Maths medium term plan: autumn term
Year 5

Mental Maths objectives to be covered:

Number - Number and place value:
Partition, order and compare numbers to at least 1 000 000, including those with up to three decimal places and determine the value of each digit.
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Number – Addition and Subtraction:
Add and subtract numbers mentally with increasingly large numbers.

Number – Multiplication and division:
Derive multiplication and division facts up to 12 x 12.
Recall square numbered.
Double or halve any whole number or decimal number.

Number – Fractions:
Find fractions of shapes, quantities, measures.
Recognise equivalent fractions, decimals and percentages.
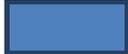
Measurement:
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).

Geometery – Properties of shape
Calculate the perimeter and area of regular shapes and rectangles.

Year Five Medium Term Plan Term One

Week	Domain	National Curriculum Objectives	Reasoning, Conjecturing and Generalising Strategies	Small Step Objectives
Week 1	Place value Written Addition	Count on and back in multiples of 6, 7, 9, 25 and 100, including recognising and continuing number sequences of a constant size. Find 1000 more or less than a given number. Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). Order and compare numbers beyond 1000, understand and use the greater than and less than symbols. Count backwards through zero to include negative numbers and position on a number line. Identify, represent and estimate numbers using different representations Round any number to the nearest 10, 100 Solve one and two step number and practical problems in various contexts, such as measure, involving all aspects of place value (with increasingly large positive numbers beyond 1000). Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	**Spot the mistake**: 177000,187000,197000,217000 What is wrong with this sequence of numbers? **True or False?** When I count in 10's I will say the number 10100? **What comes next?** 646000-10000= 636000 636000 –10000 = 626000 626000- 10000 = 616000 **Do, then explain** 747014 774014 747017 774077 744444 If you wrote these numbers in order starting with the smallest, which number would be third? Explain how you ordered the numbers. **Do, then explain** Explain how you know. Show the value of the digit 5 in these numbers? 350114 567432 985376 **Make up an example Give further examples** Create six digit numbers where the digit sum is five and the thousands digit is two. Eg 3002000 2102000 What is the largest/smallest number? **Possible answers** A number rounded to the nearest thousand is 76000 What is the largest possible number it could be? **What do you notice?** Round 343997 to the nearest 1000. Round it to the nearest 10000. What do you notice? Can you suggest other numbers like this?	Can I understand place value in five-digit numbers? Can I place 5-digit numbers on a line? Can I order and compare 5-digit numbers? Can I add and subtract 1, 10, 100, 1000, 10,000? Can I use written addition to add pairs of 4 digit numbers and pairs of 5-digit numbers?
Week 2	Decimals Addition of Money	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts including money, deciding which operations and methods to use and why. Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 and 1000.	**True or false?** Are these number sentences true or false? Give your reasons. 6.17 + 0.4 = 6.57 8.12 – 0.9 = 8.3 **Hard and easy questions** Which questions are easy / hard? Explain why you think the hard questions are hard? 213323 - 70 = 512893 + 300 = 819354 - 500 = 319954 + 100 = **Convince me** [ ] + 1475 = 6 24	Can I understand place value in numbers with two decimal places? Can I divide by 10 and 100 to give answers with two decimal places? Can I multiply numbers with 2 decimals by 10 and by 100? Can I place two-place decimal numbers on a number line? Can I compare and order numbers with two decimal places? Can I add amounts of money using column addition?

			What numbers go in the boxes? What different answers are there? Convince me **Making an estimate** Which of these number sentences have the answer that is between 0.5 and 0.6 11.74 - 11.18 33.3 – 32.71 **Always, sometimes, never** Is it always, sometimes or never true that the sum of four even numbers is divisible by 4.	*Can I use using rounding to check answers?*
Week 3	Subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts including money, deciding which operations and methods to use and why. Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 and 1000.	**True or false?** Are these number sentences true or false? Give your reasons. 6.17 + 0.4 = 6.57 8.12 – 0.9 = 8.3 **Hard and easy questions** Which questions are easy / hard? Explain why you think the hard questions are hard? 213323 - 70 = 512893 + 300 = 819354 - 500 = 319954 + 100 = **Convince me** [ ] + 1475 = 6 24 What numbers go in the boxes? What different answers are there? Convince me **Making an estimate** Which of these number sentences have the answer that is between 0.5 and 0.6 11.74 - 11.18 33.3 – 32.71 **Always, sometimes, never** Is it always, sometimes or never true that the sum of four even numbers is divisible by 4.	*Can I find change from £20, £50 and £100 using counting up?* *Can I find a difference between two amounts of money by counting up?* *Can I use column subtraction (decomposition) to subtract pairs of four-digit numbers and to subtract three-digit numbers from four-digit numbers?* *Can I choose whether to use counting up or column subtraction (decomposition) to subtract pairs of four-digit numbers?*
Week 4	Geometry	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. Identify lines of symmetry in 2-D shapes presented in different orientations	**What's the same, what's different?** What is the same and what is different about the net of a cube and the net of a cuboid? **Visualising** I look at a large cube which is made up of smaller cubes. If the larger cube is made up of between 50 and 200 smaller cubes what might it look like?	*Can I identify, visualise and describe properties of 3D shapes?* *Can I use these properties to sort 3D shapes?* *Can I recognise and describe properties of polygons?*

		Complete a simple symmetric figure with respect to a specific line of symmetry. Identify and use patterns, relationships and properties to investigate shapes, including making and testing general statements. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting squares. Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon.	**Other possibilities** Here is one angle of an isosceles triangle. You will need to measure the angle accurately. What could the other angles of the triangle be? Are there any other possibilities? **Always, sometimes, never** Is it always, sometimes or never true that the number of lines of reflective symmetry in a regular polygon is equal to the number of its sides n. **Other possibilities** A rectangular field has a perimeter between 14 and 20 metres . What could its dimensions be? **Convince me** What is the angle between the hands of a clock at four o clock? At what other times is the angle between the hands the same? Convince me ## Other possibilities (links with geometry, shape and space) A cuboid is made up of 36 smaller cubes. If the cuboid has the length of two of its sides the same what could the dimensions be? Convince me	Can I classify quadrilaterals?
Week 5	Number – Mental Multiplication Division Fractions	Use place value, known and derived facts to multiply and divide mentally by multiples of 10, 100 and tenths, (including: multiplying by 0 and 1; dividing by 1). Identify the doubles of 2-digit numbers; use these to calculate doubles of multiples of 10 and 100 and derive the corresponding halves. Multiplying together three numbers. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout (short multiplication). Understand the distributive law to multiply a 2-digit number by a 1-digit number (39 × 7 = 30 × 7 + 9 × 7) and the associative law (2 × 3) × 4 = 2 × (3 × 4). Solve problems involving multiplying and adding, including integer scaling problems (4 times as high) and harder correspondence problems such as n objects are connected to m objects (3 cakes shared between 10 pupils).	**Missing numbers** Which numbers could be written in the boxes? 6 × 0.9 = × 0.03 6 × 0.04 = 0.008 × ▢ **Making links** Apples weigh about 170 g each. How many apples would you expect to get in a 2 kg bag? **Use a fact** 3 × 75 = 225 Use this fact to work out 450 ÷ 6 = 225 ÷ 0.6 = To multiply by 25 you multiply by 100 and then divide by 4. Use this strategy to solve 48 × 25 78 × 25 4.6 × 25 **Making links** 7 × 8 = 56 How can you use this fact to solve these calculations? 0.7 × 0.8 = 5.6 ÷ 8 = **Prove It** What goes in the missing box? Prove it. 12 ▢ 2 ÷ 6 = 212 14 ▢ 4 ÷ 7 = 212	Can I use knowledge of times tables facts to help find common multiples? Can I find factors of two-digit numbers? Can I divide mentally, deciding whether to round up or down depending on the context? Can I find equivalent fractions? Can I compare fractions with related denominators? Can I simplify fractions using factors?

				22 ☐ 3 ÷ 7 = 321 r 6 323 x ☐ 1 = 13243 **Always, sometimes, never?** Is it always, sometimes or never true that multiplying a number always makes it bigger Is it always, sometimes or never true that prime numbers are odd. Is it always, sometimes or never true that when you multiply a whole number by 9, the sum of its digits is also a multiple of 9 Is it always, sometimes or never true that a square number has an even number of factors. **Use the inverse** Use the inverse to check if the following calculations are correct: 4321 x 12 = 51852 507 ÷ 9 = 4563 **Size of an answer** The product of a two digit and three digit number is approximately 6500. What could the numbers be?	
Week 6	Number Place Value	Count on and back in multiples of 6, 7, 9, 25 and 100, including recognising and continuing number sequences of a constant size. Find 1000 more or less than a given number. Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). Order and compare numbers beyond 1000, understand and use the greater than and less than symbols. Count backwards through zero to include negative numbers and position on a number line. Identify, represent and estimate numbers using different representations Round any number to the nearest 10, 100 Solve one and two step number and practical problems in various contexts, such as measure, involving all aspects of place value (with increasingly large positive numbers beyond 1000). Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.		**Spot the mistake:** 177000,187000,197000,217000 What is wrong with this sequence of numbers? **True or False?** When I count in 10's I will say the number 10100? **What comes next?** 646000-10000= 636000 636000 –10000 = 626000 626000- 10000 = 616000 **Do, then explain** 747014 774014 747017 774077 744444 If you wrote these numbers in order starting with the smallest, which number would be third? Explain how you ordered the numbers. **Do, then explain** Explain how you know. Show the value of the digit 5 in these numbers? 350114 567432 985376 **Make up an example Give further examples** Create six digit numbers where the digit sum is five and the thousands digit is two. Eg 3002000 2102000 What is the largest/smallest number? **Possible answers** A number rounded to the nearest thousand is 76000 What is the largest possible number it could be? **What do you notice?** Round 343997 to the nearest 1000. Round it to the nearest 10000. What do you notice? Can you suggest other numbers like this?	Can I place 4-digit numbers on a line and round to the nearest 10, 100 or 1000? Can I place 5-digit numbers on a line and round to the nearest 10, 100, 1000 or 10,000? Can I revise using grid multiplication to multiply 3-digit numbers by single-digit numbers? Can I use short multiplication to multiply 3-digit numbers by single-digit numbers? Can I use short multiplication to multiply 4-digit numbers by single-digit numbers?

| Week 7 | Mental Multiplication Mental Division | Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two-step problems in contexts including money, deciding which operations and methods to use and why.

Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 and 1000. | **Missing numbers** Which numbers could be written in the boxes?
6 x 0.9 =   x 0.03
6 x 0.04 = 0.008 x ▣

Making links
Apples weigh about 170 g each. How many apples would you expect to get in a 2 kg bag?

Use a fact
3 x 75 = 225   Use this fact to work out
450 ÷ 6 =
225 ÷ 0.6 =

To multiply by 25 you multiply by 100 and then divide by 4. Use this strategy to solve
48 x 25   78 x 25   4.6 x 25

Making links
7 x 8 = 56
How can you use this fact to solve these calculations?
0.7 x 0.8 =
5.6 ÷ 8 =

Prove It
What goes in the missing box? Prove it.

12 ▣ 2 ÷ 6 = 212

14 ▣ 4 ÷ 7 = 212

22 ▣ 3 ÷ 7 = 321 r 6

323 x ▣ 1 = 13243

Always, sometimes, never?
Is it always, sometimes or never true that multiplying a number always makes it bigger
Is it always, sometimes or never true that prime numbers are odd.
Is it always, sometimes or never true that when you multiply a whole number by 9, the sum of its digits is also a multiple of 9
Is it always, sometimes or never true that a square number has an even number of factors.

Use the inverse
Use the inverse to check if the following calculations are correct:
4321 x 12 = 51852
507 ÷ 9 = 4563

Size of an answer
The product of a two digit and three digit number is approximately 6500. What could the numbers be? | Can I use rules of divisibility?

Can I find prime numbers less than 50?

Can I use a written method to divide numbers above the times tables?

Can I round up or down after division according to the context?

Can I use multiplication to check division? |
| Week 8 | Place Value Subtraction | Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two-step problems in contexts including money, deciding which operations and methods to use and why. | **Spot the mistake**
0.088, 0.089, 1.0

What comes next?
1.173, 1.183, 1.193

What do you notice?
One tenth of £41 | Do I understand place value in numbers with two decimal places?

Can I count on and back in steps of 0.1 and 0.01?

Can I add and subtract multiples of 0.1 or 0.01 without crossing multiples |

Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 and 1000.

One hundredth of £41
One thousandth of £41

Continue the pattern. What do you notice?

0.085 + 0.015 = 0.1
0.075 + 0.025 = 0.1
0.065 + 0.035 = 0.1
Continue the pattern for the next five number sentences.

True or false?
0.1   of a kilometre is 1m.
0.2   of 2 kilometres is 2m.
0.3   of 3 Kilometres is 3m
0.25 of 3m is 500cm.

2/5 of £2 is 20p

Missing symbol
Put the correct symbol < or > in each box
4.627   4.06

12.317   12.31

What needs tobe added to 3.63 to give 3.13?

What needs to be added to 4.652 to give 4.1?

Do, then explain
Circle each decimal which when rounded to one decimal place is 6.2.
6.32   6.23   6.27   6.17
Explain your reasoning

Top tips
Explain how to round decimal numbers to one decimal place?

Odd one out.
Which is the odd one out in each of these collections of 4 fractions
6/10   3/5   18/20 9/15
30/100   3/10   6/20 3/9
Why?

What do you notice?
Find 30/100 of 200
Find 3/10 of 200
What do you notice?
Can you write any other similar statements?

Complete the pattern

71/100	??/100	??/100	??/100
0.71	0.81	???	???

Another and another
Write a fraction with a denominator of one hundred which has a value of more than 0.75?
… and another, … and another, …

Can I find a difference between a number with one or two decimal places and whole number by counting up, e.g. 5 – 3.6 or 5 – 3.65?

Can I subtract decimals with one or two decimal places by counting up from the smaller to the larger number, e.g. 4.2 – 2.65?

Week	Topic	Objectives	Problems / Activities	Key Questions
Week 9	Measures Statistics	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. Read, write and convert time between analogue and digital 12- and 24-hour clocks. Solve one and two-step problems involving time (Find time durations, start times and finish times/ interpret timetables) Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. To read a range of scales	**Top Tips** Put these amounts in order starting with the largest. 130000cm^2 1.2 m^2 13 m^2 Explain your thinking **Write more statements** Mr Smith needs to fill buckets of water. A large bucket holds 6 litres and a small bucket holds 4 litres. If a jug holds 250 ml and a bottle holds 500 ml suggest some ways of using the jug and bottle to fill the buckets. **Testing conditions** Shape A is a rectangle that is 4m long and 3m wide. Shape B is a square with sides 3m. The rectangles and squares are put together side by side to make a path which has perimeter between 20 and 30 m. For example Can you draw some other arrangements where the perimeter is between 20 and 30 metres? **Always, sometimes, never** When you cut off a piece of a shape you reduce its area and perimeter. **Other possibilities** A cuboid is made up of 36 smaller cubes. If the cuboid has the length of two of its sides the same what could the dimensions be? Convince me	Can I convert between grams and kilograms, millilitres and litres (mainly to one decimal place)? Can I convert between metres and kilometres? Do I know approximate conversions between common imperial units used in daily life and metric units? Can I begin to draw line graphs and read intermediate points? Can I read timetables using the 24-hour clock? Can I calculate time intervals? Can I collect data and organise into bar charts and pictograms?
Week 10	Fractions	Use place value, known and derived facts to multiply and divide mentally by multiples of 10, 100 and tenths, (including: multiplying by 0 and 1; dividing by 1) Multiply together three numbers. Divide 3 digit by 1 digit numbers using the formal written layout (short division). Understand the distributive law to multiply a 2-digit number by a 1-digit number (39 × 7 = 30 × 7 + 9 × 7) and the associative law (2 × 3) × 4 = 2 × (3 × 4)). Solve multiplication and division two-step problems in contexts, including those that give a remainder, deciding which operations and methods to use and why.	Give an example of a fraction that is more than three quarters. Now another example that no one else will think of. Explain how you know the fraction is more than three quarters. Imran put these fractions in order starting with the smallest. Are they in the correct order? Two fifths, three tenths, four twentieths How do you know?	Can I write improper fractions as mixed numbers and vice versa? Can I compare and order fractions with related denominators? Can I add and subtract fractions with related denominators? Can I find fractions of amounts?
Week 11	Addition Subtraction Written	Recognise and show, using diagrams, families of common equivalent fractions. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.		Can I use place value to add and subtract? Can I add and subtract near multiples?

	Multiplication	Find unit and non-unit fractions of shapes, quantities and measures (where the answer is a whole-number). Add and subtract fractions with the same denominator (to one whole); recognise fraction that equal one whole. Solve simple measure and money problems involving fractions. Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$. Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places. Solve simple measure and money problems involving decimals to two decimal places.		Can I add pairs of five-digit numbers (five-digit answers)? Can I use rounding to check? Can I subtract pairs of five-digit numbers? Can I use short multiplication to multiply three-digit numbers by single-digit numbers including amounts of money, e.g. 3 × £4.56?
Week 12	Measurement	Convert between different units of measure [for example, kilometre to metre; hour to minute. Choose and use standard metric units and their abbreviations when estimating, measuring, comparing and recording length, weight and capacity (ensure decimal notation and meaning of kilo, centi, mili). Solve one and two step problems involving measure. Interpret intervals and divisions on partially numbered scales and record readings accurately.	**The answer is ....** What is the question? 0.3km **What do you notice?** What do you notice? 1 minute = 60 seconds 60 minutes = seconds Fill in the missing number of seconds down some more time facts like this.	
Week 13 -	Assessment Geometry	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. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. Identify and use patterns, relationships and properties to investigate shapes, including making and testing general statements. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares. Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon.		
Week 14	Revision of topics based on results of assessment		**Time** **Undoing**	

			A school play ends at 6.45pm. The play lasted 2 hours and 35 minutes. What time did it start? **<u>Working backwards</u>** Put these lengths of time in order starting with the longest time. 105 minutes 1 hour 51 minutes 6360 seconds	

Maths medium term plan: spring term
Year 5

Mental Maths objectives to be covered:

Number objectives should be covered at least 4 times a term.
Measurement/ geometry objectives should be covered at least 2 times a term.

<u>Number - Number and place value:</u>
Partition, order and compare numbers to at least 1 000 000, including those with up to three decimal places and determine the value of each digit.
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
Use knowledge of place value to derive doubles and halves of decimals e.g. half of 5.6, double 0.4.
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

<u>Number – Addition and Subtraction:</u>
Add and subtract numbers mentally with increasingly large numbers.

<u>Number – Multiplication and division:</u>
Derive multiplication and division facts up to 12 x 12.
Identify multiples and factors.
Establish whether a number up to 100 is prime and recall prime numbers up to 19 (using the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
Multiply and divide numbers mentally drawing upon known facts.

<u>Number - fractions:</u>
Find fractions of shapes, quantities, measures.
Recognise equivalent fractions, decimals and percentages.

<u>Measurement:</u>
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).

<u>Geometery – Properties of shape:</u>
Calculate the perimeter and area of regular shapes and rectangles.
Idenitify, visualise and describe properties of 2D and 3D shapes.

Week	Domain	National Curriculum Objectives	Reasoning, Conjecturing and Generalising Strategies	Small Step Objectives
Week 1	Number Place value Money	Count in multiples of 6, 7, 9, 25 and 1000 including recognising and continuing number sequences of a constant size. Find 1000 more or less than a given number. Count backwards through zero to include negative numbers and position on a number line. Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000. Solve one and two step number and practical problems in various contexts, such as measure, involving all aspects of place value (with increasingly large positive numbers beyond 1000). Identify and use patterns, relationships and properties to investigate number, including making and testing general statements.	**Spot the mistake:** 950, 975,1000,1250 What is wrong with this sequence of numbers? **What comes next?** 6706+ 1000= 7706 7706 + 1000 = 8706 8706 + 1000 = 9706 **Do, then explain** Explain how you ordered the numbers. 5035 5053 5350 5530 5503 If you wrote these numbers in order starting with the largest, which number would be third? **Do, then explain** Show the value of the digit 4 in these numbers? Explain how you know. 3041 4321 5497 **Make up an example** Create four digit numbers where the digit sum is four and the tens digit is one. What is the largest/smallest number? Eg 1210, 2110, 3010 **Possible answers** A number rounded to the nearest ten is 540. What is the smallest possible number it could be? **What do you notice?** Round 296 to the nearest 10. Round it to the nearest 100. What do you notice? Can you suggest other numbers like this?	Can I divide whole 2-digit numbers to give one-place decimals? Can I multiply 1-place decimals to give whole numbers? Can I recognise decimal and fraction forms of tenths? Can I place one-place decimals on a number line? Can I round tenths to nearest whole? Can I compare 1-place decimals and write one in between, e.g. 2.1 and 1.2 and say what whole number comes between these two?
Week 2	Number Written Addition and Subtraction	Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 and 1000.	**True or false?** Are these number sentences true or false? 6.7 + 0.4 = 6.11 8.1 – 0.9 = 7.2 Give your reasons. **Hard and easy questions** Which questions are easy / hard? Explain why you think the hard questions are hard? 13323 - 70 = 12893 + 300 = 19354 - 500 = 19954 + 100 = **Making an estimate** Which number sentences have the answer that is between 550 and 600 1174 - 611 3330 – 2779 9326 - 8777 **Always, sometimes, never** that the difference between two odd numbers is odd.	Can I use compact addition to add amounts of money? Can I use counting up to subtract three digit numbers, e.g. 414 – 278? Can I find change from £5 or £10, e.g. £5 – 3.78? Can I find a difference between prices, e.g. £4.24 and £3.78?
Week 3	Number – Written Addition and Subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, including money, deciding which operations and methods to use and why.	**True or false?** Are these number sentences true or false? Give your reasons. 6.7 + 0.4 = 6.11 8.1 – 0.9 = 7.2 **Hard and easy questions** Which questions are easy / hard? Explain why you think the hard questions are hard? 13323 - 70 = 12893 + 300 = 19354 - 500 = 19954 + 100 = **Making an estimate** Which number sentences have the answer that is between 550 and 600 1174 - 611 3330 – 2779 9326 - 8777 **Always, sometimes, never** …………that the difference between two odd numbers is odd.	Can I add three two-digit numbers using compact addition? Can I add four two-digit numbers using compact addition? Can I subtract pairs of three digit numbers using decomposition (two 'exchanges')? Can I check subtraction with addition? Can I choose counting up or decomposition to solve subtractions?

				Can I identify and describe patterns?
Week 4	Length Weight Data Handling	Convert between different units of measure [for example, kilometre to metre; hour to minute (add explanation in guidance). Choose and use standard metric units and their abbreviations when estimating, measuring, comparing and recording length, weight and capacity (ensure decimal notation and meaning of kilo, centi, mili). Solve one and two step problems involving measure.	**Statistics** **True or false?** (Looking at a graph showing how the class sunflower is growing over time) "Our sunflower grew the fastest in July". Is this true or false? **Convince me.** Make up your own 'true/false' statement about the graph. **What's the same, what's different?** Pupils identify similarities and differences between different representations and explain them to each other **Create a questions** Pupils ask (and answer) questions about different statistical representations using key vocabulary relevant to the objectives. (see above)	Can I measure lengths in m, cm and mm? Can I convert between km, m, cm and mm? Can I measure weight in kg and g to one decimal place? Can I convert between kg and g, ml and l and make sensible estimations? Can I measure objects and record in tables? Can I represent and interpret data in bar graphs?
Week 5	Fractions	Recognise and show, using diagrams, families of common equivalent fractions. Find unit and non-unit fractions of shapes, quantities and measures (where the answer is a whole-number). Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Add and subtract fractions with the same denominator (beyond one whole); placing mixed numbers correctly on a number line. Solve simple measure and money problems involving fractions. Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.	**Spot the mistake**… and correct it. sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths **What comes next?** 83/100, 82/100, 81/100, ….., ….., ….. 31/100, 41/100, 51/100, ….., ….., **What do you notice?** 1/10 of 100 = 10 1/100 of 100 = 1 2/10 of 100 = 20 2/100 of 100 = 2 How can you use this to work out 6/10 of 200? 6/100 of 200? **True or false?** 1/20 of a metre= 20cm 4/100 of 2 metres = 40cm **Give an Example** Give an example of a fraction that is more than a half but less than a whole. Now another example that no one else will think of. Explain how you know the fraction is more than a half but less than a whole. (draw an image) **Missing symbol** Put the correct symbol < or > in each box 3.03 ▢ 3.33 0.37 ▢ 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2?	Can I identify equivalent fractions (1/2s , 1/3s, 1/4s, 1/6s, 1/8s, 1/10s, and 1/12s)? Can I reduce fractions their simplest form? Can I identify equivalent fractions and decimals (1/10s and 1/2s)? Can I add and subtract fractions with the same denominators with 2 wholes?

Week 6	Number Place Value Money	Count in multiples of 6, 7, 9, 25 and 1000 including recognising and continuing number sequences of a constant size. Find 1000 more or less than a given number. Count backwards through zero to include negative numbers and position on a number line. Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000. Solve one and two step number and practical problems in various contexts, such as measure, involving all aspects of place value (with increasingly large positive numbers beyond 1000). Identify and use patterns, relationships and properties to investigate number, including making and testing general statements.	**Spot the mistake:** What is wrong with this sequence of numbers? 950, 975,1000,1250 **What comes next?** 6706+ 1000= 7706 7706 + 1000 = 8706 8706 + 1000 = 9706 **Do, then explain** 5035 5053 5350 5530 5503 If you wrote these numbers in order starting with the largest, which number would be third? Explain how you ordered the numbers. **Do, then explain** _Explain how you know. Show the value of the digit 4 in these numbers? 3041 4321 5497 **Make up an example** Create four digit numbers where the digit sum is four and the tens digit is one. What is the largest/smallest number? Eg 1210, 2110, 3010 **Possible answers** A number rounded to the nearest ten is 540. What is the smallest possible number it could be? **What do you notice?** Round 296 to the nearest 10. Round it to the nearest 100. What do you notice? Can you suggest other numbers like this?	Can I multiply and divide by 10 and 100 (whole answers or with 1dp)?
				Can I multiply multiples of 10 and 100 by single-digit numbers?
				Can I add and subtract 0.1 and 1 to/from numbers with one decimal place?
				Can I use negative numbers in context of temperature?
				Can I place negative numbers on a line?
				Can I order positive and negative numbers?
Week 7	Mental Addition Mental Subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, including money, deciding which operations and methods to use and why.	**True or false?** Are these number sentences true or false? Give your reasons. 6.7 + 0.4 = 6.11 8.1 – 0.9 = 7.2 **Hard and easy questions** Which questions are easy / hard? Explain why the hard questions are hard? 13323 - 70 = 12893 + 300 = 19354 - 500 = 19954 + 100 = **Making an estimate** Which number sentences have the answer that is between 550 and 600 1174 - 611 3330 – 2779 9326 - 8777 **Always, sometimes, never** Is it always sometimes or never true that the difference between two odd numbers is odd. **Use the inverse** Use the inverse to check if the following calculations are correct: 23 x 4 = 92 117 ÷ 9 = 14 **Size of an answer** Will the answer to the following calculations be greater or less than 300 152 x 2= 78 x 3 = 87 x 3 = 4 x 74 =	Can I add single-digit numbers to three and four-digit numbers?
				Can I subtract single-digit numbers from three and four-digit numbers?
				Can I add multiples of 10, 100 and 1000 to four-digit numbers?
				Can I subtract multiples of 10, 100 and 1000 from four-digit numbers?

Week 8	Written Addition Written Subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, including money, deciding which operations and methods to use and why.	**True or false?** Are these number sentences true or false? Give your reasons. 6.7 + 0.4 = 6.11 8.1 – 0.9 = 7.2 **Hard and easy questions** Which questions are easy / hard? Explain why the hard questions are hard? 13323 - 70 = 12893 + 300 = 19354 - 500 = 19954 + 100 = **Making an estimate** Which number sentences have the answer that is between 550 and 600 1174 - 611 3330 – 2779 9326 - 8777 **Always, sometimes, never** Is it always sometimes or never true that the difference between two odd numbers is odd. **Use the inverse** Use the inverse to check if the following calculations are correct: 23 x 4 = 92 117 ÷ 9 = 14 **Size of an answer** Will the answer to the following calculations be greater or less than 300 152 x 2= 78 x 3 = 87 x 3 = 4 x 74 =	Can I remember how to add three three-digit numbers using compact addition?
				Can I remember how to use compact addition to add amounts of money?
				Can I remember how to use expanded decomposition to subtract three-digit numbers?
				Can I subtract three-digit numbers using compact decomposition?
Week 9	Measures Time Position Direction	Read, write and convert time between analogue and digital 12- and 24-hour clocks. Solve one and two-step problems involving time (Find time durations, start times and finish times/ interpret timetables). Interpret intervals and divisions on partially numbered scales and record readings accurately. Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon. To know that angles are measured in degrees and that one whole turn is 360 degrees; compare and order angles less than 180 degrees.	**Working backwards** Put these times of the day in order, starting with the earliest time. A: Quarter to four in the afternoon B: 07:56 C: six minutes to nine in the evening D: 14:36 **The answer is ….** 225 metres What is the question? **What do you notice?** Continue the pattern 1:00pm = 13:00 2:00pm = 14:00	Can I read and tell the time to nearest minute on digital and analogue clocks?
				Can I use am, pm, 12-hour clock notation, and 24-hour time?
				Can I work out time intervals crossing the hour?
				Can I read and work out questions from simple timetables?
				Can I read and plot co-ordinates in the first quadrant?
				Can I complete polygons by giving missing point?
				Can I translate shapes in the first quadrant?

Week	Topic	Objectives	Activities	Key Questions
Week 10	Mental Multiplication Division	Multiplying together three numbers. 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. Solve problems involving multiplying and adding, including integer scaling problems (4 times as high) and harder correspondence problems such as n objects are connected to m objects (3 cakes shared between 10 pupils).	**Missing numbers** Which pairs of numbers could be written in the boxes? 72 = ☐ × ☐ **Making links** Eggs are bought in boxes of 12. I need 140 eggs; how many boxes will I need to buy? **Use a fact** 63 ÷ 9 = 7 Use this fact to work out 126 ÷ 9 = 252 ÷ 7 = **Connected Calculations** Put the numbers 7.2, 8, 0.9 in the boxes to make the number sentences correct. ☐ = ☐ × ☐ ☐ = ☐ ÷ ☐ **Always, sometimes, never?** Is it always, sometimes or never true that an even number that is divisible by 3 is also divisible by 6. Is it always, sometimes or never true that the sum of four even numbers is divisible by 4. **Possibilities** Adult tickets cost £8 and Children's tickets cost £4. How many adult and children's tickets could I buy for £100 exactly? Can you find more than one way of doing this? **Making links** How can you use factor pairs to solve this calculation? 13 x 12 (13 x 3 x 4, 13 x 3 x 2 x 2, 13 x 2 x 6)	Do I know multiplication and division facts for the 9 times table? Can I begin to know multiplication and division facts for the 7 times table? Can I revise all times tables up to 12 × 12? Can I find factors of numbers up to 40? Can I use tables facts and place value to multiply multiples of 10 and 100 by single-digit numbers, e.g. 4 × 70 and 3 × 400?
Week 11	Multiplication and division	Multiplying together three numbers. 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. Solve problems involving multiplying and adding, including integer scaling problems (4 times as high) and harder correspondence problems such as n objects are connected to m objects (3 cakes shared between 10 pupils).	**Prove It** What goes in the missing box? 6 ☐ × 4 = 512 Prove it. **How close can you get?** ☐ ☐ ☐ X 7 Using the digits 3, 4 and 6 in the calculation above how close can you get to 4500? What is the largest product? What is the smallest product?	Can I use partitioning to multiply three-digit numbers by single-digit numbers? Do I know the 11 and 12 times tables? Divide two-digit numbers by single-digit numbers, including those divisions which give a remainder (answers between 10 and 30)?
Week 12	Assessment Geometry	Visualise 3D objects from 2D drawings; make nets of common solids.		
Week 14				

Maths medium term plan: summer term
Year 5

Mental Maths objectives to be covered:

Number objectives should be covered at least 4 times a term.
Measurement/ geometry objectives should be covered at least 2 time a term.

Number - Number and place value:
Partition, order and compare numbers to at least 1 000 000, including those with up to three decimal places and determine the value of each digit.
Round any number up to 1 000 000 to the nearest 1, 10, 100, 1000, 10 000 and 100 000.
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
Use knowledge of place value to derive doubles and halves of decimals e.g. half of 5.6, double 0.4.
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
Partition to multiply by single digit numbers. Use tests of divisibility.

Number – Addition and Subtraction:
Add and subtract numbers mentally with increasingly large numbers.

Number – Multiplication and division:
Derive multiplication and division facts up to 12 x 1.
Identify multiples and factors.
Establish whether a number up to 100 is prime and recall prime numbers up to 19 (using the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
Multiply and divide numbers mentally drawing upon known facts.

Number - fractions:
Find percentages of shapes, quantities, measures.
Recognise equivalent fractions, decimals and percentages.
Count on and back in fractions and decimals, including bridging 0.

Measurement:
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).
Calculate the perimeter and area of regular shapes and rectangles.

Year Four: Medium Term Plan -Term Three

Week	Domain	National Curriculum Objectives	Reasoning, Conjecturing and Generalising Strategies	Small Step Objectives
Week 1	Number Place value	Count in multiples of 6, 7, 9, 25 and 1000 including recognising and continuing number sequences of a constant size.	**Spot the mistake:** 950, 975,1000,1250 What is wrong with this sequence of numbers?	Can I use place value to add to 4-digit numbers?
		Count backwards through zero to include negative numbers and position positive and negative numbers of a number line.	**True or False?** 324 is a multiple of 9?	Can I use place value to subtract from 4-digit numbers?
		Understand and use the greater than less than symbols.	**What comes next?** 6706+ 1000= 7706 7706 + 1000 = 8706 8706 + 1000 = 9706	Can I place 4-digit numbers on a line?
		Identify, represent and estimate numbers using different representations.		Can I round 4-digit numbers to the nearest 10, 100 or 1000?
		Solve one and two step number and practical problems in various contexts, such as measure, involving all aspects of place value (with increasingly large positive numbers beyond 1000).	**Do, then explain** 5035 5053 5350 5530 5503 If you wrote these numbers in order starting with the largest, which number would be third? Explain how you ordered the numbers.	Can I count on and back in steps of 25 and 1000?
			Do, then explain Show the value of the digit 4 in these numbers? Explain how you know. 3041 4321 5497	Can I write Roman numerals to 100?
		Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	**Make up an example** Create four digit numbers where the digit sum is four and the tens digit is one. What is the largest/smallest number? Eg 1210, 2110, 3010	
		Identify and use patterns, relationships and properties to investigate number, including making and testing general statements.	**Possible answers** A number rounded to the nearest ten is 540. What is the smallest possible number it could be?	
			What do you notice? Round 296 to the nearest 10. Round it to the nearest 100. What do you notice? Can you suggest other numbers like this?	
Week 2	Number – Mental Subtraction Written Subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	**True or false?** Are these number sentences true or false? 6.7 + 0.4 = 6.11 8.1 – 0.9 = 7.2 Give your reasons.	Can I use compact decomposition to subtract three-digit numbers?
		Estimate and use inverse operations to check answers to a calculation.	**Hard and easy questions** Which questions are easy / hard? Explain why you think the hard questions are hard? 13323 - 70 = 12893 + 300 = 19354 - 500 = 19954 + 100 =	Can I use expanded then compact decomposition to subtract pairs of four-digit numbers?
		Solve addition and subtraction two-step problems in contexts, including money, deciding which operations and methods to use and why.	**Making an estimate** Which number sentences have the answer that is between 550 and 600 1174 - 611 3330 – 2779 9326 - 8777	Can I use compact decomposition to subtract three- and four-digit numbers from four-digit numbers?
			Always, sometimes, never Is it always sometimes or never true that the difference between two odd numbers is odd.	Can I use counting up to subtract pairs of four-digit numbers?
				Can I choose a strategy to subtract pairs of four-digit numbers depending on the numbers involved?

Week 3	Number – Addition Subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, including money, deciding which operations and methods to use and why.	**True or false?** Are these number sentences true or false? 6.7 + 0.4 = 6.11 8.1 – 0.9 = 7.2 Give your reasons. **Hard and easy questions** Which questions are easy / hard? Explain why you think the hard questions are hard? 13323 - 70 = 12893 + 300 = 19354 - 500 = 19954 + 100 = **Making an estimate** Which number sentences have the answer that is between 550 and 600 1174 - 611 3330 – 2779 9326 - 8777 **Always, sometimes, never** Is it always sometimes or never true that the difference between two odd numbers is odd. **Convince me** - 666 = 8 What is the largest possible number that will go in the rectangular box? What is the smallest? Convince me **Making an estimate** Which number sentences have the answer that is between 550 and 600 1174 - 611 3330 – 2779 9326 – 8777 **Always, sometimes, never** Is it always sometimes or never true that the difference between two odd numbers is odd.	Can I use decomposition to subtract any pair of four-digit numbers, including those needing 3 moves? Can I add any pair of 4-digit numbers using compact addition? Can I add and subtract near multiples of 10, 100 and 1000 to/from 3- and 4-digit numbers? Can I choose mental or written methods to add and subtract? Can I solve word problems involving addition and subtraction?
Week 4	Area Perimeter Coordinates	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon. Visualise 3D objects from 2D drawings; make nets of common solids. To know that angles are measured in degrees and that one whole turn is 360 degrees; compare and order angles less than 180 degrees.	**Testing conditions** If the width of a rectangle is 3 metres less than the length and the perimeter is between 20 and 30 metres, what could the dimensions of the rectangle lobe? **Always, sometimes, never** If you double the area of a rectangle, you double the perimeter.	Can I find area of rectilinear shapes by counting squares? Can I find perimeter of rectilinear shapes in cm by counting? Can I calculate perimeter in cm and m of rectangles? Can I use co-ordinates in the first quadrant and join to draw posited polygons.

Week 5	Fractions Decimals	Recognise and show, using diagrams, families of common equivalent fraction. Find unit and non-unit fractions of shapes, quantities and measures (where the answer is a whole-number). Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Solve simple measure and money problems fractions. Add and subtract fractions with the same denominator (beyond one whole); placing mixed numbers correctly on a number line.	**Spot the mistake**… and correct it. sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths **What comes next?** 83/100, 82/100, 81/100, ….., ….., ….. 31/100, 41/100, 51/100, ….., ….., **What do you notice?** 1/10 of 100 = 10 1/100 of 100 = 1 2/10 of 100 = 20 2/100 of 100 = 2 How can you use this to work out 6/10 of 200? 6/100 of 200? **True or false?** 1/20 of a metre= 20cm 4/100 of 2 metres = 40cm	Can I compare and order number with 2 decimal places? Can I place numbers with 2 decimal places on landmarked lines (marked in 0.1s)? Can I add/subtract 0.1/0.01 to/from numbers with 2 decimal places? Can I count on/back in tenths & hundredths? Can I add/subtract multiples of 0.1/0.01? Can I solve simple measure problems using place value in lengths in metres with 2 decimal places?
Week 6	Fractions Decimals	Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$. Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places. Solve simple measure and money problems involving decimals to two decimal places. Partition decimals and place decimals on a number line.	**Give an Example** Give an example of a fraction that is more than a half but less than a whole. Now another example that no one else will think of. Explain how you know the fraction is more than a half but less than a whole. (draw an image) **Missing symbol** Put the correct symbol < or > in each box 3.03 ☐ 3.33 0.37 ☐ 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2?	Can I mark numbers with 1 decimal place on an ENL and round to the nearest whole? Do I know what each digit stands for in numbers with 2 decimal places? Can I multiply and divide by 10 and 100 to give tenths and hundredths? Do I know equivalent 0.1s and 1/10s, and 0.01s and 1/100s? Can I write place value related additions and subtractions for nos with 2 decimal places?

Week 7	Multiplication Division	Multiplying together three numbers. 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. Estimate and use inverse operations to check answers to a calculation. Divide 3 digit by 1 digit numbers using the formal written layout (short division). Solve multiplication and division two-step problems in contexts, deciding which operations and methods to use and why.	**Missing numbers** Which pairs of numbers could be written in the boxes? 72 = ▣ × ▣ **Making links** Eggs are bought in boxes of 12. I need 140 eggs; how many boxes will I need to buy? **Use a fact** $63 \div 9 = 7$ Use this fact to work out $126 \div 9 =$ $252 \div 7 =$ **Connected Calculations** Put the numbers 7.2, 8, 0.9 in the boxes to make the number sentences correct. ▣ = ▣ ▣ ▣ = ▣ ÷ ▣ **Always, sometimes, never?** Is it always, sometimes or never true that an even number that is divisible by 3 is also divisible by 6. Is it always, sometimes or never true that the sum of four even numbers is divisible by 4. **Possibilities** Adult tickets cost £8 and Children's tickets cost £4. How many adult and children's tickets could I buy for £100 exactly? Can you find more than one way of doing this? **Making links** How can you use factor pairs to solve this calculation? 13 x 12 (13 x 3 x 4, 13 x 3 x 2 x 2, 13 x 2 x 6) **Prove It** What goes in the missing box? 6 ▣ x 4 = 512 Prove it. **How close can you get?** ▣ ▣ ▣ X 7 Using the digits 3, 4 and 6 in the calculation above how close can you get to 4500? What is the largest product? What is the smallest product?	Can I find factors of numbers less than 50?
				Can I use factors to carry out mental multiplication?
				Can I find the product of 3 single-digit numbers using commutativity to help?
				Can I use times tables and place value to divide multiples of 10, e.g. 350 ÷ 7?
				Can I solve scaling problems (by whole number factors)?
				Can I convert from centimetres to metres?
				Can I solve correspondence problems?

Week 8	Geometry	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. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. Identify and use patterns, relationships and properties to investigate shapes, including making and testing general statements.	**Convince me** Ayub says that he can draw a right angled triangle which has another angle which is obtuse. Is he right? Explain why. **What's the same, what's different?** What is the same and what is different about the diagonals of these 2-D shapes? **Visualising** Imagine a square cut along the diagonal to make two triangles. Describe the triangles. Join the triangles on different sides to make new shapes. Describe them. (you could sketch them) Are any of the shapes symmetrical? Convince me. **Other possibilities** Can you draw a non-right angled triangle with a line of symmetry? Are there other possibilities. **Always, sometimes, never** Is it always, sometimes or never true that the two diagonals of a rectangle meet at right angles. **Other possibilities** Can you show or draw a polygon that fits both of these criteria? What do you look for? "Has exactly two equal sides." "Has exactly two parallel sides." **Working backwards** Here are the co-ordinates of corners of a rectangle which has width of 5. (7, 3) and (27, 3) What are the other two co-ordinates?	Can I complete shapes with respect to a line of symmetry?
				Can I recognise and compare acute and obtuse angles and angles of 90 degrees?
				Can I compare and classify triangles and quadrilaterals, based on properties including types of angles?
Week 9	Time Time Graphs	Convert between different units of measure [for example, kilometre to metre; hour to minute (add explanation in guidance). Choose and use standard metric units and their abbreviations when estimating, measuring, comparing and recording length, weight and capacity (ensure decimal notation and meaning of kilo, centi, mili). Solve one and two step problems involving measure. Interpret intervals and divisions on partially numbered scales and record readings accurately. Read, write and convert time between analogue and digital 12- and 24-hour clocks. Solve one and two-step problems involving time (Find time durations, start times and finish times/ interpret timetables).	**Working backwards** Put these times of the day in order, starting with the earliest time. A: Quarter to four in the afternoon B: 07:56 C: six minutes to nine in the evening D: 14:36 **What do you notice?** Continue the pattern 1:00pm = 13:00 2:00pm = 14:00	Can I read the 24-hour clock converting times to am and pm, both digital and analogue formats?
				Can I find time intervals using 24-hour clock?
				Can I read, interpret and describe a time graph?
				Can I draw a time graph?
				Can I convert between units of time?

Week	Topic	Objectives	Examples	Can I...
Week 10	Fractions Division	Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$. Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places. Solve simple measure and money problems involving decimals to two decimal places. Partition decimals and place decimals on a number line. Divide 3 digit by 1 digit numbers using the formal written layout (short division). Solve multiplication and division two-step problems in contexts, deciding which operations and methods to use and why.	**Give an Example** Give an example of a fraction that is more than a half but less than a whole. Now another example that no one else will think of. Explain how you know the fraction is more than a half but less than a whole. (draw an image) **Missing symbol** Put the correct symbol < or > in each box 3.03 [ ] 3.33 0.37 [ ] 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2?	Can I identify equivalent fractions, incl. decimals? Can I find non-unit fractions of amounts? Can I solve fraction word problems? Can I divide two-digit nos by single-digit nos, answers less than 30?
Week 11	Calculations			Can I multiply 3-digit numbers by single-digit numbers, estimating answers first? Can I solve word problems requiring multiplication or division? Can I choose mental or written method to solve a range of calculations, all four operations? Can I choose which operations(s) are necessary to solve word problems?
Week 12	Assessment	Assessment week is moveable		
Week 13	Revision of topics based on results of assessment			