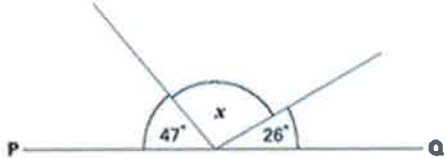
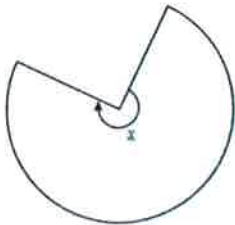
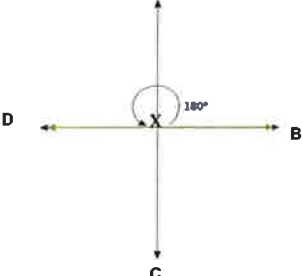
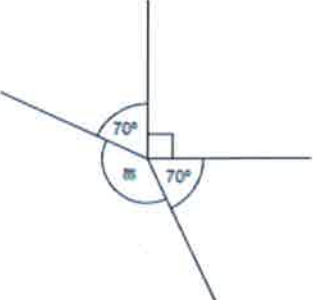


Other possible areas to include in Maths Meetings

	Areas to include	Suggested ideas
Calendar maths	<p>Autumn, spring & summer:</p> <ul style="list-style-type: none"> • Time, day, date and year • Number of days in each month and year, including leap years • Patterns of 7 on the calendar • Record years in Roman numerals • Weather <ul style="list-style-type: none"> ◇ Read the temperature in degrees Celsius ◇ Collect and measure rainfall in ml ◇ Records and compare weather patterns using tables and graphs 	<p>⇒ Rhyme on the months of the year: ‘30 days hath September, April, June and November...’</p> <p>⇒ Today is Monday the 11th – what will the date be next Monday? What was the date last Monday? What will the date be in a fortnight?</p> <p>⇒ Display the year using both numbers and Roman numerals</p> <p>⇒ Collate and compile weather data using a bar chart</p> <p>⇒ Record the daily temperature using a line graph</p> <p>⇒ Calculate the total weekly rainfall in ml</p> <p>⇒ MET office WOW website http://wow.metoffice.gov.uk</p>
Data handling and representation	<p>Autumn 1:</p> <ul style="list-style-type: none"> • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables or other graphs <p>Autumn 2:</p> <ul style="list-style-type: none"> • Interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs • Complete, read and interpret information in tables, including timetables <p>Spring & summer:</p> <ul style="list-style-type: none"> • Solve comparison, sum and difference problems using information presented in line graphs 	<p>⇒ Temperature and rainfall line graphs can be used here: keep them for comparison purposes later</p> <p>⇒ MET office WOW website http://wow.metoffice.gov.uk</p> <p>⇒ A time graph could be compiled when several line graphs have been formed</p> <p>⇒ Use ITP data handling resources to create and then interpret charts and graphs http://www.taw.org.uk/lic/itp/line_graph.html</p>

	Areas to include	Suggested ideas																																								
Number	<p>Autumn 1:</p> <ul style="list-style-type: none"> Count in multiples of 7, 9, 25, 50, 100 and 1000 Count backwards through zero to include negative numbers using number lines Multiplication and division tables up to 12×12 Count up and down in hundredths Round any number up to a million to the nearest 10, 100, 1000, 10 000 or 100 000 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals Add and subtract three-digit and four-digit numbers mentally Recognise and use factor pairs and commutativity in mental calculations Multiply two-digit and three-digit numbers by a one-digit number using formal written layout <p>Autumn 2:</p> <ul style="list-style-type: none"> Count in multiples of 6, 8, 50, 100 and 1000 Count forwards and backwards in fractions of the same denominator Recall prime numbers up to 19 Identify multiples and factors, including finding all factor pairs for a given number and common factors of two numbers <p>Spring and summer:</p> <ul style="list-style-type: none"> Distinguish between prime and composite numbers up to 19 Establish whether a number up to 100 is prime Recognise and use square numbers and cube numbers and notation for squared (²) and cubed (³) Interpret negative numbers in context and calculate intervals across zero 	<ul style="list-style-type: none"> ⇒ Skip counting songs and rhymes ⇒ Number of the day (including negative numbers) – count on and back in tens; multiply it by 6; how many hundreds, tens, ones; reverse the digits; make the largest or smallest number possible by rearranging the digits; ⇒ Guess my number – it is negative, it has no tens, it is less than -5, etc... ⇒ Find the missing number in the sequence ⇒ Roman numeral of the day ⇒ Multiplication of two-digit and three-digit numbers – spot the teacher's mistake ⇒ Use number lines for estimation and rounding ⇒ Find two square numbers that total 45 ⇒ Use this chart to write down four digit numbers and years <table border="1" data-bbox="965 1281 1449 1406"> <tbody> <tr> <td>Ones</td> <td>I</td> <td>II</td> <td>III</td> <td>IV</td> <td>V</td> <td>VI</td> <td>VII</td> <td>VIII</td> <td>IX</td> </tr> <tr> <td>Tens</td> <td>X</td> <td>XX</td> <td>XXX</td> <td>XL</td> <td>L</td> <td>LX</td> <td>LXX</td> <td>LXXX</td> <td>XC</td> </tr> <tr> <td>Hundreds</td> <td>C</td> <td>CC</td> <td>CCC</td> <td>CD</td> <td>D</td> <td>DC</td> <td>DCC</td> <td>DCCC</td> <td>CM</td> </tr> <tr> <td>Thousands</td> <td>M</td> <td>MM</td> <td>MMM</td> <td>IV</td> <td>V</td> <td>VI</td> <td>VII</td> <td>VIII</td> <td>IX</td> </tr> </tbody> </table>	Ones	I	II	III	IV	V	VI	VII	VIII	IX	Tens	X	XX	XXX	XL	L	LX	LXX	LXXX	XC	Hundreds	C	CC	CCC	CD	D	DC	DCC	DCCC	CM	Thousands	M	MM	MMM	IV	V	VI	VII	VIII	IX
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	Areas to include	Suggested ideas
Fractions, decimals and percentages	<p>Autumn 1:</p> <ul style="list-style-type: none"> Add and subtract fractions with the same denominator Recognise and show, using diagrams, families of common equivalent fractions Recognise and write decimal equivalents to $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$ any number of tenths or hundredths <p>Autumn 2:</p> <ul style="list-style-type: none"> Decimal notation of tenths and hundredths using place value board Compare numbers with the same number of decimal places up to two decimal places Round decimal fractions with one decimal place to the nearest whole number <p>Spring:</p> <ul style="list-style-type: none"> Read decimal numbers as fractions Read, order and compare number with up to three decimal places Compare and order decimals and fractions, including mixed number and improper fractions whose denominators are multiples of the same number Find percentages of whole numbers Multiply proper fractions and mixed numbers by whole numbers Convert mixed numbers to improper fractions and vice versa <p>Summer:</p> <ul style="list-style-type: none"> Write percentages as a fraction with denominator 100 and as a decimal Add and subtract fractions with the same denominator and denominators that are multiples of the same number 	<p>⇒ Fraction work using the fraction wall e.g. give me an equivalent fraction for $\frac{2}{4}$</p> <p>⇒ Convert tenths and hundredths to decimal equivalents and vice versa</p> <p>⇒ Order numbers with two decimal places on the number line</p> <p>⇒ Use number lines for estimation and rounding</p> <p>⇒ Write these numbers in order of size, starting with the smallest. 1.01, 1.001, 1.101, 0.11</p> <p>⇒ 30% of 60 is equal to ___? 30% of ___ is equal to 60.</p> <p>⇒ Which is bigger 65% or $\frac{3}{4}$? (of the same amount)</p> <p>⇒ Place these fractions on a number line between 0 and 1. Which two fractions have the same value or which would be the odd one out: $\frac{6}{10}$, $\frac{2}{5}$, $\frac{18}{20}$, $\frac{9}{15}$</p> <p>⇒ How many halves in $1\frac{1}{2}$, $3\frac{1}{2}$, $9\frac{1}{2}$?</p> <p>⇒ What is $\frac{1}{10}$ of 50, 20, 100?</p> <p>⇒ $\frac{2}{5} + \frac{4}{5} = \frac{6}{5}$ What is it as a mixed number?</p> <p>⇒ What decimal is equal to 25 hundredths?</p>

	Areas to include	Suggested ideas
Geometry	<p>Autumn 1:</p> <ul style="list-style-type: none"> Describe positions on a 2-D grid as coordinates in the first quadrant Plot specific points and draw sides to complete a given polygon Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Identify acute and obtuse angles and compare and order angles up to two right angles by size Estimate, in degrees, the size of a given angle <p>Autumn 2:</p> <ul style="list-style-type: none"> Identify lines of symmetry in 2-D shapes presented in different orientations Identify 3-D shapes from 2-D representations <p>Spring:</p> <ul style="list-style-type: none"> Estimate and compare acute, obtuse and reflex angles Know and use the angles at a point/full turn add up to 360° Know and use the angles on a straight line/half turn add up to 180° Know and use other multiples of 90° <p>Summer:</p> <ul style="list-style-type: none"> Use the properties of rectangles to deduce related facts and find missing lengths and angles Describe position on the full coordinate grid (all four quadrants) Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language 	<p>⇒ Plot and read coordinates on a graph using x and y axes in the first quadrant</p> <p>⇒ Plot coordinates and join them up to make a picture</p> <p>⇒ Pair work – one pupil describes a geometric shape and the other must listen to the properties and guess the shape</p> <p>⇒ Use the surrounding environment to find angles and estimate them.</p> <p>⇒ Angle guesser game http://www.primaryresources.co.uk/online/angle.swf</p> <p>⇒ Online angle game: http://rich.maths.org/1235</p> <p>⇒ Calculate the size of these angles: (not drawn accurately)</p>   <p>A</p>  

	Areas to include	Suggested ideas
Measure: capacity, volume, length, weight and money	<p>Autumn 1 and 2:</p> <ul style="list-style-type: none"> Solve simple measure and money problems involving fractions and decimal fractions to two decimal places Estimate, compare and calculate different measures including money in pounds and pence Convert units of measurement: l to ml and vice versa, g to kg and vice versa Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m Convert between different units of measure, e.g. km to m, m to cm <p>Spring and summer:</p> <ul style="list-style-type: none"> Use approximate equivalences between metric and common imperial units, such as inches, pounds (weight) and pints Estimate volume using 1cm^3 blocks 	⇒ Which is longer, 3 m or 300 cm? ⇒ Recall dividing by 10, 100, and 1000 when converting units ⇒ Which is longer, 3 cm or 3 inches? ⇒ Use different containers to estimate and check volume e.g. 'higher or lower' game using the containers – I guess the next container to have a higher, lower volume ⇒ A bag of sugar weighs 1kg. Approximately how many pounds (lbs) is that equal to? ⇒ Practical problems involving conversion of units and calculating the areas and perimeters of shapes ⇒ Put these amounts in order starting with the largest: 130 000 cm, 1.3 m, 13 m
Time	<p>Autumn 1 and 2:</p> <ul style="list-style-type: none"> Convert between different units of measure, for example, hour to minute Problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days <p>Spring and summer:</p> <ul style="list-style-type: none"> Read and convert time between analogue, digital, 12-hour and 24- hour clocks Solve problems involving converting between units of time 	⇒ Analogue and digital clock on display in the classroom. Daily practice of converting analogue to digital and vice versa. ⇒ Look at and interpret a timetable ⇒ Use time tables in various formats (12 or 24 hour; digital or analogue) and solve problems based on these ⇒ Display analogue and digital clocks and convert from one to the other ⇒ Order these lengths of time starting with the longest: 62 minutes, 1 hour 1 minutes, 3600 seconds.

Maths Meetings non-negotiables term-by-term

The topics below must be included each term as some of the areas are **not** covered in the Mathematics Mastery units of work. Teachers should also consult the more detailed guidelines in this document for suggested activities and other areas to include.

Term	Detail:
Autumn	<p><u>Number:</u></p> <ul style="list-style-type: none"> ◇ Place value of 5-digit and 6-digit whole numbers ◇ Count back past zero to include negative numbers using a number line ◇ Count forwards and backwards in steps of powers of ten ◇ Using the multiplication tables up to 12×12 ◇ Add, subtract, multiply and divide numbers mentally with increasingly large numbers, drawing upon known facts <p><u>Measures:</u></p> <ul style="list-style-type: none"> ◇ Convert between different units of metric measure ◇ Identify acute and obtuse angles and compare and order angles up to two right angles by size <p><u>Time:</u></p> <ul style="list-style-type: none"> ◇ Solve problems involving converting between units of time from hours to minutes; minutes to seconds; years to months; weeks to days <p><u>Statistics:</u></p> <ul style="list-style-type: none"> ◇ Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs (Y4)
Spring	<p><u>Number:</u></p> <ul style="list-style-type: none"> ◇ Interpret negative numbers in context and calculate intervals across zero ◇ Identify the place value in a number with up to three decimal places ◇ Compare and order fractions, including mixed number and improper fractions whose denominators are multiples of the same number ◇ Identify multiples and factors, including finding all factor pairs and common factors of two numbers <p><u>Measures:</u></p> <ul style="list-style-type: none"> ◇ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints ◇ Calculate and compare the area and perimeter of rectangles ◇ Estimate and compare acute, obtuse and reflex angles ◇ Identify: angles at a point and one whole turn (total 360°); angles at a point on a straight line and a $\frac{1}{2}$ turn (total 180°); other multiples of 90° <p><u>Statistics:</u></p> <ul style="list-style-type: none"> ◇ Solve comparison, sum and difference problems using information presented in line graphs ◇ Complete, read and interpret information in tables, including timetables
Summer	<p><u>Number:</u></p> <ul style="list-style-type: none"> ◇ Write percentages as a fraction with denominator 100 and as a decimal ◇ Add and subtract fractions with the same denominator and denominators that are multiples of the same number ◇ Use all four operations to solve problems involving measure, using decimal notation <p><u>Geometry:</u></p> <ul style="list-style-type: none"> ◇ Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language

