ST. PETER'S CE PRIMARY SCHOOL

Mathematics: Long Term Plan-Objective - Year 5

Pupils will follow the Maths - No Problem! Scheme of work for Year 5

Throughout the year pupils will also receive additional sessions which focus on calculation methods that they will need to be familiar with in preparation for end of Y5 optional SATs tests and end of KS2 National SATs tests.

Autumn	Spring	Summer
In this first unit, pupils will be looking at numbers and their place value to 1 000 000. The unit 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.	This chapter develops pupils' ability to handle more diverse problems involving fractions, including dividing and multiplying fractions by whole numbers. To begin the unit, pupils divide whole numbers by whole numbers, giving rise to fractions. Pupils then show improper fractions and mixed numbers using pictures. As pupils progress through the unit, they find equivalent fractions, compare and order fractions and utilise the number bond strategy, known as number pairs, in their work with fractions. Pupils then review adding fractions, with a focus on fractions with different denominators and fractions that create improper fractions and mixed numbers. Then, they subtract fractions that are different, finding common denominators and subtracting mixed numbers and improper fractions. At the end of the chapter, pupils begin to multiply fractions by whole numbers and multiply mixed numbers by whole numbers. The final lesson involves solving word problems that require multiple steps and bar model representations.	In this chapter, pupils are exploring position and movement. In the first lesson, they are naming and plotting points on a grid before moving onto the translation of a shape in the second lesson. Pupils are then required to describe the movement of a shape on a grid as the first step in describing reflections. They end the chapter by looking at and describing reflections across a mirror line.

In this unit, pupils will be exploring addition and subtraction of numbers to 1 000 000. They will begin the unit by using simple strategies to add and subtract, such as counting on and counting back. They will then focus on adding within 1 000 000 and subtracting within 1 000 000. Pupils will use multiple key methods, such as the column method and number bonds to add and subtract numbers. Pupils will have access to concrete materials throughout the unit, improving their visualisation and mental skills. The unit ends with consolidation activities with number cards, putting pupils' knowledge and understanding into practice.	In this unit, pupils explore decimals. To begin this unit, 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 unit ends with pupils rounding decimals to the nearest whole number and decimal position.	In this chapter, pupils are exploring the measurement of mass, temperature, time and length. The chapter begins with pupils converting units of length from mm to cm and from cm to m. They quickly move on to converting m to km 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 then look at units of time in days, weeks, months, years; and then in seconds, minutes and hours. Pupils then turn to temperature and how to use a vertical number line (thermometer). The chapter ends with a very challenging problem about changing lengths.
In this unit, pupils are multiplying and dividing 3- and 4-digit numbers by single- and double-digit numbers. The unit begins by finding and defining multiples and factors and common factors. Pupils begin to work with prime numbers and determine what makes a number prime or composite. After this, they work with square and cube numbers before moving on to multiplying by 10, 100 and 1000. When multiplying, pupils are encouraged to use a variety of methods, including: number bonds, column methods and the grid method. Number bonds are used to represent multiplicative word problems. Pupils then move onto multiply by 2-digit numbers before beginning to divide by 10, 100 and 1000. The unit ends as pupils learn to divide giving rise to remainders using multiple methods, including number bonds, long and short division	This unit covers the expectations in Year 5 for percentage. It begins with comparing quantities and exposing percentage as an amount out of 100. The unit finishes by having pupils convert fractions to hundredths, both by expanding fractions and by simplifying them.	In this chapter, pupils will be extending their knowledge of perimeter and area. The unit begins with pupils finding the perimeter of a polygon constructed from other polygons. They then look at constructing shapes with the same perimeter, but a different area. Pupils begin to explore scale diagrams to determine the perimeter of shapes before moving onto exploring area using concrete materials. When pupils are familiar with the concept of area, they begin looking at area on square grids. Pupils will be using their understanding of polygons to calculate the area of those that are not 'regular polygons'. As the unit progresses, pupils measure area in a variety of ways, determining the area of shapes from familiar shapes and using estimation to support their understanding.

In this unit, pupils are solving word problems that involve multiple steps and a variety of operations. Pupils begin the unit by simply choosing the correct operation before moving onto representing the key information using bar models. Applying the strategies learned in previous units is key in solving the challenges. The unit ends with complex representations of numbers and change using advanced bar models.	In this chapter, pupils gain a greater understanding of geometry by looking at angles. The chapter begins by allowing the children time to know and understand different types of angles. Next, they have the opportunity to measure angles using a protractor. In the next lesson, the children investigate angles on a line followed by angles at a point. Pupils then learn how to draw lines and angles. The chapter continues by investigating angles within 2D shapes and solving problems involving angles. The final section investigates regular polygons.	This unit covers the expectation in Year 5 for volume. It begins with understanding and finding the volume of solids. They then look at finding the capacity of rectangular boxes. The unit ends as pupils learn how to convert units of volume.
In this chapter, pupils read and interpret information in tables and in line graphs. The chapter begins by having pupils read and interpret information presented in a table showing flights between Singapore and London. In the next lessons, they are required to use the data to answer questions; however, the data has restrictions and must be sorted. The final lesson on tables leaves out certain details that act as key information: such as omitting a train time to indicate that the train does not stop at a specific station. Pupils then turn to line graphs, beginning with a single line to represent a given set of data, followed by constructing line graphs that have more than 1 data set to represent.		In this short chapter, pupils are identifying and using Roman numerals. In the first lesson, pupils write Roman numerals to 1000, determining rules to apply to the written number. In the second lesson, pupils write years above 1000. The chapter ends with applying knowledge of Roman numerals to real-world scenarios.