

St Anne's C of E Primary School Curriculum Plan

Subject: Maths

Year: 4

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
<p>Multiplication Multiply Multipled by Groups of Times Repeated addition</p> <p>Multiple - The result of multiplying a number by an integer (not by a fraction).</p> <p>Factor - Numbers we can multiply together to get another number.</p> <p>Multiplicand - The number to be multiplied</p> <p>Multiplier - The number by which the multiplicand is multiplied by</p>	<ul style="list-style-type: none"> the multiplication and division facts up to 12×12. any number multiplied by zero will have a product of zero. when a number is multiplied or divided by 1, the product or quotient remains the same. products in the 12 times table are double the products in the 6 times table. multiplying by 100 is equivalent to multiplying by 10 and then multiplying by 10 again. dividing by 100 is equivalent to dividing by 10 and then dividing by 10 again. when using the 'short multiplication' algorithm, you start from the least significant digit (on the right) to the most significant digit (on the left). 	<ul style="list-style-type: none"> multiplication is commutative but division is not. making a number ten times bigger is the same as 'multiply by 10.' making a number a hundred times bigger is the same as 'multiply by 100.' what is happening to the place value of each digit when multiplying or dividing by 10 or 100. multiplication facts can be derived from related known facts by partitioning one factor (distributive law) e.g. 6×3 can be found by $(2 \times 3) + (4 \times 3)$. they can use the distributive law to derive multiplication facts beyond the known times tables. 	<ul style="list-style-type: none"> use concrete resources and pictorial representations to show multiplication and division, including multiplying and dividing by 10 and 100. count in equal groups of 6, 7 and 9. be able to use mental methods, e.g. partitioning to multiply two-digit numbers by one-digit numbers. be able to partition three-digit numbers into hundreds, tens and ones to multiply by a single digit number. be able to use formal written methods to multiply two-digit numbers and three-digit numbers by one-digit numbers.

Product – The result of a multiplication

Multiplication:

$$6 \times 3 = 18$$

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.

Commutative law - The Law that says you can swap numbers around and still get the same answer when you add or when you multiply.

- if the product in any column is ten or greater, we must 'regroup'.
- objects can be divided into equal groups and sometimes this leads to a remainder.

Stem Sentences

"The product of _____ and _____ is equal to the product of _____ and _____."

"When zero is a factor, the product is always zero."

"When the dividend is zero, the quotient is zero."

"_____ is equal to _____ plus _____ so _____ times _____ plus _____ time _____ is equal to _____ times _____."

"Multiplying by one hundred is equivalent to multiplying by ten and then multiplying by ten again."

"If one factor is made ten times the size, the product will be ten times the size."

"If one factthe dividend is made ten times the size, the quotient will be ten times the size."

"If the dividend is a multiple of the divisor there is no remainder."

<p>Distributive law - multiplying a number by a group of numbers added together is the same as doing each multiplication separately.</p> <p>Doubling</p> <p>Halving</p> <p>Array</p> <p>Multiplication table</p> <p>Multiplication fact</p> <p>Division fact</p>	<p>"If the dividend is not a multiple of the divisor, there is a remainder."</p> <p>"The remainder is always less than the divisor."</p>		
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St Anne's C of E Primary School Curriculum Plan

Subject: Maths

Year: 4

Term: Spring



Unit: Length and perimeter



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
<p>measure measurement</p> <p>size</p> <p>compare</p> <p>measuring scale</p> <p>length</p> <p>height</p> <p>width</p> <p>depth</p> <p>perimeter - The distance around a two-dimensional shape.</p>	<ul style="list-style-type: none"> the term 'centimetres' and abbreviate with cm. the term millimetres and abbreviation mm. the term 'metres' and abbreviate with m. there are 10mm in 1 cm. there are 100 cm in 1 m. kilometres are used to measure distances. the difference between centimetres, metres and kilometres. there are 1000 m in 1 km. <p>Stem Sentences</p>	<ul style="list-style-type: none"> when measuring, you must start from 0 cm. the intervals on a ruler or tape measure. which equipment is most suitable for measuring different objects/ distances. how to convert lengths in centimetres and millimetres into millimetres and vice versa. how to convert lengths in metres and centimetres into centimetres and vice versa. how to convert kilometres and metres to metres and vice versa. 	<ul style="list-style-type: none"> measure length in metres and centimetres. write lengths in metres and centimetres. estimate a distance of 1 km. read and write distances in kilometres and metres. compare lengths in centimetres. compare lengths in metres and centimetres. compare lengths in metres. compare lengths in kilometres and metres. count the number of sides on 1 cm grid paper to determine the perimeter.

<p>millimetre – one thousandth of a metre</p> <p>centimetre - a combination of the Latin word for "hundred," centum, and the French mètre.</p> <p>metre - from French <i>mètre</i>, from Greek <i>metron</i> 'measure'</p> <p>kilometre – one thousand metres</p> <p>ruler</p> <p>metre stick</p> <p>tape measure</p>	<p>There are 10 millimetres in 1 cm so to convert millimetres to centimetres, you need to divide by 10.</p> <p>For every 1 centimetres, there are 10 millimetres, so to convert centimetres to millimetres, you need to multiply by 10.</p> <p>There are 100 centimetres in 1metre so to convert centimetres to metres, you need to divide by 100.</p> <p>For every 1 metre, there are 100 centimetres, so to convert metres to centimetres, you need to multiply by 100.</p> <p>The perimetre is the total length around a 2D shape.</p> <p>To calculate the perimeter of a square, measure the length of one side and multiply by 4.</p> <p>To calculate the perimetre of a rectangle, find the sum of the length and the bredth and then multiply by 2.</p>	<ul style="list-style-type: none"> • 'perimeter' as 'the total length around a shape'. • they can calculate the perimeter of a rectangle by finding the sum of the length and breadth and then multiplying by 2. • they can calculate the perimeter of a square by multiplying one side by 4. • the connection between the properties of 2D shapes and measuring the perimeter. 	<ul style="list-style-type: none"> • draw a figure on 1 cm grid paper when given a perimeter. • calculate the perimeter of a figure by adding all the sides.
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St Anne's C of E Primary School Curriculum Plan

Subject: Maths

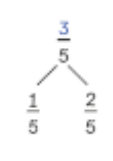
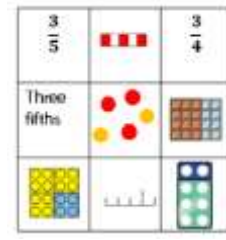
Year: 4

Term: Spring



Unit: Fractions



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
<p>fraction unit fraction – a fraction with a numerator of 1 Non-unit fraction – a fraction where the numerator is greater than 1 equivalent fraction – equal in value mixed number – a whole number and a fraction combined into one number numerator, denominator equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts</p>	<ul style="list-style-type: none"> when you multiply the numerator and denominator by the same number, the result is an equivalent fraction. how many equal parts make a whole. a mixed number contains a whole number and a fraction. when adding fractions with the same denominator, you only add the numerator and the denominator remains the same. when subtracting fractions with the same denominator, you only subtract the numerator and the denominator remains the same. <p>Stem Sentences</p>	<ul style="list-style-type: none"> the meaning of numerator and denominator. the relationship between the numerator and denominator when recognising equivalent fractions. that multiplication and division can be used to find equivalent fractions. how to partition a fraction using number bonds in order to make one whole. how to use unit fraction of a whole to find non-unit fractions of a whole. 	<ul style="list-style-type: none"> use a number line to represent hundredths. count forward and backwards in hundredths. recognise and name fractions in different representations. use fraction walls to find equivalent fractions. use proportional reasoning to find equivalent fractions. use concrete and pictorial representations to represent a mixed number. 

<p>quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths, hundredths ...</p>	<p>Each interval is divided into 4 equal parts, so we count in quarters.</p> <p>$1\frac{1}{3}$ is between 1 and 2. The previous whole number is 1. The next whole number is 2.</p> <p>When the numerator is a multiple of the denominator, the fraction is equivalent to a whole number.</p> <p>There are 2 groups of five-fifths, which is 10 fifths and 3 more fifths. This is 13 fifths.</p> <p>We have 21 eighths. 8 eighths is equal to 1 (whole). 21 eighths is equal to 2 groups of 8 eighths, and 5 more eighths. This is 2 and 5 eighths.</p> <p>7 one-fifths plus 4 one-fifths is equal to 11 one-fifths.</p> <p>When adding fractions with the same denominators, just add the numerators. When subtracting fractions with the same denominators, just subtract the numerators.</p>		<ul style="list-style-type: none"> • place mixed numbers on a pre-constructed number line. • use bar models to represent fractions greater than a whole. • add fractions and record answers greater than one as a mixed number. • subtract fractions from a whole amount • use bar models to show how to find non-unit fractions of a whole.
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St Anne's C of E Primary School Curriculum Plan

Subject: Maths

Year: 4

Term: Spring/ Summer



Unit: Decimals



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
tenths hundredths decimal decimal fraction decimal point decimal place decimal equivalent	<p>1 tenth = $1/10 = 0.1$ there are ten 0.1 in 1. 1 is 10 times as much as 0.1. there are ten 0.01 in 0.1. 0.1 is 10 times as much as 0.01 1 hundredth = $1/100 = 0.01$</p> <p>Stem Sentences</p> <p>1 is 10 times the size of one-tenth.</p> <p>One-tenth is 10 times the size of one-hundredth.</p> <p>1 is 100 times the size of one-hundredth.</p> <p>10 tenths is equal to 1 one.</p>	<ul style="list-style-type: none"> 10 tenths are equivalent to 1. 10 hundredths are equivalent to one tenth. the place value of each digit in a number with 2 decimal places. when comparing numbers, they need to start with comparing the digits in the place with the largest value. when dividing by 10 the number is being split into 10 equal parts and is 10 times smaller. when dividing by 100 the number is being split into 100 equal parts and is 100 times smaller. the importance of 0 as a place holder. 	<ul style="list-style-type: none"> read and write numbers consisting of ones and tenths. regroup 10 tenths to make 1. rewrite tenths from a fraction to a decimal. place a decimal number on a number line. use Base 10 blocks to show a decimal consisting of ones, tenths and hundredths. write fractions as decimals. write mixed numbers as decimals. write tenths as decimals. write hundredths as decimals. regroup 10 hundredths as 1 tenth. combine ones, tenths and hundredths to make a decimal number.

	10 hundredths is equal to 1 tenth. 100 hundredths is equal to 1 one.	how to round a number with 1 decimal place to the nearest whole number.	<ul style="list-style-type: none">• compare and order numbers with 2 decimal places.• add/subtract tenths to a number.• add/subtract hundredths to a number.
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