in Roman Numerals**	

UNDERSTANDING PLACE VALUE						
Have a deep understanding of number to 10, including the composition of each number **Explore and represent patterns within numbers**		**Recognise the place value of each digit in a two-digit number (tens and ones)** *NCETM PD MATERIALS LINK as detailed in year 1: 1.8, 1.9, 1.10*	**Recognise the place value of each digit in a three-digit number (hundreds, tens and ones)** *NCETM PD MATERIALS LINK as detailed above and in previous years: 1.18,*	**Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)** *NCETM PD MATERIALS LINK as detailed above and in previous years 1.22.* *MNP Chapter 1 Link*	**Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit** *NCETM PD MATERIALS LINK as detailed above and in previous years : 1.26*	**Read, write, order and compare numbers to at least 10 000 000 and determine the value of each digit** *NCETM PD MATERIALS as previously detailed 1.30*

up to 10, including evens and odds, double facts and how quantities can be distributed evenly		*MNP Chapter 1 link as detailed above* **Chapter 1** **Lesson 2 Place Value** **Lesson 4 Number Bonds**	*MNP Chapter 1 Link* **Chapter 1** **Lesson 2 Counting in Hundreds, Tens and Ones** **Lesson 3 Place Value**	**Chapter 1** **Lesson 4 Using Place Value** **Lesson 5 Using Place Value** **Lesson 6 Comparing and Ordering Numbers** **Lesson 8 making Number Patterns**	**Chapter 1** **Lesson 1 Reading and Writing numbers to 1000 000** **Lesson 2 Reading and Writing numbers to 1000 000** **Lesson 3 Reading and Writing numbers to 1000 000** **Lesson 4 Comparing numbers to 1000 000** **Lesson 5 Comparing numbers to 1000 000** **Lesson 6 Comparing numbers to 1000 000** **Lesson 7 Comparing numbers to 1000 000** **Lesson 8 making Number Patterns** **Lesson 9 Making Number Patterns**	*MNP Chapter 1 Link as detailed above* **Chapter 1** **Lesson 1 Reading and Writing Numbers to 10 million** **Lesson 2 Reading and writing Numbers to 10 Million** **Lesson 3 reading and Writing Numbers to 10 Million** **Lesson 4 Comparing Numbers to 10 Million** **Lesson 5 Comparing and Ordering Numbers to 10 Million**
				Find the effect of dividing a one or two- digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths *NCETM PD Materials Link; 2.29 decimal place value knowledge* *MNP Chapter 8 Link as detailed above* **Chapter 8** **Lesson 1 Writing Tenths** **Lesson 4 Writing Hundredths** **Lesson 16 Dividing Whole numbers by 10** **Lesson 17 Dividing Whole numbers by 100**	**Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents** *NCETM PD MATERIALS LINK as detailed previously: 1.23, 1.24,* *MNP Chapter 7 Link* *In this chapter, pupils explore decimals. To begin this chapter, they learn to read and write decimal numbers. This is followed by comparing decimal numbers to find which is greater and smaller. Pupils then add and subtract decimals before turning decimals into fractions. The chapter ends with pupils*	**Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places** *NCETM PD MATERIALS Lin as previously detailed: 1.23, 1.24 2.13 2.19* *Plus* *2.29 Decimal place value knowledge multiplication and division* *MNP Chapter 4 Link* *In this chapter, pupils will be working with decimals. To begin with, pupils will read and write decimals using Base 10 materials before moving on to*

					rounding decimals to the nearest whole number and decimal position **Chapter 7** **Lesson 1 Writing Decimals** **Lesson 2 reading and Writing Decimals** **Lesson 3 Comparing Decimals** **Lesson 4 Comparing Decimals** **Lesson 5 Comparing Decimals** **Lesson 6 Comparing Decimals** **Lesson 7 Writing Fractions as Decimals**	*dividing and multiplying decimals by 1-digit numbers with no regrouping or renaming. Pupils will then be asked to write fractions as decimals using division and pictorial methods before looking at multiplying fractions which involve some regrouping and renaming by 1-digit numbers. Pupils will look at dividing decimals again, this time when regrouping and renaming with 1-digit numbers is required. They then move on to multiplying and dividing decimals by 2-digit numbers, which involves regrouping and renaming, using a variety of methods and strategies, including: number bonds, the worded method (writing down a problem in words and numbers), long division and the column method* *MNP Chapter 5 Link* *In this chapter, the focus is on converting units of measurement using fractions and decimals. Pupils begin by converting units of length and distance followed by exploring units of mass, volume and time. While most of the chapter considers metric conversions, time is challenging as it does not follow multiples of 10, 100 or 1000 In this chapter, the focus is on converting units of measurement using*

						fractions and decimals. Pupils begin by converting units of length and distance followed by exploring units of mass, volume and time. While most of the chapter considers metric conversions, time is challenging as it does not follow multiples of 10, 100 or 1000 **Chapter 4 Lesson 1 Writing and Reading Decimals Lesson 2 Dividing Whole Numbers**
				ROUNDING		
				Round any number to the nearest 10,100 or 1000 *MNP Chapter 1 Link as detailed above* **Chapter 1 Lesson 11 Rounding Numbers Lesson 12 Rounding Numbers Lesson 13 Rounding Numbers to Estimate Lesson 14 Round Numbers to Estimate**	**Round any number up to 1 000 000 to the nearest 10,100, 1000, 10 000 and 100 000** *MNP Chapter 1 Link as detailed above* **Chapter 1 Lesson 10 Rounding Numbers Lesson 11 Rounding Numbers Lesson 12 Rounding Numbers**	**Round any whole number to a required degree of accuracy** *MNP Chapter 1 Link as detailed above* **Chapter 1 Lesson 6 Rounding Numbers Lesson 7 Rounding Numbers**
				Round decimals with one decimal places to the nearest whole number and to one decimal place *NCETM PD Materials Link 1.23 Composition and calculation: tenths* *MNP Chapter 8 Link as above* **Chapter 8 Lesson 13 Rounding decimals**	**Round decimals with two decimal places to the nearest whole number and to one decimal place** *NCETM PD Materials Link 1.24 Composition and calculation: hundredths and thousandths* *MNP Chapter 7 Link In this chapter, pupils explore decimals. To begin this chapter, they learn to*	**Solve problems which require answers to be rounded to specified degrees of accuracy** *MNP Chapter 1 Link as detailed above* **Chapter 1 Lesson 6 Rounding Numbers Lesson 7 Rounding Numbers**

				Lesson 14 Rounding Decimals	*read and write decimal numbers. This is followed by comparing decimal numbers to find which is greater and smaller. Pupils then add and subtract decimals before turning decimals into fractions. The chapter ends with pupils rounding decimals to the nearest whole number and decimal position* **Chapter 7 Lesson 15 Rounding Decimals**	

PROBLEM SOLVING

	Every MNP textbook lesson begins with a hook that presents a number problem, puzzle or practical problem **Mind Workouts Chapter 1, 6, 10, 15**	**Use place value and number facts to solve problems** *Every MNP textbook lesson begins with a hook that presents a number problem, puzzle or practical problem* *See also word problem chapters* **Chapter 1 Lesson 3 Comparing Numbers Mind workouts**	**Solve number problems and practical problems involving these ideas** *Every MNP textbook lesson begins with a hook that presents a number problem, puzzle or practical problem* *See also word problem chapters* **Mind Workouts**	**Solve number and practical problems that involve all of the above and with increasingly large; positive numbers** *Every MNP textbook lesson begins with a hook that presents a number problem, puzzle or practical problem* **See also word problem chapters and Mind Workouts**	**Solve number problems and practical problems that involve all of the above** *Every MNP textbook lesson begins with a hook that presents a number problem, puzzle or practical problem* *See also word problem chapters* **See also word problem chapters e. Chapter 4 and Mind Workouts Chapter 7 Lessons 5-14**	**Solve number problems and practical problems that involve all of the above** *NCETM PD MATERIALS : 1.31 problems with two unknowns* *Every MNP textbook lesson begins with a hook that presents a number problem, puzzle or practical problem* **See also word problem chapters and Mind Workouts**

Concrete Resources/ Manipulatives : Identifying and Representing

Objects for counting/counters *Linking cubes* *Ten frames* *Part part whole models laminated* *Numberblocks DVD*	*Objects for counting/counters* *Linking cubes (20 between two)* Linking cubes (30 between two)	*Tens and ones (to 100) (one set between two)* *Objects for counting (e.g. straws)/counters (100)* *Elastic bands*	*Base 10 materials to 1000 (between two)* *Laminated part–whole diagrams (one between two)* *Objects for counting (100)* *Two jars: A and B*	Base 10 materials (between two) Number lines in hundreds; twenty-fives and fifties (between two) Place-value discs (between two)	Place-value charts (between two) Place-value discs (between two) 1–9 digit cards (each) Number cards (one set between two)	*Place–value counters* *Place-value charts (between two)* *Place-value discs (between two)* *0–9 digit cards (each)*

Whiteboards pens	Ten frames (two between two)	Laminated part–whole diagrams (one between two)	Laminated part-whole diagram (three ways) (one between two)	Counting stick	Blank number lines (increments marked	1–9 digit cards (between two)
Large ten frames	Large ten frames	Whiteboards and pens (between two)	Whiteboards and pens	Place-value cards (between two)	Linking cubes (between two)	Blank number line (increments marked) (between two)
Straws	Counters Place-value cards (between two)	Place-value charts (one between two)	Place-value charts (between two)	Place-value charts (between two)	Base 10 materials (between two)	Base 10 materials (between two)
Number tracks	Base 10 materials (between two)	0–9 digit cards (one between three to four)	Place-value cards	2; 3 and 5 digit cards	Place-value discs – 10, 1, 0.1, 0.01, 0.001 (between two)	Place-value charts (between two)
Number lines	Place-value charts (between two)	Coins/counters	Nine-sided dice (between three)	Feely bag	1–2 digit cards (between two)	Place-value cards (between two)
Digit word cards 1-20	(20 between two)	Blank number tracks	Straws bundled into fifties (to 500) (between two)	Number lines (in thousands)	Squared paper (between two)	0–3 digit cards (between two)
Digit cards 1-20	1–40 number chart (between two)	100-square (one between two)	Number tracks (in fifties) (between two)	100-square	Whiteboards and pens	String (between two)
	Counters (between two)	Counters (30 between two)	Number lines (in fifties) (between two)	Number lines (marked and blank) (between two)	Number lines (increments marked) (between two)	Calculators (between two)
	Number lines 0–20 (one between two)	Paper plates	Blank number tracks (between two)	Whiteboards and pens	Travel advertisements (selection between two)	Place-value discs (between two)
	0–20 digit cards (one set between three)	Linking cubes (20 between two)	£1 coins/counters	Number lines (increments marked) (between two)	Sugar paper (between two)	0; 2; 3 and 9 digit cards (between two
	0–20 word cards (one set between three)	Cups (10 between two)	Linking cubes	Objects for counting/counters	Markers (between two)	Demonstration thermometer (between two)
	Objects for counting	1–20 number tracks	Number lines (in threes) (between two)	Linking cubes	Card strips divided into hundredths (between two)	Mirrors (between two)
	Whiteboards and pens (one between two)	5 times table cards (arrays/dots) (one set between two)	3 times table cards (between two)	Blank number line (increments marked) (between two)	Card strips divided into tenths (between two)	Squared paper (between two)
	A4 word cards – more than, less than, greatest, smallest	1–50 number chart	Dot cards (fours) (between two)	6 times table cards (between two)	Cards for Activity Time (between two)	Ruler (between two
	Square tiles (20)	10 times table cards (arrays/dots)	Counters	Counting stick	Decimal strips (between two)	
	Coins/counters	Base 10 rods (10 between two)	Cups (between two)	Timer (useful but not essential)	Number lines (between two	
	100-square (one between two)	10 times tables (arrays)	Trays/sorting circles counters	Counters	Ruler	
		2; 5 and 10 times table cards (shuffled) (one set between three)	2, 3, 4, 5, 8 and 10 times tables cards (shuffled) (between two)	Dot cards (sevens) (between two)	Metre ruler	
		2 times table cards (arrays/dots)	Coins/counters	Dot cards (nines)	Measuring tapes	
		Teaching clock	Teaching clock	6–90 square	Ruler (cm and inches) (each)	
		Individual clocks	Individual analogue clocks		Weighing scales (useful but not essential)	
		Digital time cards (set between three or four)	Time cards (between two)	6; 7; 8 and 9 times tables cards (set between two)	Digital scales (useful but not essential)	
		Ruler (each)	Watches showing different times	Timer	Kitchen weights	
		Clock (each)	Digital clocks (per group)	Cups (10 between two)	Number lines (including negative numbers)	
		Blank number lines (each)	Analogue clocks with Roman numerals	Whiteboards and pens (between two)		
			Teaching clock with Roman numerals	6 times table and division cards (between two)		
			Digital stopwatches (one between two)	Coins and notes (set between two)		

			Pendulums (between two) *Analogue clocks with a second hand (each)* *Blank number lines (between two)* *Analogue clocks (between two)* *Laminated blank number lines (one between two)*	Strips of paper for bar modelling *Square cards divided into tenths (between two)* *Card strips divided into tenths (between two)* *Place-value discs (between two)* *Decimal place-value charts (between two)* *Laminated card strips (set between two)* *Card strips divided into hundredths (between two)* *Base 10 materials (between two)* *Laminated number lines (various increments) (between two)* *0–9 digit cards (set between two)* *Six-sided dice (one between two)* *Rulers (cm) (between two)* *Objects to measure (between two)* *Laminated number lines (10 increments) (between two)* *Square cards divided into hundredths (between two)* *Ten frames (between two)* *Card strips (between two)* *Square cards (between two*		