St Anne's C of E Primary School Curriculum Plan

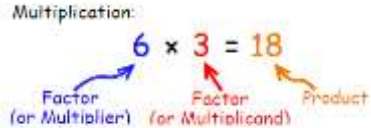**Subject: Maths**   **Year: 5**   **Term: Autumn and Spring**

Unit: Multiplication and division

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
Multiplication **Multiply** **Multiplied by** **Groups of** **Times** **Repeated addition** **Multiple** - The result of multiplying a number by an integer (not by a fraction). **Common multiple** - A multiple that is common to two or more numbers. **Factor** - Numbers we can multiply together to get another number. **Common factor** - When we find the factors of two or more numbers, and then find some	• the commutative law can be applied when multiplying three or more numbers. • 1 is a factor of all positive integers. • 1 is not a prime number (it only has one factor.) • 2 is the only even prime number. • the notation for squared is ^{2}. • the squared numbers up to 12x12. • the notation for cubed is ^{3}. • the number which is left over when dividing is the remainder. **Stem Sentences** "A multiple of a given number is the product of the given number and any whole number."	• the relationship between multiplication and division. • the inverse relationship between factors and multiples. • a multiple of a number is the product of the number and another whole number. • some numbers only have two factors (themselves and one) and these numbers are known as prime numbers. • squared numbers are derived from multiplying a number by itself. • cubed numbers are derived by multiplying a number by itself three times e.g. 6x6x6 • what is happening in each step of the long multiplication algorithm.	• have automatic recall of multiplication and division facts within the times tables. • use systematic methods to find all the factors of a positive integer. • use concrete and pictorial representations to build multiples of numbers. • find common factors of two numbers. • recall prime numbers up to 19. • establish whether a number up to 100 is a prime number. • show squared numbers using concrete and pictorial representations. • multiply four-digit numbers by a single-digit number using a short multiplication algorithm.

factors are the same ("common"), then they are the "common factors". **Multiplicand** – The number to be multiplied **Multiplier** – The number by which the multiplicand is multiplied by **Product** – The result of a multiplication *Multiplication:* 6 × 3 = 18 Factor (or Multiplier) Factor (or Multiplicand) Product **Division** **Dividing** **Divide** **Divided by** **Divided into** **Grouping** **Sharing** **Shared equally** **Left over** **Remainder** **Equal groups of** **Dividend** – The amount that you want to divide up. **Divisor** – The number we divide by. **Quotient** - The answer after we divide one number by another. **dividend ÷ divisor = quotient.**	"A factor of a given number is a whole number that the given number can be divided by without giving a remainder." "21 is a multiple of 3. 3 is a factor of 21." "21 is a multiple of 3, so… • 2,100 is a multiple of 300" • 2,100 is a multiple of 3" "2 times 4 ones is equal to 8 ones: write 8 in the ones column." "2 times 3 tens = 6 tens: write 6 in the tens column." "8 tens divided by 4 is equal to 2 tens: write 2 in the tens column." "4 ones divided by 4 is equal to 1 one: write 1 in the ones column."	• the role of the zero (place holder) when using the long multiplication algorithm. • the short division method by using place value counters to partition a number and then group.	• use partitioning to multiply up to 4-digi numbers by a 2-digit number. • use long multiplication to multiply up to 4-digit numbers by a 2-digit number or a 3-digit number by a 2-digi number.

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Commutative law - The Law that says you can swap numbers around and still get the same answer when you add or when you multiply. **Distributive** law - multiplying a number by a group of numbers added together is the same as doing each multiplication separately. **Prime number -** A number that is only divisible by itself and 1 to leave a whole number. **Composite number** - A whole number that can be made by multiplying other whole numbers. **Square number** - the number we get after multiplying an integer (not a fraction) by itself. **Cubed number** - The whole number is used three times, just like the sides of a cube.			

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Subject: Maths   **Year: 5**   **Term: Autumn and Spring**

Unit: Fractions

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
fraction **unit fraction –** a fraction with a numerator of 1 **Non-unit fraction –** a fraction where the numerator is greater than or equal to the denominator (equal to or greater than one whole) **Proper fraction –** a fraction where the numerator is smaller than the denominator (less than one whole) **improper fraction – a fraction where the numerator is larger than the denominator**	● how many equal parts make a whole. ● when the denominator increases, the fraction is getting smaller. ● when adding or subtracting fractions with the same denominator, the denominator remains the same. ● multiplying can be written as repeated addition. ● when multiplying a fraction by a whole number, the denominator remains the same. ● — of ___ is the same as — x ___.	● how multiplication and division are related to finding equivalent fractions. ● how to use multiplication and division to convert mixed numbers into improper fractions and vice versa. ● if fractions are increasing or decreasing in a sequence. ● how to find the intervals between fractions on a number line. ● how to use multiples to find a common denominator. ● how to use common numerators to compare and order fractions. ● how to find a common denominator between two	● use concrete and pictorial representations to show equivalent fractions. ● use the abstract method to find equivalent fractions. ● represent mixed numbers and improper fractions using bar models and other pictorial representations. ● place fractions and mixed numbers on a number line. ● count up and down in given fractions. ● find missing fractions in a sequence. ● compare and order fractions where the denominators are multiples of the same number.

equivalent fraction – equal in value **mixed number –** a whole number and a fraction combined into one number **numerator,** **common numerator –** when two or more fractions have the same numerator **denominator** **common denominator –** when two or more fractions have the same denominator **equal part** **equal grouping** **equal sharing** **parts of a whole** **half, two halves** **one of two equal parts** **quarter, two quarters, three quarters** **one of four equal parts** **one third, two thirds** **one of three equal parts**	**Stem Sentences** The whole is divided into 4 equal parts and 1 of those parts is shaded. The whole is divided into 12 equal parts and 3 of those parts are shaded. To find $\frac{1}{5}$ of 15, we divide 15 into 5 equal parts. 15 divided by 5 is equal to 3, so $\frac{1}{5}$ of 15 is equal to 3. Three-fifths is equal to 3 one-fifths. To find 3 one-fifths of 40, first find one-fifth of 40 by dividing by 5, and then multiply by 3. $\frac{1}{4}$ and $\frac{3}{12}$ are equivalent because 1 is the same portion of 4 as 3 is of 12.	fractions, when one of the fractions has the common denominator in order to add or subtract fractions with different denominators. ● how partitioning into whole and parts is helpful when adding and subtracting mixed numbers. ● the concept of commutativity when multiplying fractions by whole numbers.	● add and subtract mixed numbers. ● use concrete and pictorial representations to multiply fractions by whole numbers. ● multiply mixed numbers by a whole number.

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sixths, sevenths, eighths, tenths, hundredths, thousandths…			

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Subject: Maths	Year: 5	Term: Spring/ Summer

Unit: Decimals

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
tenths **hundredths** **thousandths** **decimal** **decimal fraction** **decimal point** **decimal place** **decimal equivalent**	● what the decimal point means ● tenths are worth more than hundredths and hundredths are worth more than thousandths. ● 1 tenth = 1/10 = 0.1 ● there are ten 0.1 in 1. ● 1 is 10 times as much as 0.1. ● 1 hundredth = 1/100 = 0.01 there are ten 0.01 in 0.1. ● 0.1 is 10 times as much as 0.01 ● 1 thousandth = 1/1000=0.001 ● there are ten 0.001 in 0.01, one hundred 0.001 in 0.1 and one thousand 0.001 in 1. ● to look at the digit in the first decimal place when identifying which number is bigger ● ● **Stem Sentences**	● the place value of each digit in a number with 2 decimal places ● the relative size of place-value blocks to identify the different values of decimal numbers. ● how to round a decimal to the nearest whole number. ● how to round a decimal to the nearest tenth. ● the process of exchanging whole numbers into tenths and tenths into hundredths to subtract decimals efficiently. ● the links with number bonds to 10, 100 and 1000 when adding decimals. ● the importance of lining up the decimal point in order to ensure the correct place value when	● show decimal numbers using concrete representations. ● rename tenths, hundredths and thousandths. ● partition decimal numbers in different ways. ● convert fractions into decimals and vice versa. ● compare and order decimal numbers with up to three decimal places. ● place decimal numbers on a number line. ● use concrete representations to add and subtract decimal numbers. ● use their understanding of column addition when adding and subtracting decimal numbers.

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1 is 10 times the size of one-tenth. One-tenth is 10 times the size of one-hundredth. 1 is 100 times the size of one-hundredth. 10 tenths is equal to 1 one. 10 hundredths is equal to 1 tenth. 100 hundredths is equal to 1 one. 18 hundredths is equal to 10 hundredths and 8 more hundredths. 10 hundredths is equal to 1 tenth. So 18 hundredths is equal to 1 tenth and 8 more hundredths, which is 0.18. Three hundredths is zero-point-zero-three.	• adding and subtracting numbers with different decimal places. • the importance of zero as a place holder when adding and subtracting decimal numbers. • the effect of multiplying and dividing both integers and decimal numbers by multiples of 10 (Highlighting the misconception of adding a zero at the end of the original number.)	• lay out the column method accurately using decimal numbers.

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Subject: Maths | **Year: 5** | **Term: Spring**

Unit: Percentages

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
Proportion **in every, for every** **per cent,** % **-** out of one hundred. Derived from the Latin per centum, meaning "hundred" or "by the hundred". **percentage**	● per cent means out of a hundred. ● the symbol % ● **Stem Sentences** 60 out of 100 is 60 per cent. 50 % is equivalent to ½. 25% is equivalent to ¼. 75% is equivalent to ¾.	● percentage is a measure of proportion. ● 'per cent' relates to 'number of parts per hundred'. ● the connection of percentages, fractions and decimals.	● recognise different representations which shows different parts of a hundred. ● convert a fraction with a denominator of 100 into a percentage. ● convert fractions with denominators that are factors of 100 into hundredths.

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Subject: Maths	Year: 5	Term: Spring

Unit: Statistics

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
Chart, **bar chart,** **frequency table,** **Carroll diagram,** **Venn diagram** **Axis, axes** **Diagram** **Horizontal rows** **Vertical columns** **Continuous data**	● to use a ruler to draw vertical and horizontal lines on graphs when reading points accurately. ● the difference between rows and columns. ● how to read a range of two-way tables	● how to estimate the value that is represented when reading between intervals on a line graph. ● The difference in the type of data shown by a bar chart and a line graph. ● when you change the scale of a graph, the accuracy also changes. ● why the row and column headings are important when interpreting information in a table.	● make links to using number lines when reading hoizontal and vertical axes. ● draw axes with different scales depending on the data that is being represented. ● accurately plot points on their graphs. ● solve comparison,sum and difference problems, using line graphs. ● read tables to extract information.

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Line graph		- which column or row to look at to find information that is needed. 12 and 24 hour times.	- read digital times. - read timetables to extract information.