Maths – Y6 Scheme of Work Term 1

Week	Strand	Learning Objectives	Guidance and what to look for	Abacus	Vocabulary
1	Place Value	• Read, write and say aloud numbers written in figures up to and including 1 000 000 • Recognise the place value of each digit in a six-digit number (hundred thousands, ten thousands, thousands, hundreds, tens, ones) and write numbers in expanded form • Know that one million is 1 and six zeroes, two million is 2 and six zeroes, and so on, up to 9 million.	Children make place value charts and their own small digit cards, including several zeros. They practise making various numbers up to one million e.g. 97,305 and once they are confident with this, they say and write what each digit is worth. e.g. 9 represents 90,000. They practise having more than one 0 in the number. Move on to reading, writing and saying aloud numbers not in a place value table. Use a place value table to partition and say aloud six digit numbers. Write in expanded form and identify the value of specific digits, for example: 252 493 = 200 000 + 50 000 + 2000 + 400 + 90 + 3 The value of 5 is 50 000. Move on to apply partitioning in different ways, for example: 385 214 = 300 000 + 85 214 or 385 000 + 214 and so on. Count up from different numbers eg 99,980 to go past one million and practise writing millions	TB1 p4, 5 TB2 p 4, 5, 6	million
2	Place Value	• Compare and order numbers up to and including 1 000 000, and write statements using inequality signs < or > • Round any number up to and including 1	Use a place value table and the language of 'most', 'least', 'more than' and 'greater than' for > and 'less than' for < I*nclude word problems. For example:* *184 471 people fly to airport A in one year, 104 381 people fly to airport B in the same year. Which airport do most people fly to?* *Use a place value table and the language of 'close', 'near', 'closest' and 'nearest'.* Use a number line to show negative numbers. Practise reading and writing statements. Teacher gives children each a card with a number on it - they have to arrange themselves so that they are in the right order.	TB2 p4, 5, 6, 9, 10 TB3 p11	greater than less than equals and equality digits

		000 000 to the nearest power of 10			
3	Addition and Subtraction	• Add and subtract positive integers of any size up to and including 1 000 000 using mental or formal written methods of column addition and subtraction, where appropriate • Understand when to add and when to subtract, and the relationship between addition and subtraction	Practise both mental methods and formal written column addition and subtraction with numbers of any size up to and including 1 000 000. Encourage making decisions about when a mental method may be more appropriate than a written method. *Solve number problems in context, involving addition and subtraction.* Use addition to check subtraction calculations, and vice versa. *Include word problems, involving numbers up to 1 000 000, and encourage students to decide which operation to use.* *Solve missing number calculations involving numbers of any size up to and including 1 000 000.*	TB1 p14 - 17 TB1 p39, 40, 41 TB2 p48,49	add / subtract increase / decrease total difference more than / less than
4	Place Value Multiplication and Division	• Count from 0 in multiples of 12 • Recall multiplication and division facts for multiplication tables up to and including 12 x 12 • Recognise square numbers as a pattern that forms a square.	Relate to counting on and repeated addition. Use the language of 'lots of', 'groups of', 'times' and 'multiplied by'. Recognise patterns in the 12 times tables. Use a variety of language to describe multiplication and division, for example: 3 times 12 and share 36 equally between 12 or 7 lots of 12 and divide 84 by 12 10 groups of 12 and how many groups of 12 make 120? Use the commutative nature of multiplication. Use counters to form squares and work out square numbers. For example: [IMAGE N6.3B] . Find the square numbers on a times table square and look for patterns	TB1 p49, 50	groups of tmes multiplied by share square number

5	Multiplication and Division	• Multiply integers up to and including four digits by one or two digit numbers using mental or formal written methods, where appropriate	Practise formal written methods of multiplication. Encourage making decisions about when a mental method may be more appropriate than a written method, for example: 20 000 x 50 = 1 000 000 is more efficient using a mental method. 1999 x 3 = 2000 x 3 - 1 x 3 = 6000 - 3 = 5997 is less prone to error using a mental method. *Include word problems.*	TB1 p54,55, 56, 57, 58	
6	Place Value	• Recognise the place value of each digit in a number with one or two decimal places and write numbers in expanded form • Round any decimal, up to and including two decimal places, to the nearest whole number	Use a place value table to partition and say aloud decimals with one or two decimal places. Write in expanded form and identify the value of specific digits, for example: 32.45 = 30 + 2 + 0.4 + 0.05 The value of 5 is 5/100s Put decimal numbers on a number line and find the nearest whole number. Use a place value table. *Relate to measures.*	TB1 p9, 10, 11 TB3 p 7, 8	tenths hundredths thousandths expanded form
7	Multiplication and Division	• Multiply and divide whole numbers and decimals by 10, 100 and 1000, with integer and decimal answers (up to and including 2 decimal places) • *Interpret remainders by rounding, as appropriate for the context*	Use a place value table. IMAGE 6.3J] *Include word problems.*	TB1 p6, 7 TB3 p9, 10	
8	Multiplication and Division Measure	• Multiply decimals with one or two decimal places by whole numbers • Convert between different metric units	*Start with money.* Practice both mental and written methods, for example: 4 x $1.50 = 4 x $1 + 4 x $0.50 = $4 + $2 = $6 Encourage rounding first to estimate an answer, for example: [IMAGE N6.3E] Convert between mm and cm, and cm and m, m and km, g and kg, or ml and l, for example: - write 79 cm in m or - how many ml in 4.56 litres? Round the decimal to the nearest whole number, for example: 4.7 x 8 <approximation sign> 5 x 8 = 40	TB1 p 33, 34, 35 TB3 p30	

		of measure (answers up to and including two decimal places) • Estimate the answer to a multiplication involving a decimal with one or two decimal places and a whole number			
9	Shape	• Distinguish between irregular and regular polygons • Recognise and name pentagons and hexagons • Recognise symmetry in regular and irregular polygons; draw the lines of symmetry	Use the language of polygon, regular, irregular, equal sides and equal angles. Include both regular and irregular pentagons and hexagons. Draw lines of symmetry in equilateral triangle, pentagons and hexagons in different orientations.		polygon regular / irregular symmetry pentagon, hexagon
10	Shape	• Find perimeters of regular and irregular polygons by measuring and by calculating • Make simple 3-D solids from a net	Draw lines of symmetry in equilateral triangle, pentagons and hexagons in different orientations. Make 3-D shapes using polydron if available of …. For example: - cube - cuboid - pyramid. Then make shapes from paper e.g. prism	TB1 p68 (just do perimeter) TB3 p31 TB1 p76	perimeter face edge vertex

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1	Number and Place Value	• Order positive and negative numbers and write statements using inequality signs < or >	Use a number line to show negative numbers. Practise reading and writing statements. Teacher gives children each a card with a number on it, some with positive, some with negatives numbers - they have to arrange themselves so that they are in the right order. Once on position, ask questions e.g. 'what's the difference between -1 and -33 or -7 and +45 …? etc	TB1 p59, 60 TB3 p 12, 13, 14	positive / negative
2	Fractions and Decimals	• Read, write order and compare numbers with a different number of decimal places, up to and including two decimal places • Add and subtract 0.01, 0.02, 0.03, …. 0.09 to and from a number with two decimal places	Use a place value table and a 10 x 10 grid. For example: Which is greatest: 0.45 or 0.8? *Make connections to decimal measures (including meter ruler and relevant coins).* *Use a number line.*	TB1 p8 TB2 p16, 17, 1 Tb3 p7,8	
3	Fractions and Decimals	• Identify, name and write equivalent fractions of a given fraction (with denominators up to and including 10) • Identify, name, convert and write common equivalent fractions, including 1/4 and 3/4 with denominators 100,	Multiply or divide numerator and denominator by the same number, for example [IMAGE N6.4B] Use pictorial representations as support. Use the language of 'simplifying' and 'cancelling' (for dividing). Multiply numerator and denominator by the same number, for example [IMAGE N6.4C] Use the pictorial representation of a 10 x 10 grid.	TB1 p12, 13 TB2 p19	

		and write these as decimals			
4	Fractions and Decimals	• Compare and order fractions whose denominators are all multiples of the same number (including fractions > 1) and write statements using inequality signs < or >	Convert to equivalent fractions to make comparisons and place in order. Use the pictorial representation of fraction bars. Look for patterns on a 10x10 multiplication square	TB1 p63, 64, 65, 66	
5	Multiplication and Division	• Divide numbers up to and including 4 digits by one-digit numbers with remainders written as fractions • Divide numbers up to and including 4 digits by one-digit numbers with remainders written as decimals (up to and including two decimal places)	For example: [IMAGE N6.3F] Support with concrete objects (such as cakes) and pictorial representations. For example: [IMAGE N6.3G] *Relate to sharing money equally.*	TB1 p77, 78, 79, 80, 81, 82	
6	Measure	• *Solve problems involving money calculations, using all four operations, including rounding answers to the nearest integer denomination, and interpreting answers with 1 decimal place*	Use this as an opportunity to reinforce Year 6 Number, for example: - multiplying decimals with two decimal places by whole numbers - dividing whole numbers that give answers up to 2 decimal places	TB1 p 46, 47, 48 TB1 p 51, 52, 53 TB2 p29	

7	Statistics	• Interpret and construct simple dual bar charts • Interpret and construct simple line graphs for more than one set of data	Record, interpret and compare, simple line graphs with two graph lines, for given data, or raw data collected in the classroom. For example, compare: - temperatures in two different places, - heights of two different plants as they grow. Record, interpret and compare information in a simple dual bar chart, for given data, or raw data that has been collected in the classroom	TB2 p70, 71	
8	Statistics	• *Solve problems by organising data into a table, or reading and interpreting data from tables* • *Solve problems using data presented in line graphs for two variables, and dual bar charts.*	*Use data from a range of contexts, for example timetables, 'real-life' tables from newspapers, information leaflets. Find the sum of quantities, the difference between quantities, and compare quantities from a line graph. Use the language of 'how many altogether/in total', 'how many more ___ than ____?', 'find the difference between'.*	TB2 p72 TB3 p61, 62	
9	Measure Shape	• Recognise and use the formula for area of a rectangle • Use the properties of rectangles to find missing lengths • *Solve perimeter and area problems involving rectangles and squares*	Find areas by measuring length and width in mm, cm or metres and using the formula. Use mm[power]2 and m[power]2 Relate to finding area by counting squares. For example: [IMAGE G6.2B] For example: - Find missing side length given the perimeter or area.	TB1 p68 (area), 69, 73 TB3 p56 (questions 1-5)	
10	Measure	• Read and record times in different units • *Solve problems involving converting between units of time (giving answers as mixed units, not decimals)*	For example, in hours, minutes and seconds 1:35:26 For example: - It takes 20 minutes to travel to the mall from home. Then you spend 45 minutes shopping. Then you go home again. How long are you away from home? Give your answer in hours and minutes.	TB1 p36, 37, 38 TB3 p 58, 59, 60	

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1	Addition and Subtraction	• *Add and subtract amounts of money* and other one and two place decimal numbers • *Add more than two amounts of money* • *Estimate the answer to a money calculation*	*Start with money and other measures*, then move on to decimals. Use mental methods, for example counting up on a number line to the next whole number. Use column addition and subtraction. *Solve number problems in context, involving money, measure and other one and two place decimal numbers.* *Round to the nearest dollar or nearest 10 cents or equivalent in local currency.* *Encourage children to estimate before each calculation*	TB2 p60, 61 TB3 p17, 18, 19	
2	Four Operations Measure	• *Solve problems in contexts, deciding which of the four operations to use* • Use inverse operations and estimation to check calculations • *Solve problems involving measure, using all four operations*	*Include word problems. Encourage students to create their own word problems, using pictures to assist them with language.* *Begin to solve direct proportion problems, for example: 5 pencils cost $2. How much do 3 pencils cost?* *For example:* *- A taxi makes two journeys: one that is 5.4 km and another that is 3.8 km. How far does the taxi travel in total? Give your answer to the nearest km.*	TB2 p66, 67 TB2 p100 TB3 p75, 76	
3	Shape	• Draw and name parts of a circle: radius and diameter; know the relationship between the • Know that angles on a straight line add to 180 degrees, and find	Use compasses to draw a circle of a given radius or diameter. For example: [IMAGE G6.2A] Sort shapes by their side and angle properties, and their symmetries, including regular polygons.	TB2 p39,40 TB2 p34 TB2 p80, 81 82 TB3 p53	circumference diameter radius centre

		one missing angle on a straight line diameter and radius • Identify, describe and compare simple properties of common 2-D shapes; sort the shapes accordingly			
4	Position and Direction	• Read, write and use coordinates in all four quadrants • Describe and draw translations of points and simple shapes, on squared paper • Draw reflections of simple rectilinear shapes in a horizontal or vertical mirror line, on squared paper	Describe the position of a point using coordinates. Also, plot a point given its coordinates. Give students drawn axes. Use the language of 'axes', 'axis', 'horizontal', 'vertical, 'x-axis' and 'y-axis'. Relate to positive and negative numbers on a number line. Include using ICT tools. Use the language of movement: squares up or down; left or right. Draw reflections of shapes on or to the side of a mirror line, but not crossing the mirror line. For example: [IMAGE 6.3B]	TB2 p77, 78, 79 TB3 p42	axis / axes quadrant horizontal, vertical reflection translation coordinate
5	Fractions and Decimals	• Add and subtract two fractions where the denominator of one fraction is a multiple of the denominator of the other fraction. • Work out unit and non-unit fractions (with denominators up to and including 10) of three digit numbers or quantities	For example: [IMAGE 6.4E] For example: 1/6 of 180g = 180g <divided by> 6 = 30g So 5/6 of 180g = 5 x 30g = 150	TB1 p83, 84, 85	denominator numerator quantity
6	Fractions and Decimals	• *Solve missing number, fraction and decimal problems*		TB1 p100, 101 TB1 p103	

7	Percentages	• Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal • Identify, name and write common equivalent fractions, including 1/2, 1/4 and 3/4 with denominators 10 and 100 ; write these as decimals and percentages	Use Dienes blocks and a 10 x 10 grid with some square shaded to represent a percentage. For example: [IMAGE N6.4J] Support with a 10 x 10 grid.	TB1 p86, 87,88, 89, 90	
8	Percentages	• Recall and use equivalences between 1/4 and 25%, and 1/2 and 50% to find percentages of quantities • *Solve one and two-step problems in contexts, choosing the appropriate operation, working with numbers and fractions (with denominators up to and including 10, and 100), decimals and simple percentages*	For example: Work out 50% of 24 m by finding 1/2 of 24. Support with fraction bars. Encourage decisions about which operations and methods to use. For example: *A man is 185.6 m tall.* *His brother is 0.8 m shorter.* *His young sister is 50% the height of his brother.* *How tall is his young sister?*	TB1 p91 TB3 p20, 21	

9	Four Operations	• *Sustain a line of enquiry, make and test a hypothesis* • *Look for patterns and write rules; use a systematic approach*	*For example: Write a two digit number, where the first digit is larger than the second, such as 41* *Reverse the digits and subtract from the original number: 41 - 14 = 27 Repeat. What do you notice? Write a hypothesis. Test the hypothesis. For example: Add pairs of consecutive numbers. What do you notice?* *Multiply pairs of consecutive numbers. What do you notice?*		
10	Shape Measure	• Recognise and use the formula for volume of a cuboid • Make simple 3-D solids from a net	Find volumes of cuboids by measuring side lengths and using the formula. Use cm[power]3 Relate to finding volume by counting cubes. For example:- cube - cuboid - pyramid	TB1 p70, 71 TB1 p76 (extend) TB3 p57 (questions 7-11)	