

Year 5

Maths Overview



Year 5 Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn	Number: Place value		Number: Addition & Subtraction			Number: Multiplication & Division			Number: Number facts		Geometry: Angles		Statistics	Opportunity to consolidate, revisit and reinforce	
Spring	Number: Place Value	Number: Fractions				Number: Decimals			Number: Percentages						
Summer	Geometry: Properties of shapes		Geometry: Position & Direction	Number: Four Operations (Addition & subtraction Multiplication & division)		Measures: Converting Units			Measures: Perimeter and Area		Measures :Volume		Opportunity to consolidate, revisit and reinforce		

Please note: The length of each unit has been given as a guide only. Use professional judgement to either extend or shorten units in line with the needs of pupils. The 'spare' weeks at the end of each term have been planned in to allow for this flexibility or give the opportunity to consolidate, revisit and reinforce.

Where units revisit objectives, use assessment data to inform planning.

AUTUMN TERM														
Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13	Wk 14	Wk 15
<u>Number: Place value</u> Read numbers to at least 1,000,000 and determine the value of each digit. Write numbers to at least 1,000,000 and determine the value of each digit. Order and compare numbers to at least 1,000,000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. Count forwards and backwards with positive and negative whole numbers including through zero. Interpret negative numbers in context Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Solve number problems and practical problems involving Y5 place value objectives.		<u>Number: Addition & subtraction</u> Add numbers mentally with increasingly large numbers. Subtract numbers mentally with increasingly large numbers. Add whole numbers with more than 4 digits, including using formal written methods (columnar addition) Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction). Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi- step problems in contexts deciding which operations and methods to use and why.		<u>Number: Multiplication & division</u> Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers by 10, 100 and 1000. Multiply numbers up to 4 digits by a one digit number using a formal written method. Multiply numbers up to 4 digits by a two digit number using a formal written method (long multiplication). Divide numbers up to 4 digits by a one digit number using the formal written method of short division. Interpret remainders (after division) appropriately for the context. Solve problems involving multiplication and division Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.		<u>Number: Number facts</u> Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. Recognise and use square numbers and cube numbers and the notation for squared (²) and cubed (³) Solve problems using their knowledge of factors and multiples. Solve problems using their knowledge of squares and cubes.		Geometry: Angles Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles. Draw given angles Measure them in degrees (°). Identify: angles at a point and one whole turn (total 360 °) Identify angles at a point on a straight line and ½ a turn (total 180°) Identify other multiples of 90°. (missing angles)		Statistics Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables including timetables.		Opportunity to consolidate, revisit and reinforce		

SPRING TERM									
Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10
<p><u>Number: Place value</u></p> <p>Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</p> <p>Solve number problems and practical problems involving Y5 place value objectives.</p>	<p><u>Number: Fractions</u></p> <p>Compare and order fractions whose denominators are multiples of the same number.</p> <p>Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.</p> <p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$].</p> <p>Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p> <p>Read and write decimal numbers as fractions (for example $0.71 = 71/100$).</p> <p>Solve problems involving scaling by simple fractions and problems involving simple rates. (Number: Multiplication & division)</p>				<p><u>Fractions: Decimals</u></p> <p>Read and write numbers with up to three decimal places.</p> <p>Order and compare numbers with up to three decimal places.</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Solve problems involving number up to three decimal places.</p> <p>Multiply and divide decimal numbers by 10, 100 and 1000. (Number: Multiplication & division)</p>			<p><u>Fractions: Percentages</u></p> <p>Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'.</p> <p>Write percentages as a fraction with denominator 100, and as a decimal.</p> <p>Solve problems which require knowing percentage and decimal equivalents of $1/2$, $1/4$, $1/5$, $2/5$, $4/5$ and those fractions with a denominator of a multiple of 10 or 25</p>	

SUMMER TERM

Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13	Wk 14
<u>Geometry: Properties of shapes</u> Identify 3D shapes, including cubes and other cuboids, from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	<u>Geometry: Position & direction</u> Identify, describe and represent the position of a shape following reflection and use the appropriate language: know that the shape has not changed after reflection Identify, describe and represent the position of a shape following translation and use the appropriate language: know that the shape has not changed after reflection	<u>Number: Four operations (addition, subtraction, multiplication & division)</u> Add whole numbers with more than 4 digits, including using formal written methods (columnar addition) Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction). Solve addition and subtraction multi- step problems in contexts deciding which operations and methods to use and why. Multiply numbers up to 4 digits by a one digit number using a formal written method. Multiply numbers up to 4 digits by a two digit number using a formal written method (long multiplication). Divide numbers up to 4 digits by a one digit number using the formal written method of short division. Interpret remainders (after division) appropriately for the context. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign. Solve problems involving scaling by simple fractions and problems involving simple rates.			<u>Measures: Converting units</u> Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml). Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time.			<u>Measures: Perimeter and Area</u> Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate and compare the area of rectangles (including squares), and including using standard units, cm ² , m ² estimate the area of irregular shapes.		<u>Measures: Volume</u> Estimate volume (for example using 1cm ³ blocks to build cuboids (including cubes) and capacity (for example, using water)). Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation, including scaling.		Opportunity to consolidate, revisit and reinforce	


Number: Place Value

National Curriculum Statement	All students		
	Fluency	Reasoning	Problem Solving
<p>Read numbers to at least 1,000,000 and determine the value of each digit.</p> <p>Write numbers to at least 1,000,000 and determine the value of each digit.</p> <p>Order and compare numbers to at least 1,000,000 and determine the value of each digit.</p>	<ul style="list-style-type: none"> How can we describe 580500? It has hundred thousands. It has ten thousands. It has hundreds. It is made of 580000 and ____ together. Say 358923 aloud, can you write this number in words? Order the following numbers in ascending order: 362354, 362000, 362453, 359999, 363010 	<ul style="list-style-type: none"> Hannah says, 'Using the digits 0-9 I can make any number up to 1000000' Is she correct? Convince me. Oscar says the number 345050 is three hundred and forty five thousand and five. Can you explain why he is wrong? Simon says he can order the following numbers by only looking at the first three digits. Is he correct? Explain your answer. 125161, 128324, 126743, 125382, 127942 	<ul style="list-style-type: none"> Using the digits 0-9 make the largest number possible and the smallest possible. How do you know these are the largest and smallest numbers? Harriet has made five numbers, using the digits 1, 2, 3 and 4. She has changed each number into a letter and has written three clues to help people work out her numbers. <i>'Number 1 is the largest. Number 4's digits add up to 12. Number 3 is the smallest number.'</i> <ol style="list-style-type: none"> aabdc acdbc dcaba cdadc bdaab

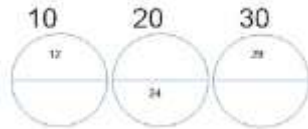
Number: Place Value

National Curriculum Statement	All students																																																																																																																			
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Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.	<ul style="list-style-type: none">Finish the sequence: 1000, 2000, 3000,____, ____, 350, 340,____,____, ____, 11800, 11900,____, _____	<ul style="list-style-type: none">Can you spot the mistake? 18700, 18800, 18900, 19100 Correct the mistake and explain your working.True or False? When I count in 10's I will say the number 12300.	<ul style="list-style-type: none">Temperature falls by about 1°C for every 100 metres height gain. Abigail is standing on top of a mountain at 900 metres above sea level. The temperature is – 3°C. Abigail walks down the mountain to sea level. What should she expect the temperature to be?																																																																																																																	
	<ul style="list-style-type: none">Fill in the missing numbers: <table><tr><td>4523</td><td></td><td></td><td></td></tr><tr><td>9000</td><td></td><td></td><td>6000</td></tr><tr><td>13,450</td><td>12,450</td><td></td><td></td></tr><tr><td>102,342</td><td></td><td>100,342</td><td></td></tr></table>Spot the error: 289636, 299636, 300636, 301636, 302636	4523				9000			6000	13,450	12,450			102,342		100,342		<ul style="list-style-type: none">What are the next three number sentences in the sequence? 345000-1000= 344000 344000-1000=343000 343000-1000=342000 Could you use the same numbers to write different number sentences?	<ul style="list-style-type: none">Can you count back in 30's to find the trail through the grid? <table><tr><td>START</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>394,432</td><td>394,492</td><td>394,585</td><td>394,705</td><td>394,505</td><td>394,805</td><td>394,905</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>394,118</td><td>394,402</td><td>394,372</td><td>394,625</td><td>394,957</td><td>394,891</td><td>394,635</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>394,292</td><td>394,312</td><td>394,342</td><td>394,302</td><td>394,645</td><td>394,665</td><td>394,232</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>394,888</td><td>394,282</td><td>394,485</td><td>394,499</td><td>394,680</td><td>394,685</td><td>394,605</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>394,578</td><td>394,252</td><td>394,222</td><td>394,192</td><td>394,102</td><td>394,072</td><td>394,042</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>393,565</td><td>393,798</td><td>393,411</td><td>393,162</td><td>393,132</td><td>393,082</td><td>394,012</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>393,565</td><td>393,166</td><td>393,374</td><td>393,641</td><td>393,445</td><td>393,052</td><td>FINISH 393,022</td></tr></table>	START							394,432	394,492	394,585	394,705	394,505	394,805	394,905								394,118	394,402	394,372	394,625	394,957	394,891	394,635								394,292	394,312	394,342	394,302	394,645	394,665	394,232								394,888	394,282	394,485	394,499	394,680	394,685	394,605								394,578	394,252	394,222	394,192	394,102	394,072	394,042								393,565	393,798	393,411	393,162	393,132	393,082	394,012								393,565	393,166	393,374	393,641	393,445	393,052
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Number: Place Value

National Curriculum Statement	All students																	
	Fluency	Reasoning	Problem Solving															
Count forwards and backwards with positive and negative whole numbers, including through 0. Interpret negative numbers in context	<ul style="list-style-type: none">Find the missing numbers in the sequences: 5, 4, 3, 2, 1, 0, <u> </u>, -2, <u> </u> 8, 6, 4, 2, 0, <u> </u>, -4, <u> </u>Charlie recorded the temperature at 7am each morning in a table. Which was the warmest/ coldest day? What was the difference between the warmest and coldest day? Order the temperatures from coldest to warmest.	<ul style="list-style-type: none">Anna is counting down from 11 in fives. Does she say -11? Explain your reasoning.Harris is finding the missing numbers in this sequence. <u> </u>, <u> </u>, 5, <u> </u>, <u> </u>, -5 He writes down: 15, 10, 5, 0, -0, -5 Explain the mistake Harris has made.Sam counted down in 3's until he reached -18. He started at 21. What was the tenth number he said?	<ul style="list-style-type: none">Fred is a police officer. He is chasing a suspect on Floor 5 of an office block. The suspect jumps into the lift and presses -1. Fred has to run down the stairs, how many flights must he run down?Use the picture below to answer the following questions. Can they make up their own questions? What number should be where the light shines from the lighthouse? How far is it down from the (head of the) seagull to the (mouth of the) yellow fish? There's a little brown sea-horse to the right of the lighthouse support. How far from the surface is it?															
	<table><tr><th>Day</th><th>Temp</th></tr><tr><td>Mon</td><td>-1</td></tr><tr><td>Tues</td><td>2</td></tr><tr><td>Wed</td><td>0</td></tr><tr><td>Thurs</td><td>-3</td></tr><tr><td>Fri</td><td>-4</td></tr><tr><td>Sat</td><td>-2</td></tr><tr><td>Sun</td><td>1</td></tr></table> 	Day	Temp	Mon	-1	Tues	2	Wed	0	Thurs	-3	Fri	-4	Sat	-2	Sun	1	
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	National Curriculum Statement	All students		
		Fluency	Reasoning	Problem Solving
Number: Place Value	Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000	<ul style="list-style-type: none"> Round the following numbers to the nearest a) 10 b)100 c) 1000 4821, 69243, 2781 In 2013, there were 778803 births in the UK. What is this to the nearest 1000? Nearest 10000? Nearest 100000? In July 2015, the population of the UK was estimated to be 64881609. What is this rounded to the nearest million? 	<ul style="list-style-type: none"> A number rounded to the nearest 1000 is 54000. What is the largest possible number this could be? Round the number 259996 to the nearest 1000. Round it to the nearest 10000. What do you notice about the answers? Can you think of 3 more numbers where the same thing would happen? True or False? All numbers with a five in the tens column will round up when rounded to the nearest 100 and 1000. 	<ul style="list-style-type: none"> Nathan thinks of a number. He says 'My number rounded to the nearest 10 is 1150, rounded to the nearest 100 is 1200 and rounded to the nearest 1000 is 1000.' What could Nathan's number be? Roll five dice; make as many 5 digit numbers as you can from them. Round each number to the nearest 10, 100, 1000 and 10,000. From your numbers, how many round to the same 10, 100, 1000 or 10,000? In pairs, take it in turns to roll (if rounding to 10) two 0-9 dice. Create a number from it and choose where it rounds to. Record on a sheet like below. When the circle is filled, whoever filled it, gets a point. 

	National Curriculum Statement	All students		
		Fluency	Reasoning	Problem Solving
Number: Place Value	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	<ul style="list-style-type: none"> Translate these Roman Numerals: <ol style="list-style-type: none"> MD MCD CXVI DCLX Write the numbers in Roman Numerals: <ol style="list-style-type: none"> 35 100 99 283 570 Complete these calculations: <ol style="list-style-type: none"> $CD + DC =$ $VI + IV =$ $CX + XC$ 	<ul style="list-style-type: none"> Count in hundreds and fill in the pattern: C, CC, , , D, , , , _ Explain what each letter means and write the translation below each letter. Arrange the numbers in size order: XXXV, XL, XXX, LX, LV, L, XLV, LXV Explain how you ordered the numbers. Complete the calculations. Show how you translated the roman numerals and added them. <ol style="list-style-type: none"> $XI + IX =$ $XL + LX =$ $CM + MC =$ 	<ul style="list-style-type: none"> What is the longest number between 1 and 1000 when depicted in Roman Numerals? Find 2 words that are also numbers in Roman Numerals (one is very short). Work out the year of your birth in Roman Numerals. Work out the current year in Roman Numerals. Can you find the difference?

	National Curriculum Statement	All students		
		Fluency	Reasoning	Problem Solving
Addition and Subtraction	<p>Add numbers mentally with increasingly large numbers.</p> <p>Subtract numbers mentally with increasingly large numbers.</p>	<ul style="list-style-type: none"> Work out this missing numbers: $\underline{\quad} - 92 = 145$ $740 + \underline{\quad} = 1039$ $\underline{\quad} = 580 - 401$ Peter bought boxes of crisps when they were on offer. After 12 weeks, his family had eaten 513 packets and there were 714 left. How many did he buy? Children follow a series of instructions to find a mystery number. <p>Eg Start with 100. Add 5000. Take away 400. Add 20. Subtract 750. What number have you got?</p>	<ul style="list-style-type: none"> Rachel has £10. She spends £6.49 at the shop. Would you use columnar subtraction to work out the answer? Explain why. True or False? Are these number sentences true or false? $8.7 + 0.4 = 8.11$ $6.1 - 0.9 = 5.2$ Give your reasons. Which of the following questions are easy and which ones are hard? $213323 - 10 =$ $512893 + 300 =$ $819354 - 200 =$ $319954 + 100 =$ Explain why you think the hard questions are hard. 	<ul style="list-style-type: none"> If 2541 is the answer, what's the question? - Can you create three addition sums? - Can you create three subtraction sums? - Did you use a strategy? Using 0-9 dice roll 3 at the same time to create a number. Your partner needs to do the same. - Who can add them together correctly first? - Who can subtract the smallest from the largest correctly first? Use a calculator to check. Kangchenjunga is the third highest mountain in the world at 28,169 feet above sea level. Lhotse is the fourth highest at 27,960 feet above sea level. Find the difference in heights mentally.

Addition and Subtraction

	National Curriculum Statement	All students		
		Fluency	Reasoning	Problem Solving
	<p>Add whole numbers with more than 4 digits, including using formal written methods (columnar addition)</p> <p>Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction)</p>	<ul style="list-style-type: none"> Calculate: 1638+ 2517 4023- 2918 Julie has 1578 stamps, Heidi has 2456 stamps. How many stamps do they have altogether? Show how you can check your answer using the inverse. Adam earns £37,566 pounds a year. His wife, Sarah, earns £22,819 a year. How much do they earn altogether? They have to pay £7887 income tax per year, how much are they left with after this is taken off? 	<ul style="list-style-type: none"> There are mistakes in the following calculations. Explain the mistake and then make a correction to find the correct answer. <div style="display: flex; justify-content: space-around;"> <div> $\begin{array}{r} 2451 \\ +562 \\ \hline 8071 \end{array}$ </div> <div> $\begin{array}{r} 782 \\ -435 \\ \hline 353 \end{array}$ </div> </div> ___+ 3475 = 6_24 What numbers go in the boxes? What different answers are there? Convince me. A five digit number and a four digit number have a difference of 4365. Give me three possible pairs of numbers. 	<ul style="list-style-type: none"> Find the missing numbers in these calculations. $\begin{array}{r} 3 \quad 4 \quad \square \quad 1 \quad \square \\ - \quad \square \quad 4 \quad 8 \quad 2 \\ \hline 2 \quad 9 \quad 2 \quad \square \quad 4 \end{array}$ $\begin{array}{r} 6 \quad \square \quad 0 \quad 2 \quad \square \\ + \quad \quad 5 \quad \square \quad 5 \quad 1 \\ \hline \square \quad 9 \quad 1 \quad 8 \quad 0 \end{array}$ My answer is 5398, what's the question? - Create of 3 addition sums. - Create 3 subtraction sums. - Did you use a strategy? Explain it.

Addition and Subtraction

National Curriculum Statement	All students		
	Fluency	Reasoning	Problem Solving
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	<ul style="list-style-type: none"> A car showroom reduces the price of a car from £18750 to £14999. By how much was the price of the car reduced? Circle the most sensible answer: £3249, £4001, £3751 A games console costs £245. Mike pays for this in 5 equal payments. To the nearest ten pounds, how much does he pay per payment? A coach holds 78 people. 960 fans are going to a gig on the coaches. How many coaches are needed to transport the fans? 	<ul style="list-style-type: none"> Which of these number sentences have an answer that is between 0.6 and 0.7? $11.48 - 10.86 =$ $53.3 - 52.75 =$ Always, sometimes, never When you add up four even numbers, the answer is divisible by four. Martin is measuring his room for a new carpet. It has a width of 2.3m and a length of 5.1m. He rounds his measurements to the nearest metre. Will he have the right amount of carpet? Explain your reasoning. 	<ul style="list-style-type: none"> True or false. $4999 - 1999 = 5000 - 2000$ Explain how you know using a written method. There are 1231 people on an aeroplane. 378 people have not ordered an inflight meal. How many people have ordered the inflight meal? Give your answer to the nearest hundred. <p>The inflight meal costs £1.99 per person. The cabin crew have collected £1100 pounds so far. How much more money do they need to collect? Round your answer to the nearest pound.</p>

Multiplication and Division

National Curriculum Statement	All students		
	Fluency	Reasoning	Problem Solving
Multiply and divide numbers mentally drawing upon known facts.	<ul style="list-style-type: none"> $8 \times 6 = 48$. Use this to help you find the answers to the number sentences: $48 \div 6 =$ $6 \times 80 =$ Write down five multiplication and division facts that use the number 48. If I know $8 \times 36 = 288$, I also know $8 \times 12 \times 3 = 288$ and $8 \times 6 \times 6 = 288$. If you know $9 \times 24 = 216$, what else do you know? 	<ul style="list-style-type: none"> How can you use 10×7 to help you find the 9th multiple of 7? Find the answer: $2 \times 11 =$ $4 \times 11 =$ $2 \times 12 =$ $4 \times 12 =$ $2 \times 13 =$ $4 \times 13 =$ <p>What is the connection between the results for the two times table and the four times table?</p> <p>If $2 \times 144 = 288$, what is 4 times 144?</p> <ul style="list-style-type: none"> To multiply a number by 25 you multiply by 100 and then divide by 4. Use this strategy to solve. 84×25 28×25 5.6×25 	<ul style="list-style-type: none"> 40 cupcakes cost £3.60, how much do 20 cupcakes cost? How much do 80 cupcakes cost? How much do 10 cupcakes cost? If $8 \times 24 = 192$, how many other pairs of numbers can you write that have the product of 192? 10 times a number is 4350, what is 9 times the same number? Explain your working.

	National Curriculum Statement	All students		
		Fluency	Reasoning	Problem Solving
Multiplication and Division	Multiply and divide whole numbers by 10, 100 and 1000.	<ul style="list-style-type: none"> Solve: $345 \times 10 =$ $345 \times 100 =$ Fill the gaps: $3790 \times \underline{\hspace{2cm}} = 379000$ $3790 \div \underline{\hspace{2cm}} = 379$ $\underline{\hspace{2cm}} \times 1000 = 497200$ Harry has £20, he wants to save 10 times this amount. How much more does he need to save? 	<ul style="list-style-type: none"> Claire says 'When you multiply a number by 10 you just add a nought and when you multiply by 100 you add two noughts.' Do you agree? Explain your answer. Apples weigh about 160g each. How many apples would you expect to get in a 2kg bag? Explain your reasoning. $6 \times 7 = 42$ How can you use this fact to solve the following calculations? $4200 \div 70 =$ $0.6 \times 0.7 =$ 	<ul style="list-style-type: none"> Here are the answers to the questions. Can you write three different questions that could make these numbers by multiplying and dividing by 10, 100 or 1000? 5890, 40, 67000, 2000 David has £35700 in his bank. He divides the amount by 100 and takes that much money out of the bank. Using the money he has taken out he spends £268 on furniture for his new house. How much money does David have left from the money he took out? Show your working.

Multiplication and Division

National Curriculum Statement	All students																																																																																																																							
	Fluency	Reasoning	Problem Solving																																																																																																																					
<div>Multiply numbers up to 4 digits by a one digit number using a formal written method.</div> <div>Multiply numbers up to 4 digits by a two digit number using a formal written method (long multiplication).</div>	<div>Solve the calculations:</div> <div><table><tr><td></td><td>3</td><td>4</td><td>6</td></tr><tr><td>x</td><td></td><td>2</td><td>7</td></tr><tr><td></td><td></td><td></td><td></td></tr></table><table><tr><td></td><td>4</td><td>9</td><td>2</td><td>3</td></tr><tr><td>x</td><td></td><td>3</td><td>1</td><td>4</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table></div> <div>Calculate:</div> <div>5612 x 4</div> <div>854 x 34</div> <div>Mo Farah runs 135 miles a week. How far does he run each year?</div>		3	4	6	x		2	7						4	9	2	3	x		3	1	4						<div>Spot the mistake and make a correction.</div> <div><table><tr><td>527</td></tr><tr><td>x 42</td></tr><tr><td>10540</td></tr><tr><td>2018</td></tr><tr><td>12648</td></tr></table></div> <div>Laura thinks that a 4 should be placed in the empty box. Do you agree?</div> <div><table><tr><td></td><td>4</td><td>7</td><td></td></tr><tr><td>x</td><td></td><td>2</td><td>3</td></tr><tr><td>1</td><td>0</td><td>9</td><td>0</td><td>2</td></tr></table></div> <div>What goes in the missing box?</div> <div>12 <table><tr><td></td></tr></table> 2 ÷ 6 = 212</div> <div>14 <table><tr><td></td></tr></table> 4 ÷ 7 = 212</div> <div>Prove your answer.</div>	527	x 42	10540	2018	12648		4	7		x		2	3	1	0	9	0	2			<div>Using the digits 1, 2, 3 and 4 in any order in the bottom row of the number pyramid, how many different totals can you make? What is the smallest/ largest total?</div> <div><table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table></div> <div>Find the missing digits:</div> <div><table><tr><td></td><td></td><td>5</td><td>2</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>x</td><td></td><td></td><td>7</td></tr><tr><td>1</td><td>5</td><td></td><td>3</td><td>0</td></tr><tr><td></td><td>3</td><td>6</td><td>4</td><td>7</td></tr><tr><td>1</td><td></td><td>2</td><td>7</td><td>7</td></tr></table></div> <div>Start with 0; choose a path through the maze. Which path has the highest/ lowest total?</div> <div><table><tr><td>S</td><td>+6</td><td>x5</td><td>x2</td><td>-4</td></tr><tr><td>+7</td><td>x8</td><td>+9</td><td>x7</td><td>x6</td></tr><tr><td>x5</td><td>+3</td><td>x4</td><td>+9</td><td>E</td></tr></table></div>																												5	2								x			7	1	5		3	0		3	6	4	7	1		2	7	7	S	+6	x5	x2	-4	+7	x8	+9	x7	x6	x5	+3	x4	+9	E
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Multiplication and Division

National Curriculum Statement	All students		
	Fluency	Reasoning	Problem Solving
<p>Divide numbers up to 4 digits by a one digit number using the formal written method of short division</p> <p>Interpret remainders appropriately for the context.</p>	<ul style="list-style-type: none"> Calculate $68 \div 4 =$ $1248 \div 3 =$ Find the missing numbers: $___ \times 5 = 475$ $3 \times ___ = 726$ 194 pupils are going on a school trip. <p>One adult is needed for every 9 pupils. How many adults are needed?</p> 	<ul style="list-style-type: none"> What number goes in the box? $323 \times ___ 1 = 13243$ <p>Prove it.</p> Correct the errors in the calculation below. Explain the error. $266 \div 5 = 73.1$ <div> $\begin{array}{r} 7 \quad 3 \quad r1 \\ 5 \overline{) 2 \quad 36 \quad 16} \end{array}$ </div> Andrew says that the answer to 166 divided by 4 can be written as '46 remainder 2' or as '46.5'. Do you agree? Explain your reasoning. 	<ul style="list-style-type: none"> The answer to the division has no remainders. Find the missing numbers. <div> $\begin{array}{r} 8 \quad \square \quad 2 \\ 7 \overline{) 5 \quad 8 \quad 9 \quad \square} \end{array}$ </div> I am thinking of a number. When it is divided by 9, the remainder is 3. When it is divided by 2, the remainder is 1. When it is divided by 5, the remainder is 4. What is my number? When 59 is divided by 5, the remainder is 4 When 59 is divided by 4, the remainder is 3 When 59 is divided by 3, the remainder is 2 When 59 is divided by 2, the remainder is 1 <p>Can you find the smallest number with the property that when it is divided by each of the numbers 2 to 10, the remainder is always one less than the number it is has been divided by?</p>

	National Curriculum Statement	All students		
		Fluency	Reasoning	Problem Solving
Number facts	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	<p>Write down:</p> <ul style="list-style-type: none"> The first 5 multiples of 8. All the factors of 20. Find a common factor of 36 and 12. 	<ul style="list-style-type: none"> Rob and James are talking about multiples and factors. Rob says '<i>0 is a multiple of every whole number.</i>' James says '<i>0 is a factor of every whole number.</i>' Who is correct? Explain why 6 is a common factor of 18 and 24. Tom says '<i>Factors come in pairs, so all numbers have an even number of factors.</i>' Do you agree? Explain your reasoning. 	<ul style="list-style-type: none"> Polly is planting potatoes in her garden. She has 24 potatoes to plant and she will arrange them in a rectangular array. List all the different ways that Polly can plant her potatoes. Sally is thinking of a number. She says 'My number is a multiple of 3. It is also 3 less than a multiple of 4.' Find three different numbers that could be Sally's number. Clare's age is a multiple of 7 and 3 less than a multiple of 8. How old is Clare?

Number facts

	National Curriculum Statement	All students																								
		Fluency	Reasoning	Problem Solving																						
Number facts	<p>Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3)</p>	<ul style="list-style-type: none">Work out: $6^2 =$ $3^3 =$ 4 squared = 8 cubed =Fill in the missing answers from the grid below:	<ul style="list-style-type: none">Julian thinks that 4^2 is 16. Do you agree? Convince me.Always, Sometimes, Never. A square number has an even number of factors.Always, Sometimes, Never Square and Cubed numbers are always positive.	<ul style="list-style-type: none">Last year my age was a square number. Next year it will be a cube number. How old am I? How long must I wait until my age is both a square number and a cube?The answer to a cubed number is 216. What's the root number?																						
		<table><tr><td>4^2</td><td>$4 \times 4 \times 4$</td><td>64</td></tr><tr><td>7^2</td><td>7×7</td><td></td></tr><tr><td>2^7</td><td>$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$</td><td></td></tr><tr><td>5^3</td><td></td><td></td></tr><tr><td>3^6</td><td></td><td></td></tr><tr><td></td><td>$4 \times 4 \times 4 \times 4$</td><td></td></tr><tr><td></td><td></td><td>8</td></tr><tr><td>6^3</td><td></td><td></td></tr></table>	4^2	$4 \times 4 \times 4$	64	7^2	7×7		2^7	$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$		5^3			3^6				$4 \times 4 \times 4 \times 4$				8	6^3		
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Number facts

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.

- What is special about these numbers?

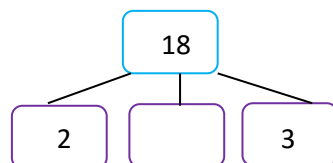
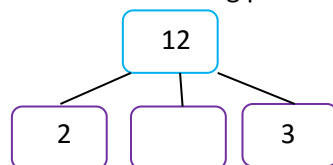
7 17 37 47

- Put these numbers into 2 groups. Label the groups.

11 10 21 31

9 13 47 35

- Find the missing prime factors.



- Explain why 1 isn't a prime number.

- Katie says,

All prime numbers have to be odd.

Do you agree? Convince me.

Her friend, Abdul, says,

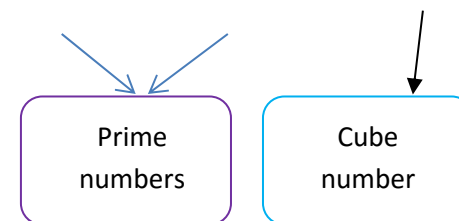
That means 9, 27 and 45 are prime numbers.

Explain Abdul's mistake and correct it.

- Always, sometimes, never**
When you add 2 prime numbers together the answer will be even.

- How many cube numbers can you make by either adding two prime numbers together or by subtracting one prime number from another e.g.

$$11 - 2 = 9$$



- Investigate how many prime numbers are between 2 consecutive multiples of 10. Include 0 and 10. Is there a pattern?

Number facts

Establish whether a number up to 100 is prime and recall prime numbers up to 19

- Fill in the missing prime numbers

2	3		7	9	
---	---	--	---	---	--

19		13		9	7
----	--	----	--	---	---

- Find all the prime numbers between 60 and 80.
- What is the 16th prime number?

- Fill in the missing numbers so that the calculation creates a prime number.

$$19 - \boxed{} = \boxed{}$$

Is this the only option?

Andy says,

I subtracted an odd number to find a prime number.

Is this possible? How many ways could he have done this?

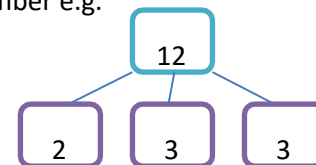
Explain your answer.

- What number am I?**
I am a prime number. I am a 2 digit number.
Both my digits are the same.

Explain why there is only one option.

- On a set of flashcards, write a different number on each. Ask a partner to do the same. Shuffle them and take half each. Take turns to turn them over. Say either 'prime' or 'not prime' when a number is turned over. Whoever ends with the most cards, wins.

- Prime factors are the prime numbers that multiply together to make a number e.g.



Is it possible to make every number by multiplying prime numbers together?

Fractions

National Curriculum Statement

Compare and order fractions whose denominators are all multiples of the same number

All Students

Fluency

- Use $<$ $>$ or $=$ to make the statement below correct
 $\frac{3}{4}$ $\frac{9}{12}$
- Order these fractions
 $\frac{2}{5}$, $\frac{5}{15}$, $\frac{3}{10}$
- Fill in the missing fraction
 $\frac{1}{3} = \frac{2}{\quad} = \frac{3}{9}$

Reasoning



- Sometimes, always, never**
 If two denominators are different multiples of the same number then you can simplify the bigger number to make them the same e.g. $\frac{3}{4}$ $\frac{9}{12}$
 $\frac{9}{12}$ can be simplified to $\frac{3}{4}$
- Paul thinks denominators with bigger numbers are bigger fractions.
 Prove to him that $\frac{1}{4}$ is bigger than $\frac{1}{8}$
 Use a diagram/drawing/concrete materials.

Problem Solving

- Cut out lots of different fractions. Ask children in pairs to sort them into equivalent piles. Ask children to record three more fractions – an equivalent fraction, a bigger fraction and a smaller fraction.
- Fraction trail**
 On a grid, write 12 different fractions where all denominators are a different multiple of the 4 times table.
 Player A goes first and chooses a fraction, Player B finds a smaller fraction, Player A finds a bigger fraction and so on. Whoever cannot find a fraction first loses.

$\frac{17}{20}$	$\frac{17}{32}$	$\frac{2}{16}$
$\frac{10}{28}$	$\frac{2}{4}$	$\frac{20}{36}$
$\frac{18}{44}$	$\frac{35}{48}$	$\frac{5}{8}$
$\frac{2}{12}$	$\frac{22}{40}$	$\frac{23}{24}$

Fractions

National Curriculum Statement	All Students						
	Fluency	Reasoning	Problem Solving				
Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.	<ul style="list-style-type: none">Find 5 equivalent fractions of $\frac{3}{4}$Colour $\frac{6}{8}$ of this shape <table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> <ul style="list-style-type: none">Complete the sentences: One eighth is a half of one _____ One sixth is a half of one _____ One quarter is a half of one _____					<ul style="list-style-type: none">Which fraction is the odd one out? Is this the only option? Explain your answers. $\frac{4}{6}$ $\frac{16}{24}$ $\frac{9}{12}$ $\frac{12}{18}$ $\frac{20}{30}$Martin thinks you can only simplify even numbered fractions because you keep on halving until you get an odd number. Do you agree? Explain why.Is this statement true or false? Explain why. $\frac{3}{5} < \frac{11}{15}$	<ul style="list-style-type: none">Here are some fraction cards. All of the fractions are equal. <div><div>$\frac{4}{A}$</div><div>$\frac{B}{C}$</div><div>$\frac{20}{50}$</div></div> $A + B = 16$ Work out the value of C.Find the value of the symbol  $\frac{1}{2} = \frac{1+5}{2+}$ 

Fractions

National Curriculum Statement


Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$].

Fluency

- Convert these from mixed numbers to improper fractions:
 $3\frac{2}{5}$
 $2\frac{1}{6}$
- A pizza has 8 slices. At a party, 2 full pizzas and 3 slices are left over. Write this as an improper fraction.
- Pencils are packed 6 to a box. A teacher hands them out and has $\frac{15}{6}$ left. Write how many boxes she has left as a mixed number.

All Students

Reasoning

- True or false**
A mixed number is not a whole number. Explain why.
- Spot and explain the mistake
 $\frac{13}{5} = 3\frac{3}{5}$
- This was the pizza left over at a party.

Each pizza was cut equally.
Anna said, "If you add the $\frac{11}{5}$ we ate then there was 5 whole pizzas altogether." Do you agree? Explain why.

Problem Solving

- For the school's sports day, a group of students prepared $21\frac{1}{2}$ litres of lemonade. At the end of the day they had $2\frac{5}{8}$ litres left over. How many litres of lemonade were sold?



- If they sold the lemonade in 125ml glasses, which they sold at 30p each, how many glasses did they sell and how much did they make?



Fractions

National Curriculum Statement

Add and subtract fractions with the same denominator and denominators that are multiples of the same number.

Fluency

- Calculate:

$$\frac{15}{6} - \frac{5}{3} =$$

$$\frac{24}{8} - \frac{15}{8}$$

$$\frac{2}{3} + \frac{8}{12}$$
- Kelsey and Beth had a bag of sweets.
 Kelsey took $\frac{2}{7}$ and Beth took $\frac{6}{21}$
 What was the difference between their amounts?
- Fill in the missing fractions:

$$\frac{11}{7} + \frac{\quad}{\quad} = \frac{18}{7}$$

$$\frac{18}{5} - \frac{\quad}{\quad} = \frac{9}{10}$$

$$\frac{\quad}{\quad} - \frac{4}{6} = \frac{1}{6}$$

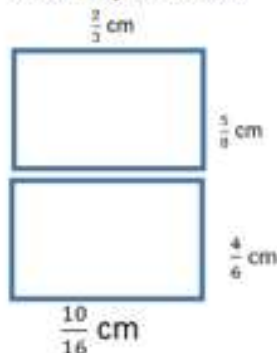
All Students

Reasoning

- Monica and Rachel are given this missing number problem:

$$\frac{\quad}{\quad} - \frac{2}{4} = \frac{1}{4}$$

Monica thinks the missing fraction is $\frac{3}{4}$
 Rachel disagrees and thinks it's a different fraction.
 Explain why it could be both.
- Joey eats $\frac{1}{3}$ of a cake. Ross says, "That means I have $\frac{7}{9}$ left to eat." Do you agree? Explain why.
- Which perimeter is bigger?
 Give your answer as a mixed number.
 What do you notice?



Problem Solving

- The green rectangle has a perimeter of $\frac{22}{4}$
 Work out the value of x.

$$\begin{array}{c} x \text{ cm} \\ \hline \text{Green rectangle} \\ \hline \frac{3}{8} \text{ cm} \end{array}$$
- Beki bought 7L of paint from the shop.

Colour	Amount in tin
Blue paint	$2\frac{1}{4}$ L
Red paint	$\frac{3}{4}$ L
White paint	$1\frac{1}{2}$ L
Yellow paint	1 L
Green paint	$\frac{1}{2}$ L
Purple paint	$1\frac{3}{4}$ L

What variations of paint could she have bought?
 How many options can you find?

Fractions

National Curriculum Statement

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

Fluency

- Complete the table:

Multiplication	Improper fraction	Mixed number
$3 \times \frac{4}{7}$	$\frac{12}{7}$	
$2 \times \frac{5}{8}$		
$6 \times \frac{3}{9}$		

- Use the diagram to find the answer.

$$3 \times \frac{2}{3}$$



- Draw a diagram to represent $5 \times \frac{3}{7}$

All Students

Reasoning

- Tony says, "When I multiply a fraction by a whole number I turn the whole number into a

fraction by adding $\frac{1}{1}$ to it,

for example, $2 \times \frac{6}{8}$

becomes $\frac{2}{1} \times \frac{6}{8}$.

Does this make a difference? Does it help? Explain why.

- Sally says, "I feel ok multiplying a fraction by a whole number but multiplying a mixed number confuses me."

Can you write a set of instructions to help her understand? Include an example in your explanation.

Problem Solving

- Abi says, "This diagram represents the children who passed their swimming test in a Year 5 class one week. The exact same data was collected from six other schools."



Write this data as an improper fraction and a mixed number.

- Multiply these mixed numbers by 3 and place them in order from the biggest to smallest

$$2\frac{3}{5}, 2\frac{6}{8}, 2\frac{3}{7}, 2\frac{1}{6}$$

Did you think they would be in that order? Discuss why.

Fractions

National Curriculum Statement

Read and write decimal numbers as fractions (e.g. $0.71 = 71/100$)

Fluency

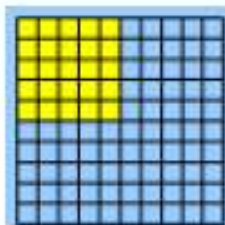
- Fill in the blanks:

$$\square = \frac{65}{100}$$

$$\square = 0.88$$

$$0.2 = \square$$

- Write the shaded part of this 100 square grid as a decimal number and a fraction.



- Match the decimal number to the equivalent fraction:

$$0.5 \quad \frac{50}{100}$$

$$0.05 \quad \frac{1}{2}$$

$$0.55 \quad \frac{5}{100}$$

$$0.50 \quad \frac{55}{100}$$

All Students

Reasoning

- Rob is finding equivalent decimals and fractions. He writes:

$$\frac{30}{100} = 0.30$$

Can both sides of the equals sign be simplified? Explain why.

- True or false?**
Only percentages that are multiples of 10 can be simplified.

Problem Solving

- Play decimal and fraction dominoes.

0.1	$\frac{30}{100}$	0.3	$\frac{75}{100}$
-----	------------------	-----	------------------

$\frac{1}{10}$
0.64

- Complete the statement below by only using these number cards. You can use these cards more than once.

0	0	0	1
1	1	7	7

$$\square \cdot \square \square = \frac{\square}{\square}$$

Fractions

National Curriculum Statement

Solve problems including scaling by simple fractions and problems involving simple rates

All Students

Fluency

- There are 56 people playing rounders. $\frac{5}{8}$ of the players are girls. How many girls are playing?
- In a class of 32 children, $\frac{3}{4}$ of them voted for maths as their favourite subject. How many children voted for something else? Give your answer as a whole number.
- 48 people work at an office. On Monday, $\frac{4}{6}$ of them walked to work. How many people walked to work?

Use the bar model to help you visualise the problem.



Reasoning

- Ellie is solving this problem:

$$\text{Find } \frac{4}{6} \text{ of } 24$$

She writes 16 down as the answer.
Explain Ellie's mistake to her and write down instructions on how to solve this.

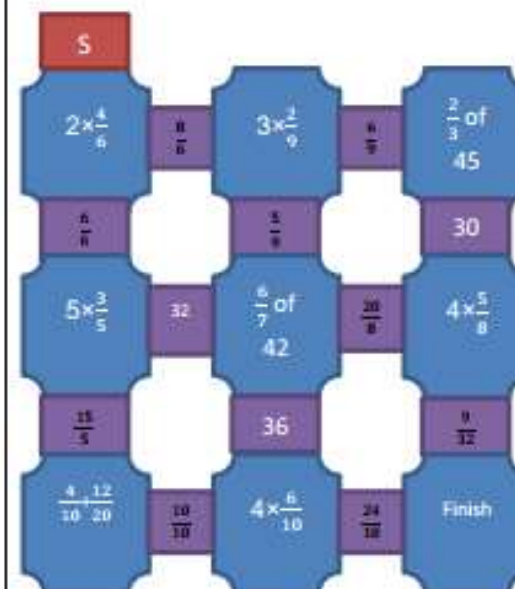
- Mr Patel asks Emily to circle a quarter of some squares. She circles the following shapes.



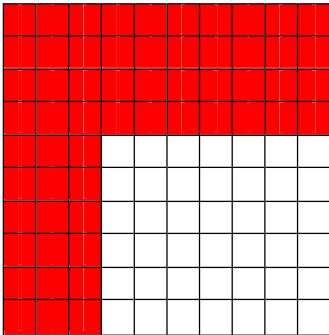

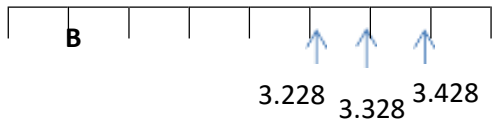
Mr Patel says, "Well done! You are correct!"
How many shapes were there to start with? Explain how you worked this out.

Problem Solving

- 90 people were asked what their favourite colour was. 75 chose red. What fraction of people chose red?
- Work your way through the maze by solving the questions.






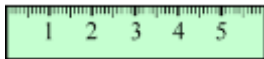

Fractions

National Curriculum Statement	All Students		
	Fluency	Reasoning	Problem Solving
<p>Read and write numbers with up to three decimal places</p> <p>Order and compare numbers with up to three decimal places</p>	<ul style="list-style-type: none"> Write the decimal number that is illustrated below:  <ul style="list-style-type: none"> Write five and ninety-one tenths as a decimal number. Insert < or > to make the statement below true. 0.06 ____ 0.006 	<ul style="list-style-type: none"> Prove that 8.9 is smaller than 9.8 What number is halfway between 2.7 and 3.4? Explain how you worked it out. Which of the following is false? $1.009 < 1.09$ $1.249 > 1.25$ $1.35 > 1.053$ Convince me! Which of these numbers is closest in value to 0.2? 0.02 0.15 0.22 0.3 0.19 Explain why. 	<ul style="list-style-type: none"> Put a digit in each box so that the numbers are in order from smallest to largest. 6.1 <input type="text"/> <input type="text"/>.02 6.2 <input type="text"/> 6. <input type="text"/>2 6. <input type="text"/>2 Here are two number lines.   Find the difference between the letters A and B. 2 numbers have the difference of 1.427 and one of the numbers is 3.665. What is the other number? Are these the only possible numbers?

Fractions

National Curriculum Statement	All Students		
	Fluency	Reasoning	Problem Solving
<p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p>	<ul style="list-style-type: none"> What does the 3 represent in 14.253? Put the following numbers in ascending order: six thousandths 0.5 $\frac{7}{1000}$ 1 tenth Fill in the missing box: 2.645 = 2 + 0.6 + 0.04 + 	<ul style="list-style-type: none"> Sophie thinks 1.007 is bigger than 1.01 because 7 is bigger than 1. Do you agree? Explain why. <div style="border: 1px solid #4a7ebb; padding: 5px; margin: 10px 0; text-align: center;"> $1.007 > 1.01$ </div> Convince me that $\frac{1}{8}$ is bigger than $\frac{1}{80}$ 	<ul style="list-style-type: none"> Use all five cards below: <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">6</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">5</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">4</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">●</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">0</div> </div> <p>What is the smallest number you can make? What is the largest number you can make? How many numbers can you make that are less than 0.5?</p> In this problem decimal numbers have been replaced with symbols. What is the value in each box if: $\frac{1}{10} =$ ★ $\frac{1}{100} =$ ▲ $\frac{1}{1000} =$ <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <div style="display: flex; justify-content: space-around; align-items: center;"> ▲ ▲ ▲ ★ ★ ★ ★ </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 5px;"> ★ ▲ ★ ★ </div> </div>

Fractions

National Curriculum Statement	All Students		
	Fluency	Reasoning	Problem Solving
Round decimals with two decimal places to the nearest whole number and to one decimal place.	<ul style="list-style-type: none"> Fill in the boxes: 18.5 rounded to  is 19 12.34 rounded to the nearest whole number is   rounded to the nearest tenth is 14.4 Round each of these to the nearest tenth: 4.38 2.72 10.04 The sales for a supermarket increased by 82.78% during December. Round this to the nearest tenth. 	<ul style="list-style-type: none"> Simon is measuring a box of chocolates with a ruler that measures in centimetres and millimetres.  He measures it to the nearest cm and writes the answer 28cm. What is the smallest length the box of chocolates could be? A decimal number between 11 and 20 rounds to the same number when rounded to the nearest tenth and the nearest whole number? What could this be? Is there more than one option? Explain why. 	<ul style="list-style-type: none"> Rounded to the nearest 0.1, A is 3.5 and B is 3.0. What is the smallest possible difference between A and B? What is the largest possible difference? Explain your strategy to a partner. Use 3 10-sided dice (0-9) to create a decimal number to 2 decimal places.  Round this number to the nearest tenth. Are there any other decimal numbers you can make from these 3 digits? Do they round to the same tenth? What 3 numbers could you roll where more than 1 of the numbers would round to the same tenth? Why does this work? What number with two or three decimal places round to 3.0 when rounded to the nearest tenth? Is the only option?

Fractions

National Curriculum Statement

Solve problems involving number up to three decimal places.

All Students

Fluency

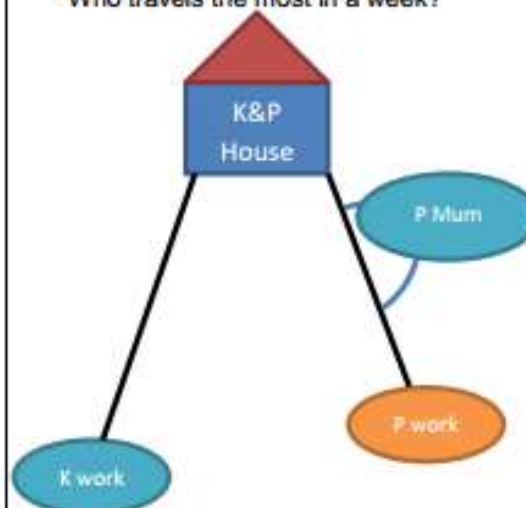
- Barney jumped 3.842 metres in a long jump competition. Sophie jumped 1.319 metres further. How far did Sophie jump?
- Caroline took £20 to the shop. She spent £8.64. How much change did she have?
- Naomi and her friends completed a 30 mile walk for charity over 3 days. On the first day, they walked 12.87 miles, on the second day they walked 16.55 miles. How many miles did they walk on the final day?

Reasoning

- If $3.985 - 1.999 = 1.986$
Explain why these are true or false.
 $2.985 - 0.999 = 0.986$
 $4.985 - 0.999 = 1.986$
 $3.885 + 2.099 = 5.986$
- Explain how to use the column method to work out whole numbers subtract decimal numbers e.g.
 $7 - 2.89 =$
- Charges for a bag of sweets are 3p per sweet and 15p for a bag. If I spent £3.75 on a bag of sweets, how many sweets did I buy? Explain your strategy to a partner. Did they use the same strategy? Which is easier?

Problem Solving

- Kevin and Peter leave for work from the same house each day. Kevin travels 11.36 miles to get to work and Peter travels 10.29 miles every morning except Monday and Friday when he goes to his mum's house on his way. This adds an extra 3.4 miles to his journey. Who travels the most in a week?



- Use these digit cards to make the smallest and largest decimal number possible. Find the difference between them.
e.g. $3.408 - 1.596 =$

1	0	5	3	4	9	6	8
---	---	---	---	---	---	---	---

Fractions

National Curriculum Statement

Multiply and divide decimal numbers by 10, 100 and 1000.

All Students

Fluency

- Complete the grid:

	$\times 100$	$\div 1000$	$\times 10$
365			
2669			
12			

- Fill in the boxes:

$$\boxed{} \times 100 = 38$$

$$58 \boxed{} = 5.8$$

$$0.8 \times 1000 = \boxed{}$$

- Some facts have been cut up. Work with a partner to put them back together.
e.g. $74 \div 10 = 7.4$

100

31

3100

+1000

$\times 100$

$\div 100$

$\div 0.001$

31

$= 1$

Reasoning

- True or false?**
When you multiply whole and decimal numbers by 10, 100 or 1000, you just add ~~noughts~~ **noughts** on to the end.

- If $5 \times 4 = 20$

Explain why these facts are true without working them out:

$$0.5 \times 4 = 2$$

$$200 \div 4 = 50$$

$$0.4 \times 0.5 = 0.2$$

Problem Solving

- Put these calculations in order from smallest to biggest:

$$100 \times 540$$

$$5.4 \times 1000$$

$$5400 \div 10$$

$$5400 \div 1000$$

$$540 \div 10$$

- Using a number from column A, an operation from B and a number from C, how many ways can you find to make 70? (There are more than 4 ways!)

A	B	C
7	\times	1
70		10
700	\div	100
7000		1000

Fractions

National Curriculum Statement

Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred'

Write percentages as a fraction with denominator 100, and as a decimal

Fluency

- There are 100 maltesers in a bag. 56 were eaten. How many are left?
Write this as a fraction and as a decimal.
- There are 200 lego pieces in a box. Theo uses 114 of them to build a robot.
Write the amount he used as a percentage out of 100
- Fill in the missing boxes to make the statement true:

$$\boxed{} \% = \frac{\boxed{}}{100} = 0.1$$

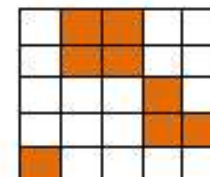
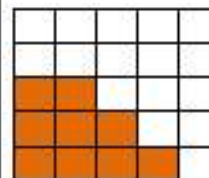
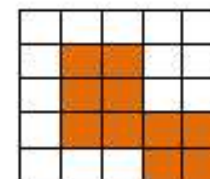
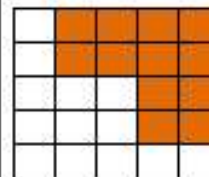
All Students

Reasoning

- Clare reads 150 pages of her 500 page book. She says, "I have $\frac{350}{500}$ pages left to read." Can she write this as a percentage out of 100? Explain why.
- True or false?**
You can write 12.5% as a decimal
Explain your answer.
- Lilly has a 100 square grid. She colours in 25% of them and says, "I have coloured in $\frac{1}{4}$ "
Is she right? Explain why.

Problem Solving

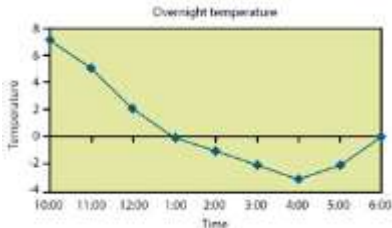


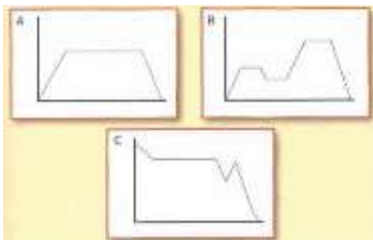
- This 50 square grid showing a percentage out of 100 has been cut up. Work out the percentage from the pieces below.




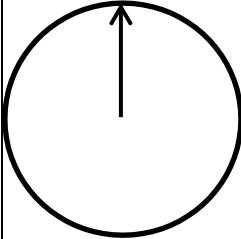
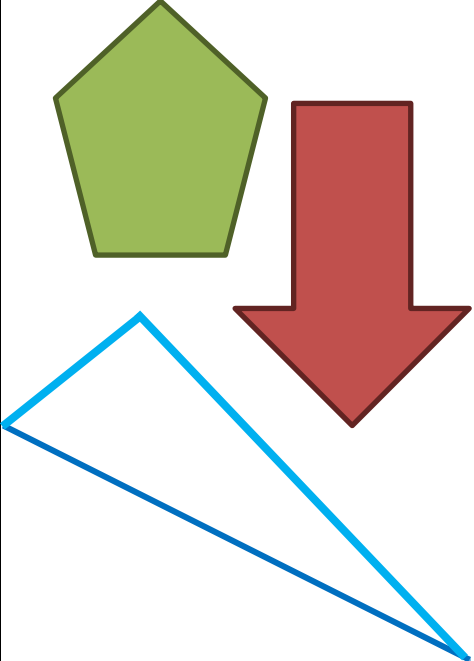
Fractions

National Curriculum Statement	All Students								
	Fluency	Reasoning	Problem Solving						
Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	<ul style="list-style-type: none">Ash spends $\frac{3}{5}$ of his money on a coat and 30% on shoes. He started with £55. How much does he have left?A painter uses $\frac{1}{25}$ of white paint to paint a wall. What percentage does he have left?Here are a mix of equivalent percentages, fractions and decimals. Put them into correct piles. (Cut up and put in an envelope)	<ul style="list-style-type: none">Blake is working out how much money he can spend on his dad's birthday present. He wants to spend 60% on a camera and $\frac{4}{9}$ on a t-shirt. Explain to Blake why this is not possible.If... $0.1 = \frac{1}{10}$ $0.2 = \frac{2}{10}$ Then... $0.15 = \frac{1.5}{10}$ Do you agree? Explain why.	<ul style="list-style-type: none">Bingo! Each child makes a grid of 6 and writes down 6 different, sensible (linking to objective) fractions or percentages. Read out decimals. First to mark off their whole board wins! <table><tr><td>$\frac{1}{10}$</td><td>75%</td></tr><tr><td>80%</td><td>$\frac{15}{100}$</td></tr><tr><td>$\frac{10}{50}$</td><td>40%</td></tr></table> <ul style="list-style-type: none">In pairs, take a pack of cards of different fractions, decimals and percentages. Turn them over one at a time. The first person to write an equivalent fraction, decimal or percentage on their whiteboard wins a point.	$\frac{1}{10}$	75%	80%	$\frac{15}{100}$	$\frac{10}{50}$	40%
	$\frac{1}{10}$	75%							
80%	$\frac{15}{100}$								
$\frac{10}{50}$	40%								

Statistics

National Curriculum Statement	All students		
	Fluency	Reasoning	Problem Solving
Solve comparison, sum and difference problems using information presented in a line graph.	<p>Use the line graph to answer the following questions:</p>  <ul style="list-style-type: none"> What was the highest/lowest temperature? What time did they occur? What is the difference between the highest and lowest temperature? How long did the temperature stay at freezing point or less? 	<p>Use the line graph to answer the following questions:</p>  <ul style="list-style-type: none"> How long did it take for the pulse rate to reach the highest level? Explain using the graph to help. When do you think the person stopped exercising? Convince me. Estimate what the pulse rate was after 2 and a half minutes. How did you get an accurate estimate? 	<ul style="list-style-type: none"> Carry out your own exercise experiment and record your heart rate on a graph like the one shown. How does it compare? Here is a line graph showing a bath time. Can you write a story to explain what is happening in the graph?  <ul style="list-style-type: none"> Can you write a story for the three graphs below? 

National Curriculum Statement		All students																																								
		Fluency	Reasoning	Problem Solving																																						
<p>Complete, read and interpret information in tables including timetables.</p>		<p>Use the timetable to the left to answer the following questions:</p> <ul style="list-style-type: none">On the 06:35 bus, how long does it take to get from Shelf Roundabout to Bradford Interchange?Can you travel to Woodside on the 07:43 bus?Which journey takes the longest time between Shelf Village Hall and Bradford Interchange, the bus that leaves SVH at 06:46 or the bus that leaves SVH at 07:23?	<p>Use the timetable to the left to answer the following questions:</p> <ul style="list-style-type: none">If you needed to travel from Halifax Bus Station to Odsal and had to arrive by 08:20, which would be the best bus to catch? Explain your answer.Which journey takes the longest time from Halifax Bus Station to Bradford Interchange?Hannah works a 10 minute walk from Bradford Interchange. She has to start work at 08:00. She is on the 07:10 bus from Halifax which is running 5 minutes late. Will she make it to work on time? Explain your reasoning.	<ul style="list-style-type: none">Order the journey times on the timetable from longest to shortest. Can you explain why you think the buses take different lengths of time?Three trains travel from Halifax to Leeds on the same morning. The Express leaves Halifax 10 minutes after the All Stations train, but arrives at Leeds 10 minutes before it. The All Stations takes 50 minutes to reach Leeds and arrives at 10:30. The Goods train leaves 20 minutes before the All Stations and arrives at Leeds 20 minutes after the Express. <p>Work out the timetable. That is; what time does each train leave Halifax and what time does each train arrive at Leeds Station?</p>																																						
					<table><tr><td></td><td colspan="5">Bus Timetable</td></tr><tr><td>Halifax Bus Station</td><td>06:05</td><td>06:35</td><td>07:10</td><td>07:43</td><td>08:15</td></tr><tr><td>Shelf Roundabout</td><td>06:15</td><td>06:45</td><td></td><td>07:59</td><td>08:31</td></tr><tr><td>Shelf Village Hall</td><td>06:16</td><td>06:46</td><td>07:23</td><td>08:00</td><td>08:32</td></tr><tr><td>Woodside</td><td>06:21</td><td>06:50</td><td>07:28</td><td></td><td></td></tr><tr><td>Odsal</td><td>06:26</td><td>06:55</td><td>07:33</td><td>08:15</td><td>08:45</td></tr><tr><td>Bradford Interchange</td><td>06:40</td><td>07:10</td><td>07:48</td><td>08:30</td><td>09:00</td></tr></table>		Bus Timetable					Halifax Bus Station	06:05	06:35	07:10	07:43	08:15	Shelf Roundabout	06:15	06:45		07:59	08:31	Shelf Village Hall	06:16	06:46	07:23	08:00	08:32	Woodside	06:21	06:50	07:28			Odsal	06:26	06:55	07:33	08:15	08:45	Bradford Interchange
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	National Curriculum Statement	All Students		
		Fluency	Reasoning	Problem Solving
Geometry: Angles	<p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</p>	<ul style="list-style-type: none"> If one angle in a triangle is 38° and another is 68°, what type of angle will the third be? Tick all the obtuse angles 47° 107° 98° 90°  <ul style="list-style-type: none"> Which number is an angle? <div>79.4</div> <div>-60</div> <p>Explain why.</p>	<ul style="list-style-type: none"> Odd one out. <div>180°</div> <div>45°</div> <div>79°</div> <div>225°</div> <p>Explain why.</p> <ul style="list-style-type: none"> Cut out a circle with a spinner in the centre.  <p>Put the arrow in the starting position above. Turn over a flash card with an angle on. Estimate the given angle by moving the spinner. Check how close you are.</p>	<ul style="list-style-type: none"> Estimate and measure the angles in these shapes.  <p>Record your results in a table. Work out how close you were. Did you notice anything or find any easier?</p>

Geometry: Angles

Draw given angles

Measure them in degrees ($^{\circ}$)

Complete practically

- Draw an obtuse angle that is a multiple of 5 and 3

Can your partner check it?

- Draw an acute angle that has a factor of both 4 and 6

- What do the angles in a triangle add up to?

Complete practically

- Class 5 are given one angle in an isosceles. It is 50°

Carol says,

The other angles are 65° because two angles are equal in an isosceles triangle.

Is she correct? Explain why.

Complete practically

- Draw a range of angles for a friend. Have them order them, before measuring, from smallest to largest and check to see if they were correct.

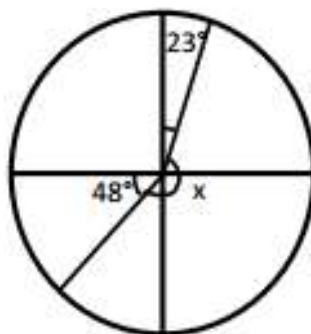
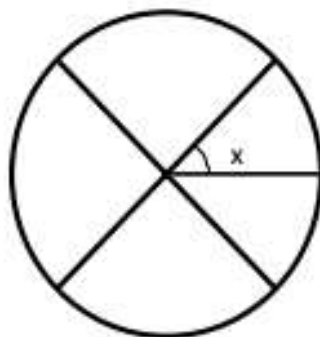
Geometry: Angles

Identify angles at a point and one whole turn (total 360°)- missing angles

Identify angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)- missing angles

Identify other missing angles

- Work out the missing angles.

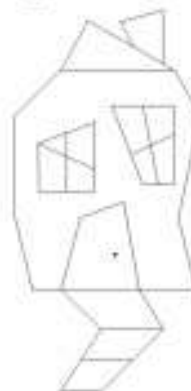


- Gary says,

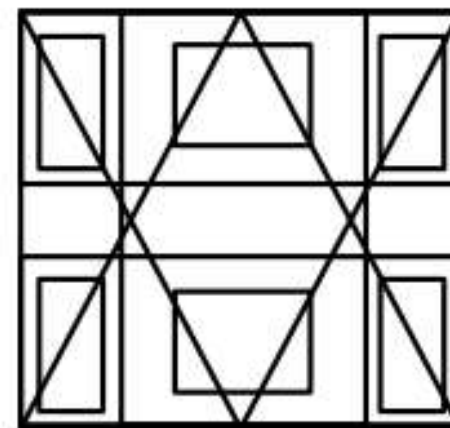
If I turn the letter M by 180° then it looks like the letter W

Do you agree? Prove it.

- Design a 'fun house' for children to play in. It should have 'wonky' walls, windows and doors. Label the angle types. e.g.



- How many right angles can you find?



- Investigate the amount of obtuse and acute angles there could be in a pentagon. How many different pentagons can you create? Record the information in a table to show different acute and obtuse angles.
- Create your own missing angles for a partner. Include information relating to quarter, half and full turns.

Identify 3D shapes, including cubes and other cuboids, from 2D representations.

• What shape am I?

a) My faces are made up of a square and four triangles.

b) My faces are made up of rectangles and triangles.

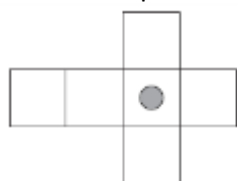
- Complete the sentences.

A tetrahedron has _____ faces.

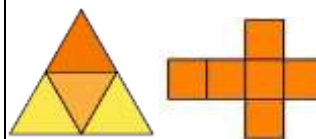
The faces are made from _____.

A cube has _____ faces. The faces are made from _____.

- Draw another dot on the net of the cube below so it has a dot on the opposite face when the 3D shape is constructed.



- Find 3 similarities between the net of a tetrahedron and the net of a cube.



Share them with a partner. Are any the same/different?

- Albie says,

If two 3D shapes have the same number of edges then they also have the same number of vertices.

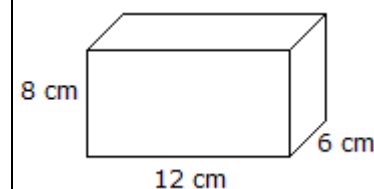
Do you agree? Explain why.

- Create cubes and cuboids by using multilink.

Can you draw these on isometric paper?

Which part is difficult? Would it be harder if you had to draw something other than squares or rectangles?

- Here is a cuboid



Draw the net for this cuboid.

• Visualise

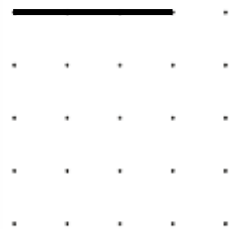
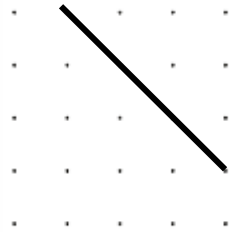
a) A square based pyramid is put on top of a cube so that it fits perfectly. How many 2D shapes can you now see and what are they?

b) A tetrahedron and a triangular prism are fit perfectly together. How many 2D shapes can you now see and what are they?

Geometry: Shape

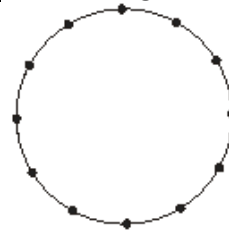
Use the properties of rectangles to deduce related facts and find missing lengths and angles.

- Complete the rectangles on the grids below.



- Why is a square a special rectangle?

- Join 4 dots together to make a rectangle.



- The perimeter of the rectangle is 45cm.

4.9cm



Find the length of the rectangle.

- Here is a rectangle.



What is the sum of angles a and b?

Find angle c.

- A shape has 4 right angles. It has 4 straight sides. It has 2 pairs of parallel lines. Draw what the shape could be. Is there more than one option?

- A rectangular classroom has a perimeter between 20 and 25 cm. What could the dimensions be?



- A rectangular classroom has an area between 20 and 25 cm. What could the dimensions be?

- A shape is made up of a square and rectangle.



The perimeter of the shape is 70cm. The area of the square is 121cm^2 What is the area of the rectangle?

Geometry: Shapes

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

- Name 4 irregular 4 sided polygons.
- Name 5 regular polygons.
- Draw a regular polygon and an irregular polygon on the grids below.



- Tick the regular quadrilaterals.



Explain your choices.

- **Always, sometimes, never.**
The number of equal angles is the same number of equal sides in a regular polygon.

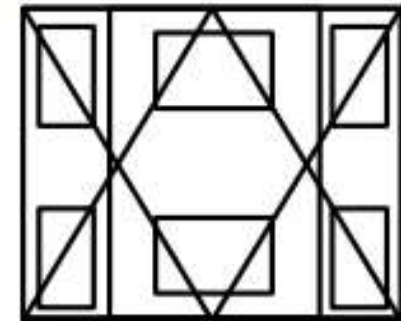
- Adam says,

All the angles are equal in a regular polygon so that must mean a rectangle is a regular polygon.

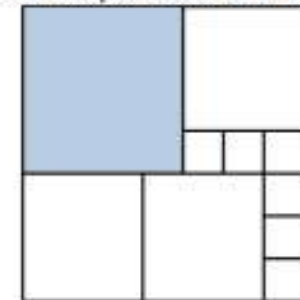
Is Adam correct? Why?

- Cut out lots of different regular and irregular shapes. Ask children to work in pairs and sort them into groups. Once they have sorted them, can they find a different way to sort them again?

- How many regular and irregular polygons can you find in this picture?



- This grid is made up of squares. How many small squares could fit inside?



Geometry: Position and Direction

Identify, describe and represent the position of a shape following reflection, using the appropriate language, and know that the shape has not changed.

Identify, describe and represent the position of a shape following translation, using the appropriate language, and know that the shape has not changed.

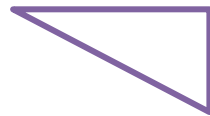
- A square is translated two dots to the right and three down. Draw the new square.



- Draw the reflection of the triangle.

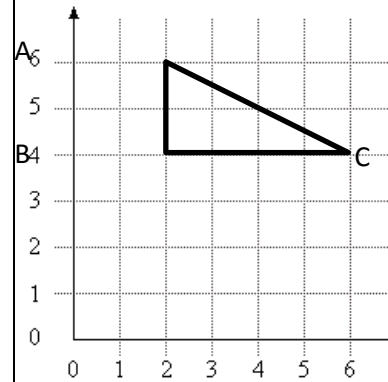


- A triangle is translated 360°.



Draw the new triangle.

- Amy draws triangle ABC on the grid.



She wants to translate the triangle so that point B becomes the co-ordinate (3,1).

Hazel says,

Point A will become (1,1)

Do you agree? Explain why.

- True or false?**

Reflecting a shape changes the dimensions.

- A rectangle is translated 3 squares up and two squares to the left.

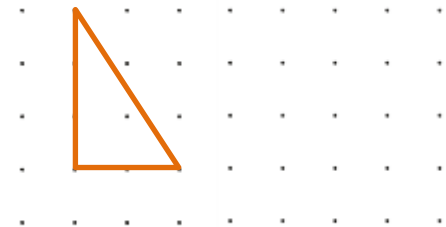
Three of the coordinates of the translated square are:

(5, 7) (10, 14) (10, 7).

What are the co-ordinates of the original rectangle?

- A quadrilateral is drawn on a grid. It is translated so that point A becomes point B

Draw the new triangle.



Measures: Converting units

Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml)

- Use $<$, $>$ or $=$ to complete the statements below

750g



0.8kg

500ml



Half a litre

17mm



2cm – 5mm

- True or false?**
1000m = 1km
1000cm = 1m
1000ml = 1l
1000g = 1kg

- Bryan is 2.68m tall. He is 99cm taller than his sister. How tall is his sister? Give your answer in centimetres.

- Adam makes 2.5 litres of lemonade for a charity event. He pours it into 650ml glasses to sell.

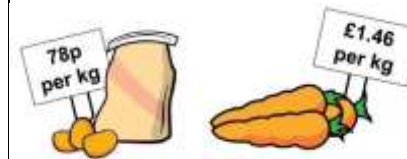
He thinks he can sell 7 glasses. Is he correct? Prove it.

- A 5p coin has a thickness of 1.6mm



Jake makes a tower of 5p coins worth 90p. What is the height of the coins in cm?

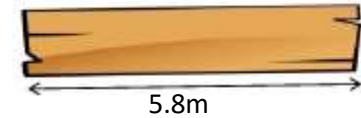
- Laura buys 3500g of potatoes



and 1500g of carrots.

She pays with a £20 note. How much change does she get?

- A plank of wood is 5.8m long.



Two lengths are cut from the wood.

175cm

3 – m

How much wood is left?

- Cola is sold in bottles and cans.



Yasmin buys 5 cans and 3 bottles. She sells the cola in 100ml glasses.



She sells all the cola. How many glasses does she sell?

Measures: Converting units

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

- Fill in the missing boxes.

6 inch = cm

1 yard = feet

1 ounce = g

- **True or false?**

There are 16 pounds in a stone.

There are 16 ounces in a pound.

- Complete the statements:

I would measure milk in _____.

I can measure the length of my car in _____.

Is there more than one option?
Which is the most reasonable and why?

- Half a galleon is the answer. What's the question?

- **Odd one out.**

Which of these is different to the others?

Explain why.

Inch

Pint

Foot

Yard

- Rita, Margret and Mable each buy some ribbon for presents from a shop.

Rita buys 2 feet of ribbon.

Margret buys three times as much as Rita does.

Mable buys 15cm more than Margret.

How many cm (approximately) of ribbon do they each buy?

- Mr Smith sells apples for 40p a kilogram.

Mr Brown sells apples for 24p a pound.

Who sells them cheaper?

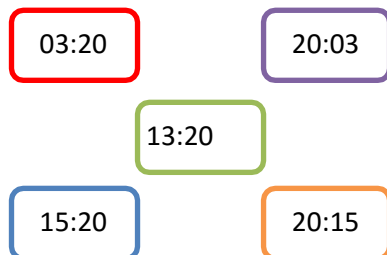
- Simon travels 480 kilometres in a year.

How many miles is this approximately?

Measures: Converting units

Solve problems involving converting between units of time.

- What is 444 minutes in hours and minutes?
- Anya finishes school at twenty past three in the afternoon. Circle the 24 hour clock that is showing the time Anya finishes school.



- Patrick begins watching a film at 4:27pm for 90 minutes. What time does the film finish?

- Order these times in the evening beginning with the earliest.



Explain your thinking.

- Order these durations beginning with the smallest.



Explain your thinking.

- Fatima says,

100 minutes is 10 times bigger than 100 seconds

Do you agree? Explain why.

- Work out how many days old a baby will be when it has lived for 1 million seconds.
- During a long haul flight, Beth, Caroline and Kelsey all had a sleep.

Kelsey slept four times longer than Caroline did.

Beth slept 15 minutes less than Kelsey did.

Beth slept for 1 hour and 45 minutes.

How many minutes did Caroline sleep for?

- One of these watches is 3 minutes fast and one is 4 minutes slow.

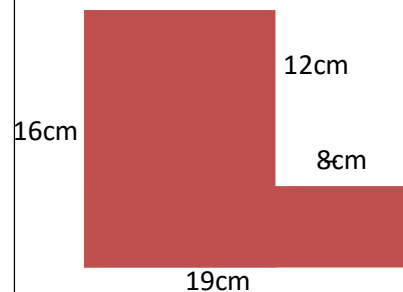
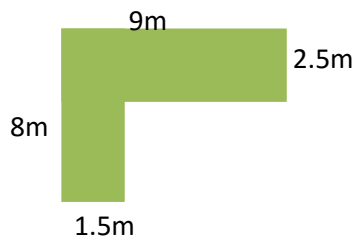
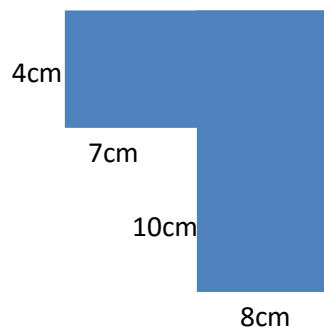


Work out the correct time.

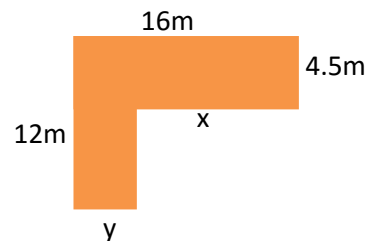
Measures: Perimeter and Area

Measure and calculate the perimeter of composite rectilinear shapes in cm and m.

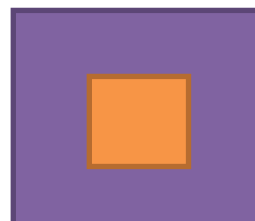
- Find the perimeter of the following shapes.



- The length labelled 'x' is a multiple of 1.8. What could 'y' be? Explain to a partner why you have chosen these measurements.



- Here is a square inside another square.

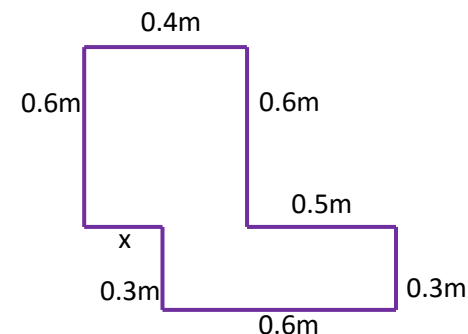


The perimeter of the inner square is 16cm. The outer square's perimeter is four times the size of the inner square. What is the length of one side of the outer square? How do you know? What do you notice?

- Investigate the different ways you can make composite rectilinear shapes with a perimeter of 54cm.
- Amy and Ayesha are making a collage of their favourite football team.

They want to make a border for the canvas.

Here is the canvas.



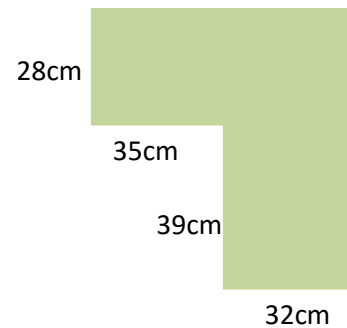
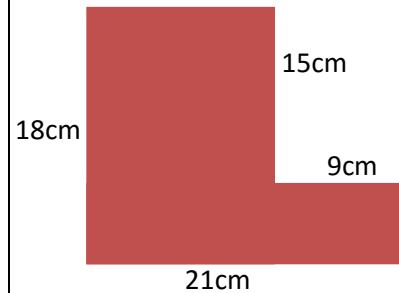
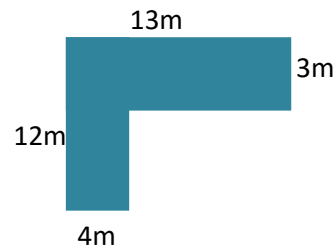
They have a roll of blue ribbon that is 245cm long and a roll of red ribbon that is 2.7m long.

How much ribbon will they have left over?

Measures: Perimeter and Area

Calculate and compare the area of rectangles (including squares), and including using standard units, cm^2 , m^2 estimate the area of irregular shapes.

- Estimate and work out the area of these shapes. Find the unknown sides first.



Were you close?

- Put these amounts in order starting with the smallest.

2.7m^2

27m^2

27000cm^2

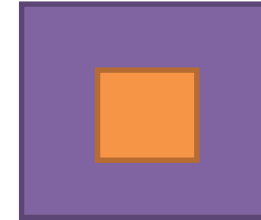
How do you know?

- Wiktorina says,

The area of squares and square numbers are related.

Do you agree?
Explain why.

- Here is a square inside another square.



The area of the inner square is 16m^2 .
The outer square's area is four times the size of the inner square.
What is the length of one sides of the outer square?
How do you know?

- Investigate how many ways you can make different squares and rectangles with the same area of 84cm^2 .
What strategy did you use?

Measures: Volume

Estimate volume [for example using 1cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]

Complete practically

- Here is a litre jug with some water in.



Here is a glass that holds 300ml. It also has some water in.



Estimate how much liquid there is altogether.

Complete practically

- Here is one side of a cuboid.



What could the whole cuboid look like?
Investigate the different types with a partner.

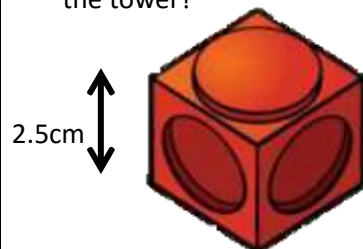
Complete practically

- 1 litre is approximately equal to 1 and three quarter pints.
Use this information to draw and work out how many pints are in 10 litres.
(A bar model will help.)

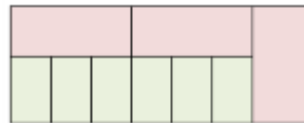
Measures

Use all four operations to solve problems involving measure.

- A tower is made of red and green cubes. For every 1 red cube there are 2 green cubes. Each cube has a height of 2.5cm. The tower is 30cm tall. How many green cubes are in the tower?



- The diagram is made up of two different sized rectangles.
 ← 60m →



For each large rectangle the length is double the width. The length of the diagram is 60m. Find the area of one of the small rectangles.

- The perimeter of the rectangle is 33cm.



Ajay says,

Rounded to the nearest whole number the length of the rectangle is 13cm.

Do you agree? Explain why.

- Here is a square with an equilateral triangle inside it.



The perimeter of the triangle is 54cm. Find the perimeter of the square.

- Ellie, Shauna and Megan receive their pocket money on a Friday.

Shauna receives two times more than Ellie receives.

Megan receives £5 more than Shauna receives.

Altogether, their mum hands out £22.50

How much money do they each receive?




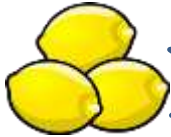

(A bar model will help.)

- Lollies are sold in two sizes, small and large.



Sanjay buys two small lollies for 92p. Jenny buys 5 small lollies and 3 large lollies and pays with a £10 note. Jenny receives £4.16 change. How much does one large lolly cost?

Measures

National Curriculum Statement	All Students		
	Fluency	Reasoning	Problem Solving
Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	<ul style="list-style-type: none"> A shop sold 6 bottles of water for £2.89. Each bottle was 1.5L. She bought 27L of water. How much money did she spend? The flight from London to Alicante is 1465km the flight from Manchester is 289km longer. How long is the flight from Manchester to Alicante? A family of four spent £1517.56 on a holiday. If split equally, how much would it cost each person? Raisins are £1.45 for a packet. I have £10 to spend on raisins. What is the biggest number of packets I can buy? 	<ul style="list-style-type: none"> These are being measured. What unit of measurement should they be measured in. Explain why. <div>  <p>Glass of milk</p> <p>Walking up 25 steps</p>  <p>The distance from Edinburgh to Cornwall</p>  </div> Annie is adding up these mass values: $1\text{kg} + 343\text{g} + 700\text{g}$ She does this calculation: $\begin{array}{r} 100 \\ 343 \\ + 700 \\ \hline 1143 \end{array}$ <p>Explain her mistake.</p> 	<ul style="list-style-type: none"> James is making buns for his friend's birthday. He finds a recipe on the internet for 20 people. <p>The ingredients he needs are:</p> <p>200g <i>caster sugar</i> 200g <i>butter</i> 5 <i>eggs</i> 200g <i>self-raising flour</i> 2.5g <i>baking powder</i> 15ml <i>milk</i></p> <p>He only wants to make 12. Write the list of ingredients with the amount he needs of each item.</p> These lemons and limes are sold in a bag in a local shop. <div>  <div> <p>12 limes</p> <p>900g</p> <p>£2.40</p> </div>  <div> <p>6 lemons</p> <p>520g</p> <p>£1.00</p> </div> </div> <p>Work out the price and weight of a single lemon and a single lime.</p>

