MATHS 2020-2021 Year 4 objectives

Autumn	Spring	Summer
Autumn 1 -30 days plus 5 problem solving days Number and place value -1 week Mental –telling the time on analogue and digital clocks -count in multiples of 6, 7, 9, 25 and 1000 -find 1000 more or less than a given number -count backwards through zero to include negative numbers (KPI) -recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) -order and compare numbers beyond 1000 Addition and subtraction -1 week Mental –times tables –recap x2,x3,x4,x5,x10 -add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate -solve addition and subtraction problems in contexts, deciding key words and whether your answer fits the question Measurement -3 days Mental –converting between units of time eg. Minutes into hours -rounding values to nearest 10,100,1000 -read, write and convert time between analogue and digital 12- and 24-hour clocks -solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. Number and place value -4 days Mental –recap x2,x3,x4,x5,x10 and division facts -identify, represent and estimate numbers using different representations -count in multiples of 6, 7, 9, 25 and 1000 -count backwards through zero to include negative numbers (KPI) -recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) Geometry –properties of shape-2 days	**Spring 1** -25 days plus 5 problem solving days **Mental –recap times tables and division facts as necessary across the term** Number and place value -7 days -count in multiples of 6, 7, 9, 25 and 1000 (KPI) -find 1000 more or less than a given number -count backwards through zero to include negative numbers -round any number to the nearest 10, 100 or 1000 -round decimals with one decimal place to the nearest whole number -read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. Geometry –properties of shapes -2 days -identify lines of symmetry in 2-D shapes presented in different orientations (KPI) -complete a simple symmetric figure with respect to a specific line of symmetry. Addition and subtraction -1 week Mental –find 100 and 1000 more or less than a given number -add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate -involve money and measures -solve addition and subtraction one and two-step problems in contexts, deciding which operations and methods to use and why. (KPI) Measurement -2 days Mental –order and compare numbers -estimate, compare and calculate different measures, including money in pounds and pence Multiplication and division -2 days -use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	**Summer 1** -30 days plus 5 problem solving days (there are extra days here so you can add recap sessions) **Mental –recap times tables and division facts as necessary across the term (KPI)** Multiplication and division -6 days Mental –using table facts to calculate higher values eg. 400 x 70 = , 5400 / 90 = -multiply two-digit and three-digit numbers by a one-digit number using formal written layout -solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. Number and place value –3/4 days -identify, represent and estimate numbers using different representations -order and compare numbers beyond 1000 (KPI) -round any number to the nearest 10, 100 or 1000 (KPI) -solve number and practical problems that involve all of the above and with increasingly large positive numbers - -read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. Geometry –properties of shapes -2/3 days Mental –convert between different units of measurement -compare and classify geometric shapes, including quadrilaterals and triangles**,** based on their properties and sizes -identify acute and obtuse angles and compare and order angles up to two right angles by size -plot specified points and draw sides to complete a given polygon. (KPI) Measurement -3 days -measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres -find the area of rectilinear shapes by counting squares

-compare and classify geometric shapes, including quadrilaterals and triangles**,** based on their properties and sizes (KPI) -identify acute and obtuse angles and compare and order angles up to two right angles by size <u>Measures -4 days</u> Mental – 6 times table and division facts -converting from hours to minutes; minutes to seconds; years to months; weeks to days. -calculate differences on temperature scales. -Convert between different units of measure [for example, kilometre to metre; hour to minute] <u>Number –place value</u> -3 days -order and compare numbers beyond 1000 -solve number and practical problems with increasingly large numbers **<u>Autumn 2-</u>** 30 days plus 5 problem solving days <u>Fractions -</u>1 week Mental -6 and 7 times table and division facts -recognise and show, using diagrams, families of common equivalent fractions (KPI) -count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. -be able to simplify simple fractions <u>Number –place value -1 week</u> Mental -9 times table and division facts -round any number to the nearest 10, 100 or 1000 -order and compare numbers beyond 1000 (KPI) -calculate different measures involving money in pounds and pence –adding amounts, showing smallest number of coins for given values <u>Addition and subtraction -1 week</u> Mental -8 times table and division facts -add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate -involve money –totals and change -solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use	-recognise and use factor pairs and commutativity in mental calculations <u>Fractions -</u>3 days Mental –Roman numerals -count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. (KPI) -solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number -add and subtract fractions with the same denominator <u>Addition and subtraction</u> -2 days -estimate and use inverse operations to check answers to a calculation -solve problems checking answers with the inverse. **<u>Spring 2</u>** -25 days plus 5 problem solving days **Mental –recap times tables and division facts as necessary across the term** <u>Measurement -</u>1 week Mental –Roman Numerals -read, write and convert time between analogue and digital 12- and 24-hour clocks -solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. -Convert between different units of measure [for example, kilometre to metre; hour to minute] (KPI) -measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <u>Fractions -1 week</u> -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 ones, tenths and hundredths -recognise and write decimal equivalents of any number of tenths or hundredths -compare numbers with the same number of decimal places up to two decimal places -solve simple measure and money problems involving fractions and decimals to two decimal places.	<u>Fractions -</u>4/5 days - if needed recap 1.)recognise and show, using diagrams, families of common equivalent fractions 2.)count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. -solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number - solve simple measure and money problems involving fractions and decimals to two decimal places. (KPI) **<u>Summer 2</u>** -30 days plus 5 problem solving days (there are extra days here so you can add recap sessions) **Mental –recap times tables and division facts as necessary across the term** <u>Geometry –position and direction -1 / 2 days</u> -describe positions on a 2-D grid as coordinates in the first quadrant -describe movements between positions as translations of a given unit to the left/right and up/down <u>Multiplication and division -</u>5 days Mental –factor pairs -multiply two-digit and three-digit numbers by a one-digit number using formal written layout -solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. <u>Statistics</u> -1/2 days -solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. (KPI) <u>Addition and subtraction -4/</u>5 days Mental –rounding numbers including decimals -add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

and why. Multiplication and division -2 days -recall multiplication and division facts for multiplication tables up to 12 × 12 Fractions -2 weeks Mental –left and right, horizontal, vertical and diagonal -recap recognising and showing, using diagrams, families of common equivalent fractions (KPI) - add and subtract fractions with the same denominator -recognise and write decimal equivalents of any number of tenths or hundredths -recognise and write decimal equivalents to quarter, half and 3 quarters -count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. -round decimals with one decimal place to the nearest whole number -solve simple measure and money problems involving fractions and decimals to two decimal places. Statistics -2 days -interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	Multiplication and division -7 days -recall multiplication and division facts for multiplication tables up to 12 × 12 (KPI) -multiply two-digit and three-digit numbers by a one-digit number using formal written layout -solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. Statistics -2 days -interpret and present data using bar charts, pictograms and tables -solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables. Number -2 days -solve number and practical problems that involve all of the above and with increasingly large positive numbers Geometry –position and direction -2/3 days -describe positions on a 2-D grid as coordinates in the first quadrant -plot specified points and draw sides to complete a given polygon.	-estimate and use inverse operations to check answers to a calculation -solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. (KPI) Fractions -4 days Mental –multiplying and dividing numbers by 10 and 100 -recap recognizing and writing equivalent fractions and decimals -compare numbers with the same number of decimal places up to two decimal places -round decimals with one decimal place to the nearest whole number (KPI) -solve simple measure and money problems involving fractions and decimals to two decimal places. Measurement –5 days -estimate, compare and calculate different measures, including money in pounds and pence -read, write and convert time between analogue and digital 12- and 24-hour clocks -solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.