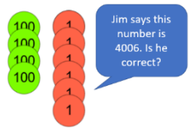
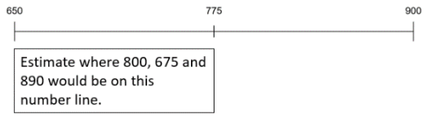
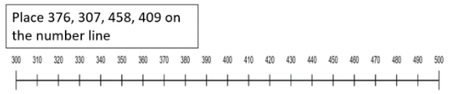
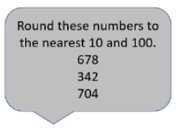
. WRPS Maths Medium Term Planning: Spring Term Year 3 Year 4

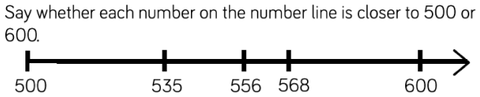
Week.	Mathematical aspect	Non-negotiable end points Year 3.	Non-negotiable end points Year 4	Curriculum statements – Year 3.	Curriculum Statements. Year 4.
1.	Number and place value: Count in multiples, order and compare beyond 1000, Number sense	Knows the relative position of numbers. Knows zero as a place holder in three-digit numbers. Knows the rules of rounding.	Knows the number system from zero into negative numbers. Knows a variety of representations and is fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds. Knows how to maintain fluency in other multiples.	● To count from 0 in multiples of 4, 8, 50 and 100, finding 10 or 100 more or less than a given number. ● To recognise the place value of each digit in a three-digit number (hundreds, tens, ones). ● To compare and order numbers up to 1000. ● To identify, represent and estimate numbers using different representations. ● To read and write numbers up to 1000 in numerals and in words. ● To solve number problems and practical problems involving these ideas.	● To count backwards through zero to include negative numbers. ● To recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). ● To identify, represent and estimate numbers using different representations. ● To order and compare numbers beyond 1000. ● To round any number to the nearest 10, 100 or 1000. ● To count in multiples of 6, 7, 9, 25, 1000. ● To find 1000 more or less than a given number.
Links to resources and policy documents: _____ 900 1000 1100 _____ 1300 1100 _____ _____ 800 700 600 900 _____ 1100 1200 _____ 1400 Round to the nearest 10, look at the unit digit 0 – 4 down 5 – 9 up 134 rounds to 130 276 rounds to 280 Round to the nearest 100, look at the tens digit 276 rounds to 300					
2.	Addition and subtraction: Mental strategies	Knows efficient mental strategies including partitioning and adjusting for addition and subtraction.	Knows efficient mental strategies including partitioning and adjusting for addition and subtraction.	● To add and subtract numbers mentally, including: ● a three-digit number and ones ● a three-digit number and tens ● a three-digit number and hundreds. ● To solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	● To estimate and use inverse operations to check answers to a calculation; ● To solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
Links to calculation policy mental methods: 400 + ☐ = 467 400 + ☐ = 567 400 + ☐ = 967 500 - ☐ = 410 500 - ☐ = 390 500 - ☐ = 260 376 + 4 376 + 20 376 + 400 695 + 8 695 + 30 695 + 600 What facts will you use? What strategies will you use?					

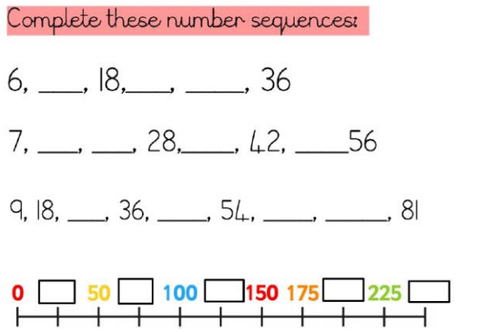


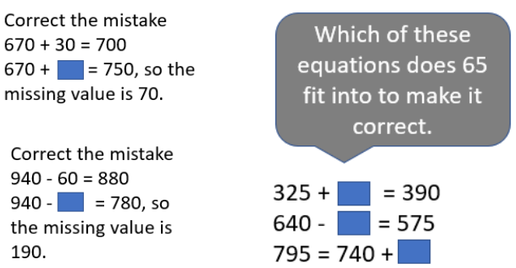


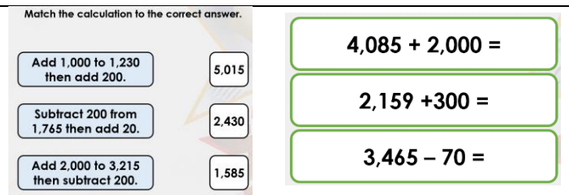




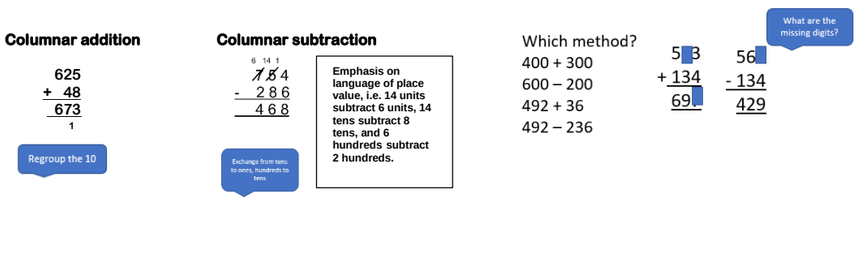
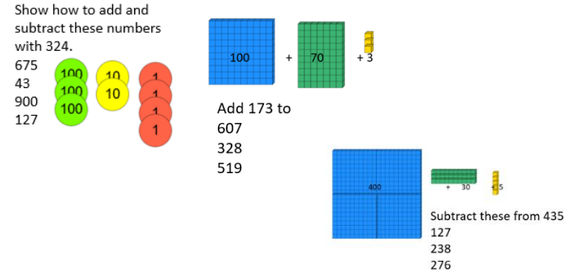
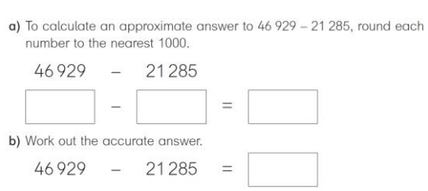








. WRPS Maths Medium Term Planning: Spring Term Year 3 Year 4

Week.	Mathematical aspect	Non-negotiable end points Year 3.	Non-negotiable end points Year 4	Curriculum statements – Year 3.	Curriculum Statements. Year 4.
3.	Addition and subtraction: Estimations and accuracy written methods	Knows how to calculate with columnar methods regrouping the tens and exchanging in subtraction.	Knows how to check the accuracy of addition and subtraction calculations	● To add and subtract numbers with up to three digits, using the efficient written methods of columnar addition and subtraction. ● To estimate the answer to a calculation and use inverse operations to check answers. ● To solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	● To add and subtract numbers with up to four digits using the efficient written methods of columnar addition and subtraction where appropriate. ● To estimate and use inverse operations to check answers to a calculation. ● To solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. ● To estimate, compare and calculate different measures, including money in pounds and pence.
Links to calculation policy expanded and compact methods. 					
4.	Multiplication and division: Table facts Multiplying by 10	Knows the 2, 3, 4- and 8-times tables and the doubling patterns, odds and evens. Knows how to multiply using partitioning. Knows how to find corresponding division facts.	Knows and applies table facts for recall of multiplication and division facts when calculating.	● To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. ● To explain the effect of multiplying by 10 and multiples of 10 ● To write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods. ● To solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects	● To recall multiplication facts for multiplication tables up to 12 × 12. ● To 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. ● To solve problems involving multiplying and adding, including using the distributive law and harder multiplication problems such as which *n* objects are connected to *m objects.*

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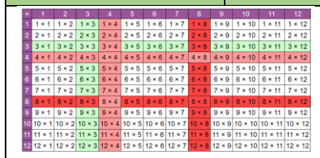
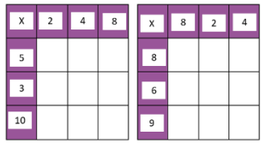
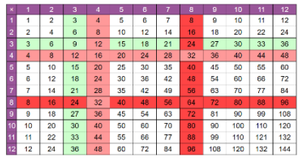
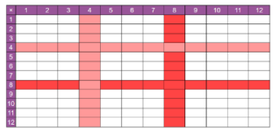
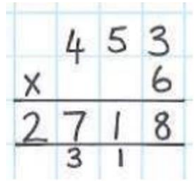
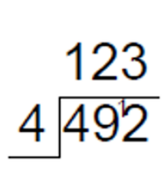
   				3 x 6 = 18 so 30 x 6 = 180 Which of these are true? 30 x 8 = 240 4 x 60 = 240 40 x 5 = 240 80 x 3 = 240 6 x 4 = 240 True or false? 75 ÷ 5 = 15 750 ÷ 10 = 75 84 ÷ 12 = 8 840 ÷ 10 = 40	Make the target number of 84 using three of the digits below. 7 5 3 4 6 2 □ × □ × □ = 84 Use your knowledge of multiplication tables to complete these calculations. 7 × 6 = 7 × 2 × 3 = 8 × 7 = 2 × 4 × 7 = 2 × 2 × 2 × 7 = 12 × 6 = 13 × 6 = 12 × 12 = 12 × 13 = 12 × 0 = Which calculations have the same answer? Can you explain why?
5.	Multiplication and division: multiplying using a method and dividing with remainders	Knows how to partition numbers when multiplying in a grid/short method. Knows how divide and record remainders. Knows how to recognise multiples of a divisor.	Knows and applies table facts for recall of multiplication and division facts when calculating.	● To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. ● To write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. ● To solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.	● To recall multiplication facts for multiplication tables up to 12 × 12. ● To 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. ● To multiply two-digit and three-digit numbers by a one-digit number using formal written layout. ● To solve problems involving multiplying and adding, including using the distributive law and harder multiplication problems such as which *n* objects are connected to *m objects*.
Links to calculation policy expanded methods. **Short multiplication** **Expanded** 23 x 8 24 (8 x3) 160 (8 x20) 184 **Short division** **72 ÷ 3 =** 2 4 3 ⟌ 7 ¹2 **'72 divided by 3. 7 tens shared equally between 3 is 2 with a remainder of 1 ten. Exchange the 1 ten for 10 units. I now have 12 units which shared equally between 3 is 4. The answer is 24."**  				Solve these equations 75 x 5 = 36 x 4 = 22 x 8 = Partitioning Solve these equations 95 ÷ 5 = 56 ÷ 4 = 84 ÷ 2 = Rearranging the dividend 26 ÷ 5 = 5 r1 76 ÷ 5 = 15 r1 So I know that any number divided by 5 that ends in a 6 will have r1. Prove it. Which is the best method for 25 x 4 36 x 8 17 x 3	Work out the following calculations. You can use the square grid to help. a) 84 ÷ 3 = _____ b) 282 ÷ 6 = _____ c) 1715 ÷ 7 = _____ d) 1782 ÷ 5 = _____

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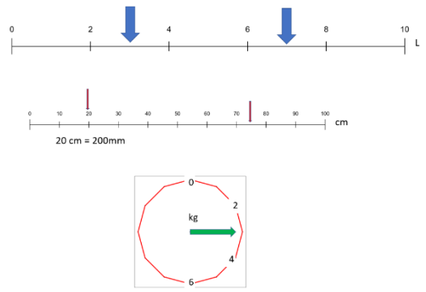
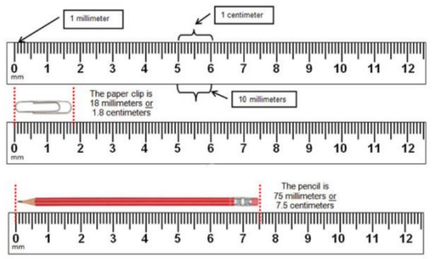
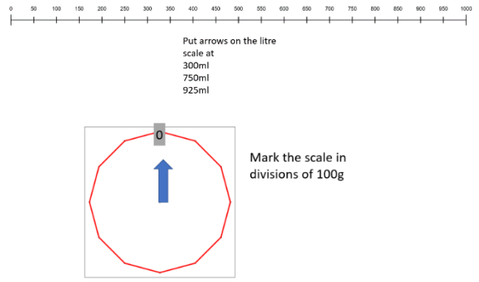
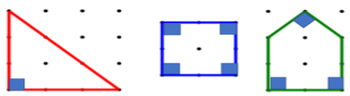
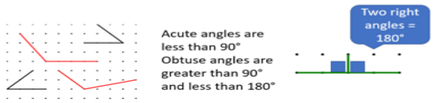
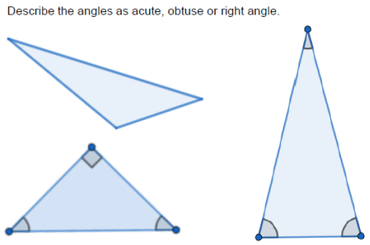
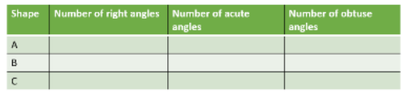
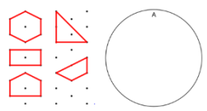
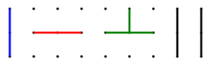
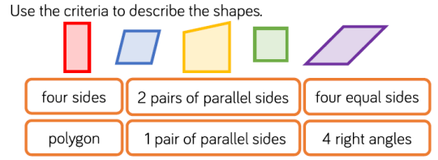
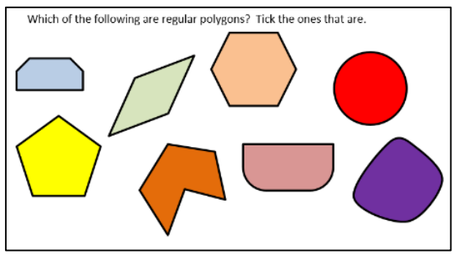
6.	Measurement: measuring accurately in the correct units Converting between units of measures.	Knows how to measure accurately reading the marked divisions in the appropriate units	Knows how to use multiplication to convert from larger to smaller units.	●To measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	● To convert between different units of measures (for example km to m, hour to minute)
					1. Complete the statements about measures. a) 5 kilometres = _____ metres b) 3 metres = _____ centimetres c) 8.5 centimetres = _____ millimetres d) 2 grams = _____ milligrams e) _____ kilograms = 2400 grams f) 6 litres = _____ millilitres
7.	Geometry; Describing and classifying shapes including angles	Know and recognise right angles in 2d shapes. Knows acute and obtuse in relation to right angles. Knows how to describe lines using mathematical terms	Knows how to identify acute and obtuse angles. Knows that two right angles form a straight line.	● To recognise angles as a property of shape and associate angles with turning. ● To identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. ● To identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.	● To compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. ● To identify lines of symmetry in 2D shapes presented in different orientations. ● To complete a simple symmetric figure with respect to a specific line of symmetry. ● To identify acute and obtuse angles and compare and order angles up to two right angles by size.
 				  	 

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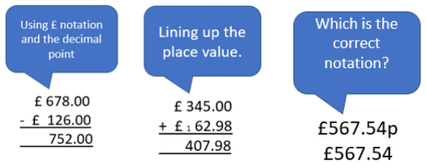
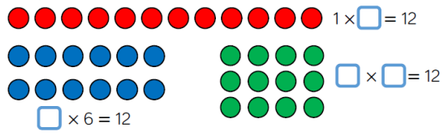
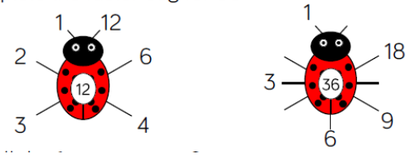
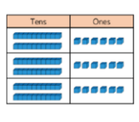
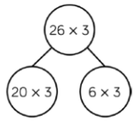
8.	Measurement: Written methods addition and subtraction, calculating with money	Knows the correct notation and strategies for calculating with money.	Knows how to add and subtract using standard written algorithms including in the context of money.	● To add and subtract numbers with up to three digits, using the efficient written methods of columnar addition and subtraction. ● To add and subtract amounts of money to give change, using both £ and p in practical contexts.	● To add and subtract numbers with up to four digits using the efficient written methods of columnar addition and subtraction where appropriate. ● To estimate and use inverse operations to check answers to a calculation. ● To solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
				 Ben bought the Ultra Ace tennis racket for £124.45 He also bought 12 tennis balls for £32.99. How much did Ben spend altogether?	A can of soup holds 500 ml and costs 70p. How much does 2 litres of soup cost? A tin of paint holds 2.5 litres and costs £9.50. Alex buys 4 tins of paint and a roller for £3.99. What did Alex pay in total?
9.	All four operations: Factor pairs, laws of arithmetic.	Knows how to select and efficient method when calculating with all four operations	Knows the efficient methods of calculating in all four operations. Knows how to find factor pairs. Knows the distributive law along with commutative and associative laws.	● To estimate the answer to a calculation and use inverse operations to check answers; ● To solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. ● To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables; *(from Year 4)* ● To solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	● To estimate and use inverse operations to check answers to a calculation. ● To solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. ● To recall multiplication and division facts for multiplication tables up to 12 × 12. ● To recognise and use factor pairs and commutativity in mental calculations. ● To solve problems involving multiplying and adding, including using the distributive law and harder multiplication problems such as which *n* objects are connected to *m objects.*
Links to resources and policy documents: Complete the factor pairs for 12  Here is an example of a factor bug for 12 Complete the factor bug for 36  				Use your knowledge of multiplication tables to complete these calculations. 7 × 6 = 7 × 2 × 3 = 8 × 7 = 2 × 4 × 7 = 2 × 2 × 2 × 7 = 12 × 6 = 13 × 6 = 12 × 12 = 12 × 13 = 12 × 0 = Which calculations have the same answer? Can you explain why?	  Use this method to work out: 36 × 3 24 × 6 45 × 4 Calculate: a) 145 + 7 b) 145 + 70 c) 145 + 200 d) 356 – 9 e) 356 – 50 f) 356 – 200	i) 8 × 7 = ... ii) ..... × 6 = 42 iii) 8 × ..... = 72 iv) 54 ÷ 6 = ... v) ..... ÷ 7 = 12 vi) 132 ÷ ..... = 12 vii) 12 × 3 = ... × 6 viii) ..... × 12 = 8 × 6 George says 4126 – 2363 = 2243 because: *'4000 – 2000 = 2000* *300 – 100 = 200* *60 – 20 = 40* *6 – 3 = 3* *so 4126 – 2363 = 2243'* Do you agree with George?

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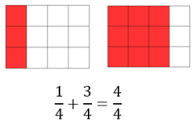
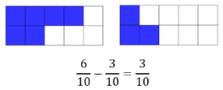
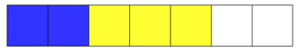
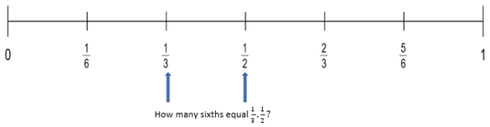
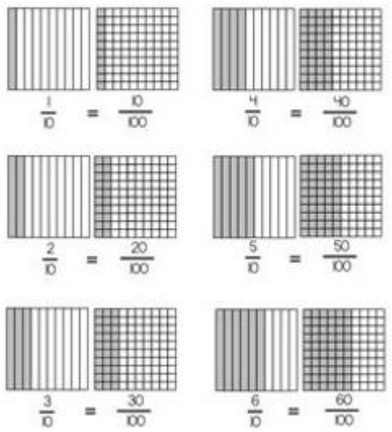
Week.	Mathematical aspect	Non-negotiable end points Year 3.	Non-negotiable end points Year 4	Curriculum statements – Year 3.	Curriculum Statements. Year 4.
10.	Fractions: representing, comparing and ordering unit non unit fractions. Adding and subtracting unit/non unit fractions.	Knows how to add and subtract within the same denominator.	Knows how to add and subtract fractions with the same denominator.	● To recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. ● To recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. ● To compare and order unit fractions, and fractions with the same denominators. ● To add and subtract fractions with the same denominator within one whole (5/7 + 1/7 = 6/7). ● To solve problems that involve all of the above.	● To add and subtract fractions with the same denominator. ● To 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.
 $\frac{1}{4}+\frac{3}{4}=\frac{4}{4}$  $\frac{6}{10}-\frac{3}{10}=\frac{3}{10}$  $\frac{2}{7}+\frac{3}{7}=\frac{5}{7}$  				 Write three fraction equations for this model. Answer $\frac{3}{8}+\frac{4}{8}=$ $\frac{5}{7}-\frac{2}{7}=$ True or false? $\frac{5}{6}+\frac{2}{6}=\frac{7}{12}$ $\frac{13}{20}-\frac{3}{20}=\frac{1}{2}$	a) $\frac{1}{3}+\frac{2}{3}=$ c) $\frac{2}{5}+\frac{2}{5}=$ b) $\frac{5}{7}-\frac{2}{7}=$ d) $\frac{1}{8}+\frac{5}{8}-\frac{3}{8}=$ a) $\frac{1}{2}+\frac{1}{4}=$ b) $\frac{4}{5}+\frac{3}{10}=$
11.	Fractions; Solving problems and decimals	Knows that tenths occur when an object or number is divided into 10 equal parts.	Knows how to write decimal equivalents of any number of tenths and hundredths	● To count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10;	● To recognise and write decimal equivalents of any number of tenths or hundredths. ● To recognise and write decimal equivalents to $\frac{1}{4},\frac{1}{2},\frac{3}{4}$ ● To 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 units, tenths and hundredths. ● To round decimals with one decimal place to the nearest whole number. ● To compare numbers with the same number of decimal places up to two decimal places.

. WRPS Maths Medium Term Planning: Spring Term Year 3 Year 4

Week.	Mathematical aspect	Non-negotiable end points Year 3.	Non-negotiable end points Year 4	Curriculum statements – Year 3.	Curriculum Statements. Year 4.
Links to resources and policy documents: **Write these fractions as decimals** $\frac{3}{10}$ $\frac{1}{100}$ $\frac{50}{100}$ Image / Words / Fraction / Decimals 56 hundredths $\frac{17}{100}$ 0.2 What numbers are the arrows pointing at? Fill in the empty boxes. 6.5 6.6					**Order these decimals and fractions, using a number line.** 0.1 0.5 0.65 $\frac{3}{10}$ $\frac{7}{100}$ $\frac{80}{100}$ 0 1 Complete the table using the correct decimal equivalent: **Fraction** / **Decimal** $\frac{1}{2}$ $\frac{1}{4}$ $\frac{3}{4}$ Here is a 2-digit number on a place value chart. Tens / Ones / Tenths / Hundredths When dividing by 10, we move the digits 1 place to the _____. 82 ÷ 10 = ☐
12.	Statistics: read, present and interpret pictograms, bar charts line graphs and tables Solve problems from data	Knows how to interpret and analyse data.	Knows how to interpret and analyse graphs and charts to solve problems.	● To interpret and present data using bar charts, pictograms and tables ● To solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.	● To interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. ● To solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and simple line graphs.
Sports / **Children in Y3** Football 8 Tennis 7 Athletics 6 Swimming 9 Children in Y3 like sports. How many children are in Y3? How many more children like football and tennis than swimming? The bar chart shows the number of pints of milk drank by Class 4C during the week. No. of pints 16 12 8 4 0 M Tu W Th F How many pints did the class drink in total during the week?				Complete the pictogram **Month** / **Bookings** / **People** June July August = 4 bookings = 8 people Month / Bookings / People June 8 12 July 12 28 August 20 32	The table shows the mass of a baby for the first eight months of her life. Age of baby in months / Mass of baby in kg 0 3.5 2 5.2 4 6.7 6 7.9 8 8.5 Label the axes and complete the line graph to show the data. Mass of baby Mass in kg 9 0 0 8 Age in months