FOCUSMATHS

A positive approach to the Maths Curriculum

Year 3

By Clive Davies

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ABOUT THE AUTHOR

Clive Davies, OBE is one of the founding Directors of Focus working with school both nationally and internationally. He draws on a vast experience, including work as a headteacher, Ofsted inspector, trainer and consultant.

Clive has a wealth of experience working with schools to analyse their current position and supporting leaders to construct purposeful and fit-for-purpose self-evaluation systems which impact on pupil outcomes. Over recent years, Clive has been focusing particularly on the development of an approach to leading and delivering the curriculum which ensures a high degree of engagement for children. This approach to the curriculum is being used in schools across England. He is one of the innovators for the learning challenge curriculum which has gained national acclaim for its success. Clive works in all areas of school improvement and works from early years through the secondary phase.

As a headteacher, Clive's school gained a National Curriculum Award and featured in the TES as one of three schools recognised for its quality practice. Awarded an OBE for Services to Education in 2009, he still works with schools on an advisory basis, and is a highly sought after key note speaker at conferences both nationally and internationally.

Clive has written a wide range of publications which have become known for their straight forward and useful style; helping school leaders focus on what is most important to making a difference, including the best-selling 'Raising Standards by Setting Targets'. Some of Clive's most recent and best selling publications are:

- Making Good Lessons Outstanding
- Maths Learning Challenge Curriculum: Pre and Post Learning Challenges
- Talk for Success
- Science Learning Challenge Curriculum
- History & Geography Learning Challenge Curriculum
- Leading the EYFS (co-authored with Sarah Quinn)
- Assessing Science and Non Core Subjects: In the new National Curriculum (Years 1 to 6)
- Focus on Maths (co-authored with Helen Rowland)
- Assessing without Levels
- Empowering Learners: A Focus on Learning Behaviours
- Step up to the Challenge Series
- Making Book Scrutiny more Meaningful

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Year 3: Overview of the year

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1 Place value	1Multiplication and Division Multiplication tables	3 Place value Mental addition and subtraction	2 Geometry 2D and 3D shape, including sorting	6 Multiplication and Division	4 Place value (using measures)
2 Place value and mental calculation	2Multiplication and Division Written & mental multiplication	1 Fractions	3 Addition and subtraction (using statistics)	4 Addition and subtraction Decimals (money)	6 Addition and subtraction Problems
1 Measures Perimeter	3Multiplication and Division Written & mental division	2 Fractions & Division	3 Fractions	5 Addition & Subtraction (using measures)	4 Fractions
1 Statistics Mental calculation	2 Measures Time	3 Measures Length, Mass & Volume	3 Geometry Angles	7Multiplication and division (using measures)	6 Measures General
1 Addition & Subtraction Written Addition	1 Geometry 3D shape	4 Multiplication and Division	4 Measures Time	5 Measures Time	2 Statistics
2 Addition & Subtraction Written Subtraction	Consolidate and Assess	5 Multiplication and Division (using measures and money)	Consolidate and Assess	5 Geometry Properties	Consolidate and Assess.

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YEAR 3 : AUTUMN 1

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
1 Place Value	**2 Place Value**	**1 Measures Perimeter**	**1 Statistics**	**1 Addition and Subtraction**	**2 Addition and Subtraction**
Count from 0 in multiples of 4, 8, 50 and 100. Find 10 or 100 more or less than a given number.	Read and write numbers to 1,000 in numerals and words	Measure the perimeter of simple 2D shapes.	Interpret and present data using: - bar charts - pictograms - tables	Add and subtract numbers mentally, including: - 3-digit number & ones - 3-digit numbers & tens - 3-digit numbers & hundreds	Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.
➢ Count on and back in 10s from 0 to 1000 ➢ Count on and back in 100s from 0 to 1000 ➢ Count on and back in 50s from 0 to 1000 ➢ Count on and back in 4s from 0 to 1000 ➢ Count on and back in 8s from 0 to 1000 ➢ Find 10 more than a given number between 0 and 1000 ➢ Find 10 less than a given number between 0 and 1000 ➢ Find 100 more than a given number between 0 and 1000 ➢ Find 100 less than a given number between 0 and 1000	➢ Read all numbers from 100 to 1000 in numerals ➢ Write all numbers from 100 to 1000 in numerals ➢ Read all numbers from 100 to 1000 in words ➢ Write all numbers from 100 to 1000 in words	➢ Know the term 'perimeter' ➢ Know that the perimeter is the distance around the sides of a shape ➢ Understand that the perimeter refers to distance in real life contexts, e.g. football pitch ➢ Measure accurately each side of 2D shapes and add lengths to find the perimeter	➢ Read information set out in a bar chart ➢ Read information set out in a pictogram ➢ Read information set out in a table ➢ Read information from a bar chart that has a scale on the vertical axis ➢ Present information in a table ➢ Present information in a bar chart ➢ Present information in a pictogram ➢ Present information in a bar chart where there is a scale on the vertical axis	Mentally: ➢ Subtract any 1-digit number from a greater 1–digit number ➢ Add any 3-digit number to a 1-digit number ➢ Subtract a 1-digit number from a 3-digit number ➢ Add any 3-digit number to a 10s number ➢ Subtract a 10s number from any 3-digit number ➢ Add any 3-digit number to any 100s number. ➢ Subtract any 100s number from a 3-digit number	➢ Add two 2-digit numbers using columnar addition without exchanging. ➢ Subtract a 2-digit number from a 2-digit number without exchanging. ➢ Add two 3-digit numbers using columnar addition without exchanging. ➢ Subtract a 2 or 3-digit number from a 3-digit number without exchanging. ➢ Add two 2-digit numbers where the units make more than 10 ➢ Add two 3-digit numbers where the units and/or tens make more than 10 ➢ Subtract a 2-digit number from a 2-digit number where exchanging is required ➢ Subtract a 2-digit number from a 3-digit number where exchanging is required

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Year 3: Autumn 1

Week 1: Number and Place Value

Count from 0 in multiples of 4, 8, 50 and 100.
Find 10 or 100 more or less than a given number.

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Autumn 1: Week 1: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 1 Week 1
Objective:	**Number and Place Value:** Count from 0 in multiples of 4, 8, 50 and 100. Find 10 or 100 more or less than a given number.

Count on or back as required

0, 100, 200 ☐ ☐	0, 8, 16 ☐ ☐
200,150,100 ☐ ☐	32, 24, 16 ☐ ☐

What is 10 more than?:	**What is 100 more than?:**
56 ☐	349 ☐
198 ☐	27 ☐
239 ☐	194 ☐

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Autumn 1: Week 1: Practice and Consolidation

Number and Place Value: Count from 0 in multiples of 4, 8, 50 and 100.
Find 10 or 100 more or less than a given number.

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Count on and back in 10s from 0 to 1000 ➢ Count on and back in 100s from 0 to 1000 ➢ Count on and back in 50s from 0 to 1000 ➢ Count on and back in 4s from 0 to 1000 ➢ Count on and back in 8s from 0 to 1000 ➢ Find 10 more than a given number between 0 and 1000 ➢ Find 10 less than a given number between 0 and 1000 ➢ Find 100 more than a given number between 0 and 1000 ➢ Find 100 less than a given number between 0 and 1000	• Adding 10 rapidly to a number of TU and HTU numbers. • Taking away 10 rapidly from a number of TU and HTU numbers. • Adding 100 rapidly to a number of TU and HTU numbers. • Taking away 100 rapidly from a number of HTU numbers. • Create a circle with a small group of pupils and starting with one pupil they have to move around adding 4 or 8 to a given number as rapidly as possible. This idea could be developed so as to create a competition between two or three small groups. • This could also be done with adding or subtracting 50 or 100 from given numbers.	Add 10 to the following numbers: 34; 345; 78; 120; 439; 57; 148 Now take away 10 from each of the numbers above. Add 100 to the following numbers: 259 12 569 349 123 691 891 When taking away 100 from 12 what do you notice? Explain. Continue these sequences: 14 ….22….30….38…. ☐ ….54…. ☐ 78….70….62…. ☐ ….46…. ☐ 23….73….123…. ☐ 223…. ☐ 736….686….636…. ☐ 586…. ☐ Now make some sequences involving going up or down in 4s, 8s, 50s and 100s for your friends to solve.

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Autumn 1: Week 1: Mastering this Objective

Number and Place Value: Count from 0 in multiples of 4, 8, 50 and 100.
Find 10 or 100 more or less than a given number.

Teaching Sequence

- Count on and back in 10s from 0 to 1000
- Count on and back in 100s from 0 to 1000
- Count on and back in 50s from 0 to 1000
- Count on and back in 4s from 0 to 1000
- Count on and back in 8s from 0 to 1000
- Find 10 more than a given number between 0 and 1000
- Find 10 less than a given number between 0 and 1000
- Find 100 more than a given number between 0 and 1000
- Find 100 less than a given number between 0 and 1000

If pupils have mastered this objective they will be able to complete these activities:

What is wrong with these sequences?:

- 50, 100, 115, 200
- 16, 24, 32, 48, 56
- 28, 32, 40, 44, 48
- 700, 600, 400, 300, 200

Complete these sequences:

16	20	28	32	40	44	52			

93	85	81	73	69	61	57			

27	35	43	47	51	59	68	72		

Hamid wanted to have the biggest sticker collection in his class.
He knew if he had another 100 then he would have the biggest number.
His target was 478. How many did Hamid have already?

Petra was collecting shopkins.
Another 50 would take her to 832 shopkins.
How many does she have already?

During a cricket match Hannah scores 50 runs. This means that the total number of runs she has scored in all matches is 367.
How many runs had she scored before she scored the 50 runs?

A car travelling takes 8 metres to stop after breaking.

How much will a car that has travelled 569 metres before breaking have travelled altogether before it stops?
What about a car that has travelled 724 metres before breaking?

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Autumn 1: Week 1: Working at greater depth

Number and Place Value: Count from 0 in multiples of 4, 8, 50 and 100.
Find 10 or 100 more or less than a given number.

Teaching Sequence

- Count on and back in 10s from 0 to 1000
- Count on and back in 100s from 0 to 1000
- Count on and back in 50s from 0 to 1000
- Count on and back in 4s from 0 to 1000
- Count on and back in 8s from 0 to 1000
- Find 10 more than a given number between 0 and 1000
- Find 10 less than a given number between 0 and 1000
- Find 100 more than a given number between 0 and 1000
- Find 100 less than a given number between 0 and 1000

Activities for pupils working at greater depth:

Make up a 3-digit number where the sum of the numbers is 9, e.g. 333 or 450.

- What is the largest number you can make?
- What is the second largest number you can make?
- What is the smallest number you can make?

Create two 3-digit numbers.
They have a difference of more than 10 with the ones number being 7 and the hundreds number being 6.

Create another pair of 3-digit numbers.
This time they have a difference of more than 500.
The tens has to be an odd number and the ones has to be an even number.

Complete the following sequences:

	16	24				56	64	72	80

99	91			67		51	43		

5		21	25		37	45		53	61

Lamp-posts are set out 50 metres apart on High Street.

There are 12 lamp-posts altogether.

If Tom is next to the third lamp-post and Rhaesa is next to the fifth. How far are they apart?

Now write some more questions related to the lamp-posts and introduce two new friends who are standing by the lamp-posts.

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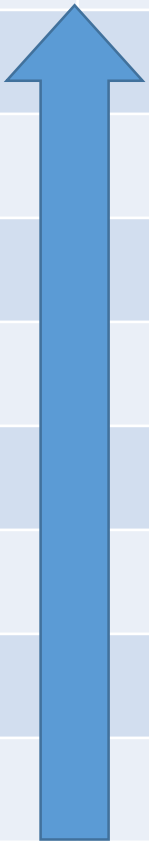
Autumn 1: Week 1: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Number and Place Value: Count from 0 in multiples of 4, 8, 50 and 100. Find 10 or 100 more or less than a given number.	Me	My Teacher
Can you find 10 or 100 more or less than a given number?		
Can you count on and back in 8s from 0 to 96?		
Can you count on and back in 4s from 0 to 100?		
Can you count on and back in 3s from 0 to 99?		
Can you count on and back in 50s from 0 to 1000?		
Can you count on and back in 10s from any given number between 0 and 1000?		
Can you count on and back in 10s from 0 to 100?		
Can you count on and back in 100s from 0 to 1000?		



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Year 3: Autumn 1

Week 2: Number and Place Value

Read and write numbers to 1,000 in numerals and words

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Autumn 1: Week 2: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 1 Week 2
Objective: Place Value	Read and write numbers to 1,000 in numerals and words

Write these numbers in numerals			**Write these numbers in words**		
fourteen			46		
sixty-four			89		
one hundred			247		
three hundred and eighty- three			392		
Six hundred and five			709		

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Autumn 1: Week 2: Practice and Consolidation

Place Value: Read and write numbers to 1,000 in numerals and words

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Read all numbers from 100 to 1000 in numerals ➢ Write all numbers from 100 to 1000 in numerals ➢ Read all numbers from 100 to 1000 in words ➢ Write all numbers from 100 to 1000 in words	• Pupils should respond quickly to cards with the hundreds numbers on them, ie, hundred, two hundred, three hundred, etc. • Pupils should then respond rapidly to numbers such as hundred and twenty, two hundred and forty, etc. • Half the class are given numbers in words and the other half have numbers. In turn a pupil with the words stands up from one side and the person, on the other side, with the corresponding number has to react as quickly as possible. • In small groups pupils play a bingo style game or a snap game involving words and numbers.	Write all the following numbers in words: 26 134 76 431 899 Write all the following numbers as numerals: Forty-six; Three hundred and twenty nine; Twenty-two; Nine hundred and fifty six; Five hundred and sixteen. Write all hundreds numbers in both numerals and words. Write all ten numbers between 140 and 250 in numerals and words. Write the following as a number in words and numerals; My number has four hundreds; three tens and five ones. My next number has six hundreds; five tens and eight ones. Have a set of 25 cards with random numbers between 100 and 990 on them. Challenge is for one partner to turn the cards over one at a time and for the second partner to name the number. How many can they do in one minute?

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Autumn 1: Week 2: Mastering this Objective

Place Value: Read and write numbers to 1,000 in numerals and words

Teaching Sequence

- Read all numbers from 100 to 1000 in numerals
- Write all numbers from 100 to 1000 in numerals
- Read all numbers from 100 to 1000 in words
- Write all numbers from 100 to 1000 in words

If pupils have mastered this objective they will be able to complete these activities:

Create additions and subtractions which will add up to the following numbers:

One hundred and sixteen

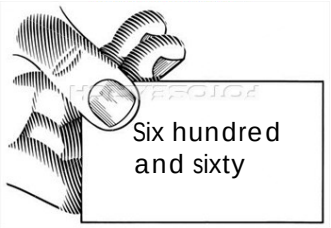
_____

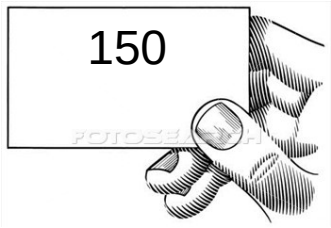
Four hundred and fifty one

_____

Three hundred and ninety four

_____





Take a set of cards with numbers written in words 500 to 900 and another set with numbers from 100 to 490.
Take the number card away from the word card. Repeat as often as you can.

Look at this place value grid:

Hundreds	Tens	Ones
● ●	● ● ●	●

Write the number in words.
Now create another place value grid for your friend.

Match the numeral to the words

113	seventy-two
256	Six hundred and one
601	One hundred and thirteen
189	Two hundred and fifty six
72	One hundred and eighty nine

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Autumn 1: Week 2: Working at greater depth

Place Value: Read and write numbers to 1,000 in numerals and words

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Read all numbers from 100 to 1000 in numerals ➢ Write all numbers from 100 to 1000 in numerals ➢ Read all numbers from 100 to 1000 in words ➢ Write all numbers from 100 to 1000 in words	Create a game of bingo where numbers from zero to one thousand are written as words on a card and the caller has all numbers in numerals. Choose 90 numbers at random. Work out how best to do this. Create rules for the game. 	Complete the following sequence: One hundred and ten; 115; one hundred and twenty; 125; _____; _____; _____ Seven hundred and thirty; Seven hundred and twenty; Seven hundred and ten; Seven hundred; _____; _____. 239, Two hundred and twenty nine; 219; two hundred and nine; _____; _____
	Hariz thinks of a number. It is an odd number It is between 130 and 340 The three digits are different numbers. Write four possible numbers they could be in numerals and in words. He then goes on to think of another number. This time it is a tens number and has three-digits; the hundreds number is between 2 and 5; the tens number is between 6 and 9 and the ones number is even. Think of 3 possible answers	 Take any 3 cards with a single digit on it. Make up as many 3-digit numbers as you can. Write them out in words. Choose another 3 cards with different digits on. How many numbers can you make? What do you notice? What would happen if you had three cards but two of the cards have the same digit?

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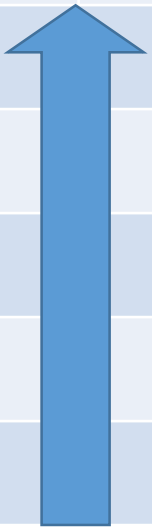
Autumn 1: Week 2: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Place Value: Read and write numbers to 1,000 in numerals and words	Me	My Teacher
Can you read and write all numbers to the value of 1000?		
Can you read and write all numbers in 10s from 10 to 1000?		
Can you read and write all numbers in 50s from 50 to 1000?		
Can you read and write all numbers in 100s from 100 to 1000?		
Can you read and write all numbers to 100?		



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Year 3: Autumn 1

Week 3: Measures: Perimeter

Measure the perimeter of simple 2D shapes.

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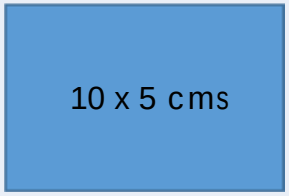
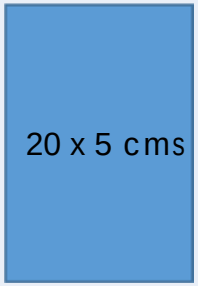
Autumn 1: Week 3: Pre-Learning Task

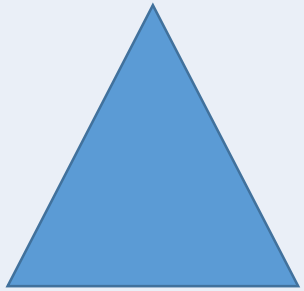
The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 1 Week 3
Objective: Measures	Perimeter: Measure the perimeter of simple 2D shapes.

Work out the perimeter of the following shapes.

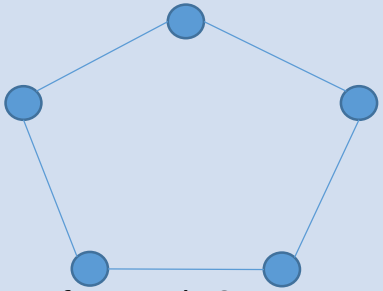






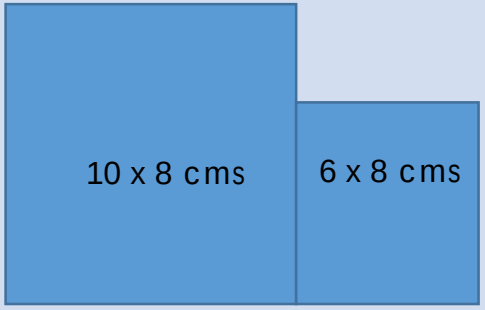
Each side of the triangle is the same and its perimeter is 24cms. What is the length of each of the triangle's sides?

This farmer has an unusual shaped field which he has enclosed with a fence.



Each set of posts is 8cms apart. What is the enclosed area's perimeter?

A farmer has two fields next to each other. Work out the perimeter of the two fields.



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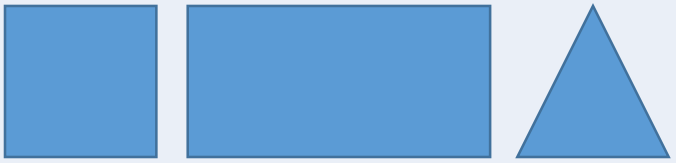
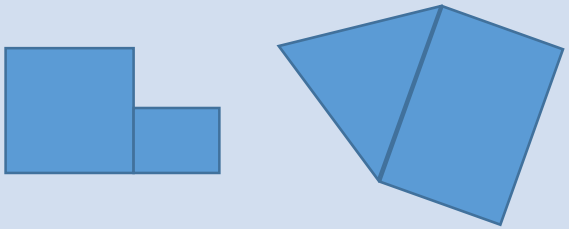
Autumn 1: Week 3: Practice and Consolidation

Measures: Perimeter: Measure the perimeter of simple 2D shapes.

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Know the term 'perimeter' ➢ Know that the perimeter is the distance around the sides of a shape ➢ Understand that the perimeter refers to distance in real life contexts, e.g. football pitch ➢ Measure accurately each side of 2D shapes and add lengths to find the perimeter	• Take pupils to the outside playground/ field and talk about what is meant by perimeter by pointing out the perimeter of the playground or school field, etc. • Use 2D shapes and point out the perimeter of each of the shapes. • Find everyday objects around the classroom and measure their perimeter, eg, a book; table top, white board, etc. • Ensure pupils get into the habit of estimating first before checking and finding out. • Get pupils to talk about their estimates and how they think they could improve them. • Create different shapes and emphasise that the perimeter is like the distance if you were to walk around the outside.	Describe the term 'perimeter to a friend. Look at a number of regular 2D shapes and find their perimeter.  Square with side 4cms; rectangle with sides 8cms x 4 cms. and a triangle with equal sides –each being 4cms. Look at these shapes and mark out the perimeter of each:  Take a number of 2D shapes. Join them together and then record their perimeter by drawing out the shapes in your maths books and then using a coloured pen to show the perimeter.

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Autumn 1: Week 3: Mastering this Objective

Measures: Perimeter: Measure the perimeter of simple 2D shapes.

Teaching Sequence

- Know the term 'perimeter'
- Know that the perimeter is the distance around the sides of a shape
- Understand that the perimeter refers to distance in real life contexts, e.g. football pitch
- Measure accurately each side of 2D shapes and add lengths to find the perimeter

If pupils have mastered this objective they will be able to complete these activities:

The side of a square is equivalent to a whole number (in cms.).
Which of the following measurements could represent its perimeter?

8cms. 18cms. 24cms. 25cms.

The side of a rectangle is equivalent to whole numbers (in cms.).
Which of the following measurements could represent its perimeter?

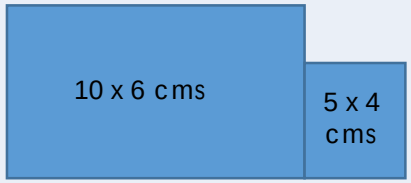
16cms. 17cms. 23 cms 28cms

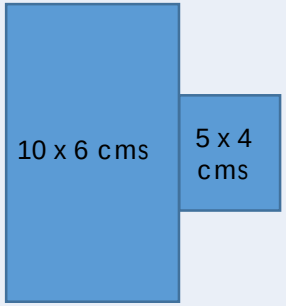
Draw 2 different rectangles that have the same perimeter.

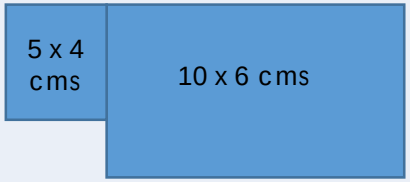
The first two have a perimeter of 40cms.

The second pair have a perimeter of 60cms.

Look at the following shapes: They are all made up of 2 identical rectangles.







Even though all 3 shapes are made up of two identical rectangles, do they have the same perimeter? Explain your reasoning.

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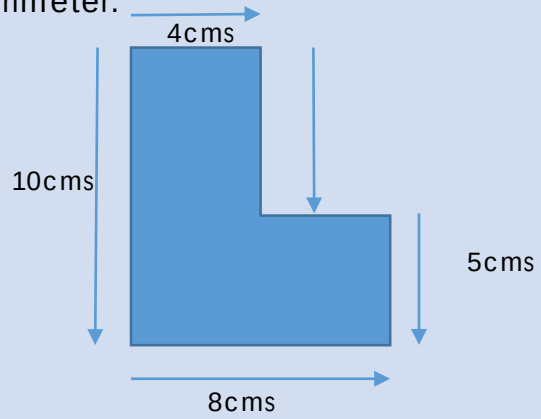
Autumn 1: Week 3: Working at greater depth

Measures: Perimeter: Measure the perimeter of simple 2D shapes.

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Know the term 'perimeter' ➢ Know that the perimeter is the distance around the sides of a shape ➢ Understand that the perimeter refers to distance in real life contexts, e.g. football pitch ➢ Measure accurately each side of 2D shapes and add lengths to find the perimeter	Look at the L shape below. Work out its perimeter.  	A farmer keeps his cows in a field that is 20m long and 15m wide. He keeps his pigs in a field that is 10m long and 8m wide. His sheep can roam across the big meadow which is 50m long and 40m wide. His horses have a paddock that is 15m long and 10m wide. What is the perimeter of the cows' field? Is the perimeter of the paddock more or less than the pigs' field?
	Using the idea of the 'L' shaped letter above. Find other capital letters that could be used in this way to help pupils improve their ability to find perimeter. For example the following letters could be used: I E F H T V W Y Look how the letter 'L' above has been set out and then try to create similar challenges for your friends.	You are designing the 'big cats' arena in a zoo. You have an area that is 100m long by 80m wide. The lions have to have an enclosure that has a perimeter of 80m. The tigers have to have an enclosure of 70m, and the leopards have to have an enclosure that has a perimeter of 60m. Will the original area be big enough? Show how you would set out the enclosures.

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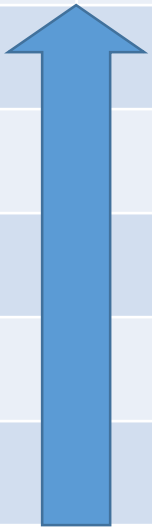
Autumn 1: Week 3: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Measures: Perimeter: Measure the perimeter of simple 2D shapes.	Me	My Teacher
Do you know how to calculate the perimeter of a square or a rectangle?		
Can you measure accurately each side of a 2D shape and add up all the sides to find the perimeter?		
Do you know that the perimeter is the distance around the outside of any shape?		
Do you know that the perimeter is the distance around the four sides of a rectangle?		
Do you know the term perimeter?		



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Year 3: Autumn 1

Week 4: Statistics

Interpret and present data using:

- **bar charts**
- **pictograms**
- **tables**

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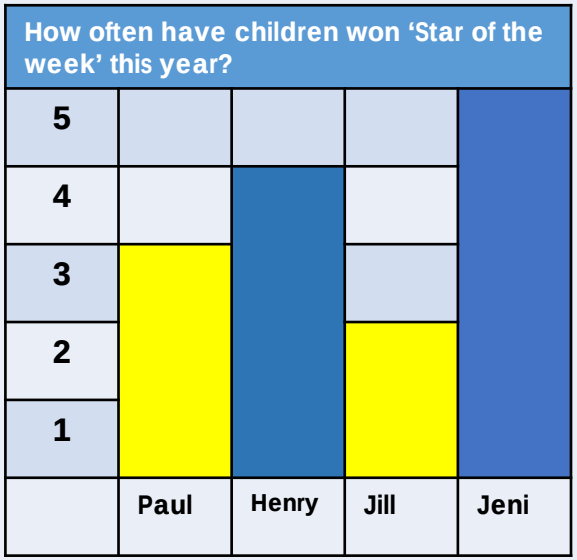
Autumn 1: Week 4: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 1 Week 4
Objective: Statistics	Interpret and present data using: bar charts; pictograms and tables

Look at the following bar graph:



Who has won 'Star of the week' most often?
How many more times has Jeni won 'Star of the week' compared with Paul?
Which boy has won 'Star of the week' most often?
Between the four of them how many times have they won 'Star of the week' altogether?

Use the chart below to record the following information.

Where people went on their holiday last year.					
6					
5					
4					
3					
2					
1					
	England	Wales	Spain	Italy	Greece

6 children went to Spain;
4 went to Greece;
5 went to England;
4 went to Wales and
2 went to Italy.

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Autumn 1: Week 4: Practice and Consolidation

Statistics: Interpret and present data using: bar charts; pictograms and tables

Teaching Sequence

- Read information set out in a bar chart
- Read information set out in a pictogram
- Read information set out in a table
- Read information from a bar chart that has a scale on the vertical axis
- Present information in a table
- Present information in a bar chart
- Present information in a pictogram
- Present information in a bar chart where there is a scale on the vertical axis

Oral and Mental Activities Examples:

- Create a bar graph together on a popular theme. At this stage the axis should not have a scale but each item represents one.
- At the same time create a pictogram using the same information as collected for the block graph.
- Talk about the similarities and differences between the two pieces of information.
- Talk to pupils about where they see tables on a regular basis. Use newspapers to find as many as you can.
- Include football league tables if it helps towards motivation.
- Now consider what to do if you were recording a large number of items, eg, create a scale on the vertical axis.

Pencil and Paper Activities Examples:

Create a bar graph of the following information:
People were asked if they would like to change the pound currency in the UK to Euros.

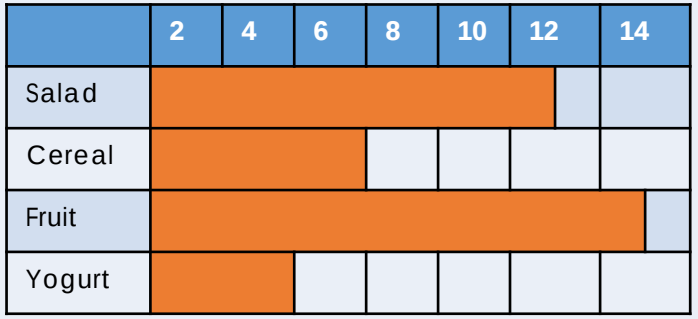
25 people said 'No' and 5 people said 'Yes'
3 people were undecided.

Look at the table below:

	1st	2nd	3rd
Paul	20	15	18
Hariz	21	13	16
Terry	15	19	14

Paul, Hariz and Terry threw a ball three times. The distances are recorded above.
Who threw the longest throw?
When added together who threw the longest?
Who threw the shortest throw?

Healthy Eating



Which food did the class think was most healthy?
How many children were in the class altogether?
How many more children thought salad was a healthier option than yogurt?

A class was asked which one of these is the most healthy to eat.
Look at the graph opposite and answer the following questions.

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Autumn 1: Week 4: Mastering this Objective

Statistics: Interpret and present data using: bar charts; pictograms and tables

Teaching Sequence

- Read information set out in a bar chart
- Read information set out in a pictogram
- Read information set out in a table
- Read information from a bar chart that has a scale on the vertical axis
- Present information in a table
- Present information in a bar chart
- Present information in a pictogram
- Present information in a bar chart where there is a scale on the vertical axis

If pupils have mastered this objective they will be able to complete these activities:

Being a model citizen is awarded with a star at Focus School. Look at the table below and see how many children have been awarded with a star from each class.

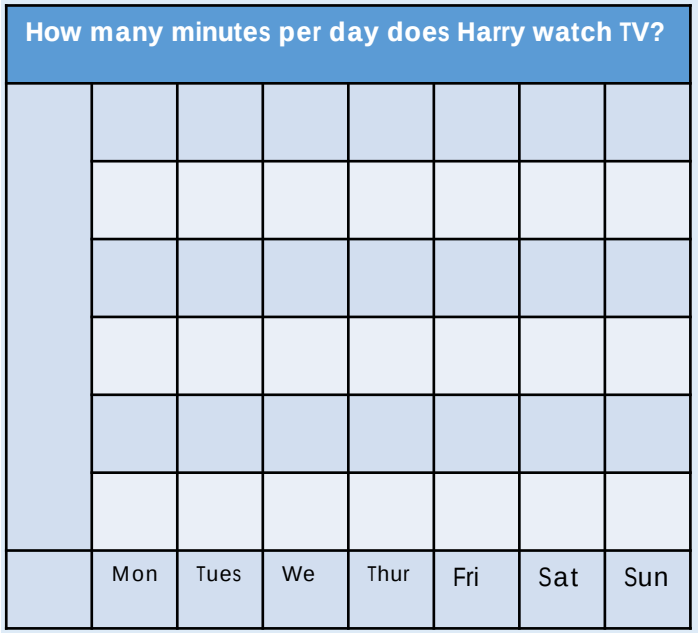
Each star represents 5 children

Class	Star awards
Reception	★★ +1
Year 1	★★ + 3
Year 2	★ +4
Year 3	★
Year 4	★★★ +1

Create a block graph to show the information on the table. Make sure the axis for amounts is set out in 2s or 3s.

Think of reasons why Year 3 only had 5 model citizens which was very low in comparison with most other classes.

Create a block graph to show how many minutes per day Harry spends watching television.



Decide on how you set out your axis.

On Monday he watches 50 minutes; Tuesday 75 minutes; Wednesday 25 minutes; Thursday 100 minutes; Friday 120 minutes; Saturday 200 minutes and Sunday 45 minutes.

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Autumn 1: Week 4: Working at greater depth

Statistics: Interpret and present data using: bar charts; pictograms and tables

Teaching Sequence

- Read information set out in a bar chart
- Read information set out in a pictogram
- Read information set out in a table
- Read information from a bar chart that has a scale on the vertical axis
- Present information in a table
- Present information in a bar chart
- Present information in a pictogram
- Present information in a bar chart where there is a scale on the vertical axis

Activities for pupils working at greater depth:

Children in a class talk about the amount of time they spend doing homework.
They decide to keep a record for 3 weeks and then put their information on this chart.

Number of hours doing homework each week			
Pupil's Name	**Week 1**	**Week 2**	**Week 3**
Sian	8	3	8
Ramesa	1	1	1
Richard	7	4	7
Billie	3	2	3

- Create a block graph to show the number of hours spent by the four children doing homework during week 1.
- Create another block graph to show how much homework Richard did over the 3 weeks.
- Give a good reason why Ramesa only did 1 hour homework during weeks 1, 2 and 3.

Use a tally chart and then a block graph to represent the sum of throwing 2 dice 100 times.

After completing your graph what are your main findings?

Choose one of these subjects:

- How many minutes TV per day everyone watches in your class?
- Which day is each person's favourite?
- Which is each person's favourite football team?
- Which is everyone's favourite subject in school?

Create a graph to show your findings.
Your graph needs to take account of the scale you use on the axis as well as the best way to present the information.

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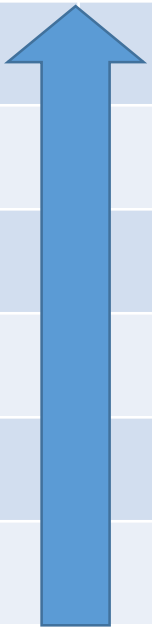
Autumn 1: Week 4: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Statistics: Interpret and present data using: bar charts; pictograms and tables	Me	My Teacher
Can you present information in the form of a table that helps the reader gain access to information rapidly?		
Can you present information on a bar chart where there is a scale on the vertical axes?		
Can you present information on a pictogram or bar chart?		
Can you read information that has been set out within a table?		
Can you read information from a bar chart that has a scale on the vertical axes?		
Can you read information set out in a bar chart or pictogram?		



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Year 3: Autumn 1

Week 5: Addition and Subtraction

Add and subtract numbers mentally, including:

- **3-digit number & ones**
- **3-digit number & tens**
- **3-digit number & hundreds**

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Autumn 1: Week 5: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 1 Week 5

Objective: Addition & Subtraction	**Add and subtract numbers mentally, including:** - **3-digit number & ones** - **3-digit number & tens** - **3-digit number & hundreds**

7 + 6			345 + 40	
9 - 3			492 + 30	
23 + 6			569 - 50	
56 + 9			348 - 90	
67 - 5			363 + 200	
45 - 9			875 + 300	
129 + 6			560 - 200	
345 - 9			789 - 300	

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Autumn 1: Week 5: Practice and Consolidation

Addition & Subtraction: Add and subtract numbers mentally, including: 3-digit number & ones; 3-digit number & tens; 3-digit number & hundreds

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
Mentally: ➢ Subtract any 1-digit number from a greater 1–digit number ➢ Add any 3-digit number to a 1-digit number ➢ Subtract a 1-digit number from a 3-digit number ➢ Add any 3-digit number to a 10s number ➢ Subtract a 10s number from any 3-digit number ➢ Add any 3-digit number to any 100s number. ➢ Subtract any 100s number from a 3-digit number	• Quick recall of addition and subtraction of one digit numbers. • Create a climate of rapid recall. • Move on to rapid recall of 3 one-digit numbers. • Add 10 and then a 10s number onto a 2-digit and then a 3-digit number. Aim to retain the same rapid pace. • Subtract 10 and then a 10s number from any given 2-digit number and then move on to a 3-digit number. • Add 100 and then a 100s number on to a 3-digit number. • Subtract 100 and then a 100s number from a given 3-digit number.	Subtract 9 from the following numbers: 15; 23; 34; 67; 26; 92; 82; 77 Now add 9 to these numbers: 15; 23; 34; 67; 26; 92; 82; 77 Subtract 9 from the following numbers: 128; 158; 281; 267; 301; 305; 428; 601 Add 9 to the following numbers: 128; 158; 281; 267; 301; 305; 428; 601 Subtract 100 from the following numbers: 428; 178; 287; 667; 501; 395; 628; 671 Add 100 to the same set of numbers: 682 – 200; 527 – 300; 491 – 100; 389 – 200; 720 – 400; 379 – 100; 459 – 300; 710 – 400; 500 – 200; 789 - 300

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Autumn 1: Week 5: Mastering this Objective

Addition & Subtraction: Add and subtract numbers mentally, including: 3-digit number & ones; 3-digit numbers & tens; 3-digit numbers & hundreds

Teaching Sequence

Mentally:

- Subtract any 1-digit number from a greater 1–digit number
- Add any 3-digit number to a 1-digit number
- Subtract a 1-digit number from a 3-digit number
- Add any 3-digit number to a 10s number
- Subtract a 10s number from any 3-digit number
- Add any 3-digit number to any 100s number.
- Subtract any 100s number from a 3-digit number

If pupils have mastered this objective they will be able to complete these activities:

Write the 4 number facts that are shown in this bar model.

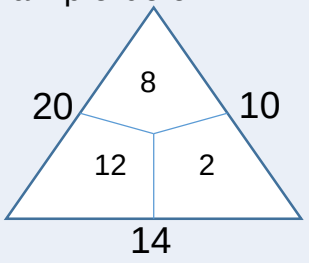
Explain to a friend which of the following is the most difficult and why.

323 + 10 =
393 + 10 =
454 - 100 =
954 - 120 =

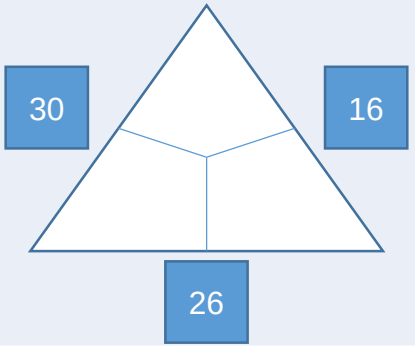
Complete the following calculations. What do you notice?

8 + 7 =	4 + 9 =
80 + 70 =	40 + 90 =
88 + 7 =	44 + 9 =
888 + 7 =	444 + 9 =
800 + 700 =	400 + 900 =

Look at the example below:



Now complete the following:



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Autumn 1: Week 5: Working at greater depth

Addition & Subtraction: Add and subtract numbers mentally, including: 3-digit number & ones; 3-digit numbers & tens; 3-digit numbers & hundreds

Teaching Sequence

Mentally:

- Subtract any 1-digit number from a greater 1–digit number
- Add any 3-digit number to a 1-digit number
- Subtract a 1-digit number from a 3-digit number
- Add any 3-digit number to a 10s number
- Subtract a 10s number from any 3-digit number
- Add any 3-digit number to any 100s number.
- Subtract any 100s number from a 3-digit number

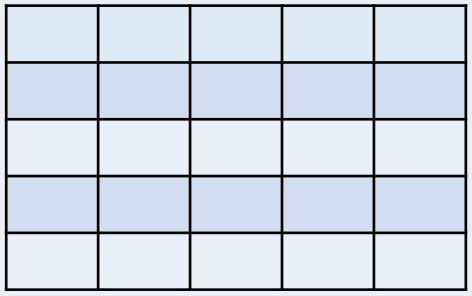
Activities for pupils working at greater depth:

___ + ___ + ___ = 201

Each missing digit is either a 9 or a 1. Write in the missing digits.
Find different ways of doing this.

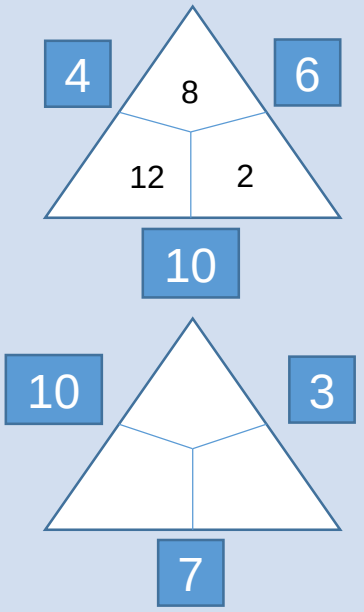
The two opposite sides of a dice always add up to 7. If the top numbers of 3 dice are 4, 2 and 5, how much will the bottom numbers add up to?

25 dice are thrown at the same time.
All dice have numbers 1 to 6.
Set out the dice in any way you want in the 5 x 5 pattern so that the numbers facing upwards add up to 125.



Four runners completed a relay in 78 seconds.
The fastest runner ran her leg twice as fast as the slowest runner.
The other two ran their leg in the same time.
How fast did each runner run?
Give at least one possible solution.

Look at the example below:



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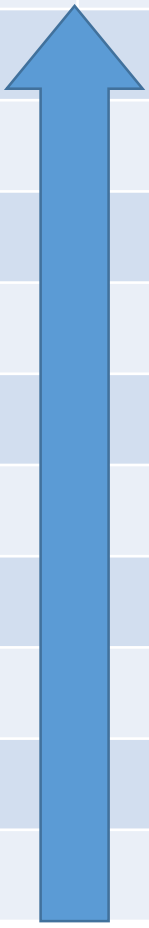
Autumn 1: Week 5: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Addition & Subtraction: Add and subtract numbers mentally, including: 3-digit number & ones; 3-digit numbers & tens; 3-digit numbers & hundreds	Me	My Teacher
Can you subtract any 100s number from a 3-digit number?		
Can you add together mentally any 100s number and any 3-digit number?		
Can you subtract any 10s number from a 3-digit number?		
Can you add together mentally any 10s number and any 3-digit number?		
Can you subtract any single-digit number from a 3-digit number?		
Can you add together mentally any single-digit and any 3-digit number?		
Can you subtract any single-digit number from a 2-digit number?		
Can you add together mentally any single-digit and any 2-digit number?		
Can you subtract rapidly any 2 single-digit number?		
Can you add rapidly any 2 single-digit numbers?		



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Year 3: Autumn 1

Week 6: Addition & Subtraction

Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.

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Autumn 1: Week 6: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 1 Week 6
Objective: Addition & Subtraction	**Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.**

23 14+		62 25+		321 137 223+		138 212 114+	
37 14-		27 16-		345 112-		479 345-	
345 242+		123 356+		535 246-		843 467-	
345 136+		123 458+					

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Autumn 1: Week 6: Practice and Consolidation

Addition & Subtraction: Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.

Teaching Sequence

- Add two 2-digit numbers using columnar addition without exchanging.
- Subtract a 2-digit number from a 2-digit number without exchanging.
- Add two 3-digit numbers using columnar addition without exchanging.
- Subtract a 2 or 3-digit number from a 3-digit number without exchanging.
- Add two 2-digit numbers where the units make more than 10
- Add two 3-digit numbers where the units and/or tens make more than 10
- Subtract a 2-digit number from a 2-digit number where exchanging is required
- Subtract a 2-digit number from a 3-digit number where exchanging is required

Oral and Mental Activities Examples:

- Focus on setting out columnar addition starting with examples which do not require exchanging.
- Move on to additions of up to 3-digit numbers that require exchanging between ones and tens and between tens and hundreds.
- Focus on setting out columnar subtractions starting with examples which do not require exchange.
- Move on to subtractions which do require exchanging between the one and the tens and also the tens and the hundreds column.
- Deal separately with subtraction where there is a 0 in the tens column of a 3-digit number.
- The important thing is to emphasise the system used.

Pencil and Paper Activities Examples:

Quick reminder of adding and subtracting 2-digit numbers:

34	67	89	28	91	45	79	90
36+	34+	45+	19-	26-	17-	26-	25-

Addition of 3-digit numbers:

348	560	615	490	369	901	702	670
256+	239+	230+	391+	75+	710+	501+	289+

Subtraction of 3-digit numbers:

567	349	176	231	492	591	693	721
234-	138-	152-	115-	276-	277-	347-	477-

Subtraction with 0 in the tens column:

409	702	902	605	906	402
174-	269-	367-	391-	582-	177-

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Autumn 1: Week 6: Mastering this Objective

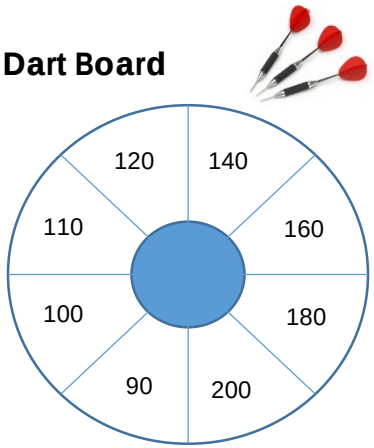
Addition & Subtraction: Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.

Teaching Sequence

- Add two 2-digit numbers using columnar addition without exchanging.
- Subtract a 2-digit number from a 2-digit number without exchanging.
- Add two 3-digit numbers using columnar addition without exchanging.
- Subtract a 2 or 3-digit number from a 3-digit number without exchanging.
- Add two 2-digit numbers where the units make more than 10
- Add two 3-digit numbers where the units and/or tens make more than 10
- Subtract a 2-digit number from a 2-digit number where exchanging is required
- Subtract a 2-digit number from a 3-digit number where exchanging is required

If pupils have mastered this objective they will be able to complete these activities:

Dart Board



A special dart board has 8 numbers from 90 to 200.

If the dart hits a segment in the blue area the number doubles so the highest possible number could be 400.

How many ways could the 3 darts be placed to score exactly 500? Write out all possible combinations.

How many ways could the 3 darts be placed to score exactly 550?

Now do the same for 450; 650 and 750.

Don't forget the doubles.

Set each of these up as a columnar addition or subtraction calculation:

- Henry has read 348 pages of a 502 page book. How many pages does he have left?
- Jane has travelled 387Km of a 729Km journey. How many more Km has she left to go?
- Hamiz has a marble collection of 624 marbles; 247 were clear marbles and the others were not. How many marbles were not clear?

Look at the 6 calculations below. Estimate which answer will be the greatest and which will be the smallest:

387	298	761
404+	691+	520+
672	835	926
257-	257-	148-

Now work out the answers using columnar addition or subtraction.

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Autumn 1: Week 6: Working at greater depth

Addition & Subtraction: Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.

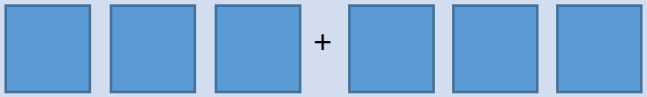
Teaching Sequence

- Add two 2-digit numbers using columnar addition without exchanging.
- Subtract a 2-digit number from a 2-digit number without exchanging.
- Add two 3-digit numbers using columnar addition without exchanging.
- Subtract a 2 or 3-digit number from a 3-digit number without exchanging.
- Add two 2-digit numbers where the units make more than 10
- Add two 3-digit numbers where the units and/or tens make more than 10
- Subtract a 2-digit number from a 2-digit number where exchanging is required
- Subtract a 2-digit number from a 3-digit number where exchanging is required

Activities for pupils working at greater depth:

Spinning Numbers

Make a 0 to 9 spinner.



When the spinner lands on a number place that number in any of the six spaces above. Spin the spinner 6 times. Then add the two 3-digit numbers together using the columnar method.

Now try to do this again but this time your aim is to make the answer as large as possible or as small as possible. Think of a strategy. Try to beat your friend.

Football Match

Use columnar addition or subtraction system to solve these problems:

- At a football match there were 695 spectators in the ground just before kick-off. 271 supported Rovers and the rest supported United. How many supported United?
- If 502 spectators were male, how many were female?
- Another 109 spectators came in late to the ground. How many spectators were in the ground by the end?

Harry, Hamid, Sarah and Sadiq stand for election to the school council.

The school has 492 children who can vote.

- Harry got 231 votes;
- Hamid 105 votes
- Sarah 96 votes and
- Sadiq 60 votes.

Did Harry have more votes than the other three put together? What was the difference?

After the first round Sadiq did not stand for election and 40 who voted for her now voted for Harry and 20 voted for Sarah.

Did Harry now have more votes than the other two together? What was the difference.

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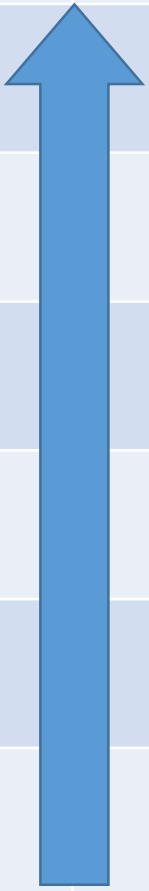
Autumn 1: Week 6: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Addition & Subtraction: Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.	Me	My Teacher
Can you subtract a 3-digit from another, using columnar subtraction where the value of the tens is 0?		
Can you subtract a 3-digit number from another using columnar subtraction which requires exchange between the ones, tens or hundreds?		
Can you subtract a 3-digit number from another using columnar subtraction which requires no exchange between the ones, tens or hundreds?		
Can you add 3 numbers with 3-digits using columnar addition where the ones or tens make more than 10?		
Can you add 2 numbers with 3-digits together using columnar addition, where the ones and tens when added make more than 10?		
Can you add 2 numbers with 3-digits together using columnar addition without exchange between the ones and tens?		



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YEAR 3 : AUTUMN 2

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
1 Multiplication & Division	**2 Multiplication & Division**	**3 Multiplication & Division**	**2 Measures Time**	**1 Geometry 3D Shape**	**Consolidate and Assess**
Recall and use the multiplication and division facts for the 3, 4 and 8 tables.	Write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Estimate and read time with increasing accuracy to the nearest minute; Tell and write the time from an analogue clock, including using Roman numerals from I to XII	Make 3D shapes using modelling materials; recognise 3D shapes in different orientations; & describe them	Start this week by using the warm ups outlined in the 'Upside down and Inside out' section of this publication so as to ensure pupils are fluent and secure with their basic skills. Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in the Autumn term.
➢ Count in 3s; forward and backwards. ➢ Recite the x3 table up to x12, without error. ➢ Answer any calculation involving x3, out of order. ➢ Know that 2x3 is the same as 3x2 etc.. ➢ Answer any calculation involving ÷3, out of order. ➢ Count in 4s; forward and backwards. ➢ Recite the x4 table up to x12, without error. ➢ Answer any calculation involving x4, out of order. ➢ Know that 3x4 is the same as 4x3 etc.. ➢ Answer any calculation involving ÷4, out of order. ➢ Count in 8s; forward and backwards. ➢ Recite the x8 table up to x12, without error. ➢ Answer any calculation involving x8, out of order. ➢ Know that 4x8 is the same as 8x4 etc.. ➢ Answer any calculation involving ÷8, out of order.	➢ Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x.	➢ Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.	➢ Read the time to one minute intervals. ➢ Estimate the time to the nearest five minute interval, e.g. it is nearly ten past four. ➢ Recognise the Roman numerals from I to XII. ➢ Place I – XII on a clock face in correct place ➢ Read time on clock with Roman numerals ➢ Show equivalent time from Roman numeral clock face on regular analogue face and vice versa	➢ Make 3D shapes from a range of materials (including modelling materials and construction) ➢ Accurately describe the properties of 3D shapes	

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Year 3: Autumn 2

Week 1: Multiplication & Division

Recall and use the multiplication and division facts for the 3, 4 and 8 tables.

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Autumn 2: Week 1: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 2 Week 1
Objective: Multiplication & Division	Recall and use the multiplication and division facts for the 3, 4 and 8 tables.

Complete these very quickly (2 minutes maximum)

5 x 4			How many 8s in 32?		
9 x 3			How many 4s in 24?		
10 x 8			How many 3s in 15?		
6 x 4			How many 8s in 64?		
7 x 8			How many 3s in 27?		
7 x 3			How many 4s in 36?		
4 x 8			How many 3s in 21?		
10 x 4			How many 8s in 32?		

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Autumn 2: Week 1: Practice and Consolidation

Multiplication & Division: Recall and use the multiplication and division facts for the 3, 4 and 8 tables.

Teaching Sequence

- Count in 3s; forward and backwards.
- Recite the x3 table up to x12, without error.
- Answer any calculation involving x3, out of order.
- Know that 2x3 is the same as 3x2 etc.
- Answer any calculation involving ÷3, out of order.
- Count in 4s; forward and backwards.
- Recite the x4 table up to x12, without error.
- Answer any calculation involving x4, out of order.
- Know that 3x4 is the same as 4x3 etc.
- Answer any calculation involving ÷4, out of order.
- Count in 8s; forward and backwards.
- Recite the x8 table up to x12, without error.
- Answer any calculation involving x8, out of order.
- Know that 4x8 is the same as 8x4 etc.
- Answer any calculation involving ÷8, out of order.

Oral and Mental Activities Examples:

- Count on and back in 3s, 4s and 8s starting from 0.
- Count on and back in 3s, 4s and 8s starting from any given number below 10.
- Create small groups where they have to count on in 3s, 4s and 8s, backwards and forwards. If they do not respond within 2 seconds then they drop out. Aim for an eventual winner in each group.
- Chant x3; x4 and x8 tables on a regular basis.
- Provide opportunities for pupils to write out tables as well as chanting them;
- Quick recall of the x3; x4 and x8 tables out of order;
- Work on inverses, eg, how many 3s in 27? etc.

Pencil and Paper Activities Examples:

One minute responses: How many can they complete in one minute: (do these on Monday and repeat on Friday)

3 x 4 =	4 x 8 =	5 x 4 =
7 x 3 =	10 x 8 =	7 x 4 =
6 x 4 =	9 x 3 =	11 x 8 =
7 x 8 =	11 x 4 =	9 x 4 =
9 x 8 =	8 x 3 =	10 x 3 =

27 ÷ 3 =	24 ÷ 8 =	33 ÷ 3 =
56 ÷ 8 =	48 ÷ 4 =	88 ÷ 8 =
32 ÷ 4 =	36 ÷ 3 =	72 ÷ 8 =

If 3 x 4 = 12 What do we know about 4 x 3?
If 5 x 3 = 15 What do we know about 3 x 5?
If 8 x 4 = 32 What do we know about 4 x 8?
If 3 x 8 = 24 What do we know about 8 x 3?
Make up another 5 examples of the inverse being true.

Which of the following multiplication and division facts are true or false? Circle all true facts

3 x 4 = 12	5 x 5 = 20	9 x 5 = 45
7 x 8 = 49	10 x 4 = 40	11 x 4 = 44
90 ÷ 9 = 9	72 ÷ 8 = 9	88 ÷ 8 = 11
88 ÷ 4 = 22	49 ÷ 4 = 12	55 ÷ 4 = 11
75 ÷ 5 = 15	11 ÷ 11 = 0	100 x 5 = 500

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Autumn 2: Week 1: Mastering this Objective

Multiplication & Division: Recall and use the multiplication and division facts for the 3, 4 and 8 tables.

Teaching Sequence	If pupils have mastered this objective they will be able to complete these activities:	
➢ Count in 3s; forward and backwards. ➢ Recite the x3 table up to x12, without error. ➢ Answer any calculation involving x3, out of order. ➢ Know that 2x3 is the same as 3x2 etc. ➢ Answer any calculation involving ÷3, out of order. ➢ Count in 4s; forward and backwards. ➢ Recite the x4 table up to x12, without error. ➢ Answer any calculation involving x4, out of order. ➢ Know that 3x4 is the same as 4x3 etc. ➢ Answer any calculation involving ÷4, out of order. ➢ Count in 8s; forward and backwards. ➢ Recite the x8 table up to x12, without error. ➢ Answer any calculation involving x8, out of order. ➢ Know that 4x8 is the same as 8x4 etc. ➢ Answer any calculation involving ÷8, out of order.	Will the answer to the following calculations be greater or less than 100? 27 x 4 = 32 x 3 = 42 x 2 = 36 x 8 =	How does knowing that 5 x 4 = 20 help you know what 15 x 4 is? Talk to your friend about the way you have worked out 15 x 4. Now do the same with the following: If 3 x 8 = 24, what will 13 x 8 be?
	Complete the following: 3 x ☐ = 24 7 x ☐ = 28 9 x ☐ = 27	Mum and Dad have decided to make a new patio. They have 48 patio rectangular stones. How many other ways could they arrange the stones? One would be 2 x 24.
	Three children share 24 sweets between them. If they all have the same number of sweets, how many will each have? If they left 6 to eat another day, how many sweets did they have then?	Complete the following: 36 ÷ ☐ = 9 ☐ ÷ 8 = 10 27 ÷ ☐ = 9

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Autumn 2: Week 1: Working at greater depth

Multiplication & Division: Recall and use the multiplication and division facts for the 3, 4 and 8 tables.

Teaching Sequence

- Count in 3s; forward and backwards.
- Recite the x3 table up to x12, without error.
- Answer any calculation involving x3, out of order.
- Know that 2x3 is the same as 3x2 etc.
- Answer any calculation involving ÷3, out of order.
- Count in 4s; forward and backwards.
- Recite the x4 table up to x12, without error.
- Answer any calculation involving x4, out of order.
- Know that 3x4 is the same as 4x3 etc.
- Answer any calculation involving ÷4, out of order.
- Count in 8s; forward and backwards.
- Recite the x8 table up to x12, without error.
- Answer any calculation involving x8, out of order.
- Know that 4x8 is the same as 8x4 etc.
- Answer any calculation involving ÷8, out of order.

Activities for pupils working at greater depth:

Using the digits 2, 3, 4 and 8 in the calculation below, how close can you get to 25?

Using only the 2, 3, 4 or 8 digits, what is the largest number you can make?

What is the smallest number you can make?

In a Mediterranean hotel a breakfast costs £5.
The bill for the room and breakfasts, at the end of 8 days, costs £280.
How much does the room cost each day?

How much would the daily room rate be if the total cost (including breakfast) was £360

A family of 4 decided to go to see the latest film about a Stone Age boy.
Tickets for the adults cost twice as much as the tickets for the children.
All tickets are priced in £s only.
How much might the family have spent altogether?

£15 £36 £60 £23 £29

Putting the digits 3, 4 and 8 into the empty boxes, how many different calculations can you make?

Which gives the largest answer?

Which gives the smallest answer?

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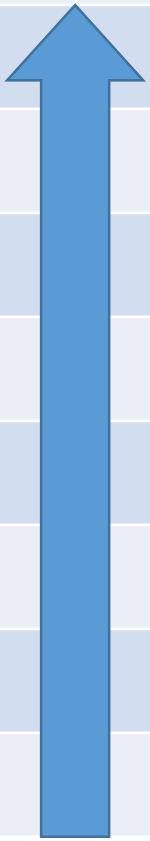
Autumn 2: Week 1: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Multiplication & Division: Recall and use the multiplication and division facts for the 3, 4 and 8 tables.	Me	My Teacher
Do you know the inverse of all table facts involving 2, 3, 4, 5, 8 and 10x table, eg, how many 4s in 24?		
Can you recall all number facts for the 2, 3, 4, 5, 8 and 10x table out of sequence?		
Can you recite all multiplication facts for the x8 table?		
Can you recite all multiplication facts for the x4 table?		
Can you recite all multiplication facts for the x3 table?		
Can you recite all multiplication facts for the x10 table?		
Can you recite all multiplication facts for the x5 table?		
Can you recite all multiplication facts for the x2 table?		



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Year 3: Autumn 2

Week 2: Multiplication & Division

Write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

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Autumn 2: Week 2: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 2 Week 2
Objective: Multiplication & Division	Write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Complete these calculations

20 x 3			24 x 8		
30 x 5			41 x10		
40 x 8			35 x 5		
70 x 10			17 x 4		

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Autumn 2: Week 2: Practice and Consolidation

Multiplication & Division: Write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x.	• Start by rapid multiplication of a single digit by 10, in order and then out of order. • Move on to multiplication of 2-digit numbers by 10. Talk to the children about what they notice. • Demonstrate how to set out a multiplication of a 2-digit number by 2, 3, 4, 5 or 8. • Talk to the children about multiplying a single digit by 3, 4 or 8 and then multiply the equivalent 10s number by the 3, 4 or 8. What do they notice?	Complete these quickly: 3 x 8 = ☐ 30 x 8 = ☐ What do you notice? 4 x 4 = ☐ 40 x 4 = ☐ What do you notice? 20 x 4 = ☐ 50 x 3 = ☐ 60 x 5 = ☐ 40 x 8 = ☐ 90 x 5 = ☐ 70 x 5 = ☐ 24 x 5 = ☐ 76 x 8 = ☐ 34 x 5 = ☐ 72 x 4 = ☐ 48 x 5 = ☐ 78 x 3 = ☐ What are 4 lots of 3? What are 5 lots of 4? What are 6 lots of 8? What are 9 lots of 3? What are 8 lots of 3? What are 10 lots of 4? What are 6 lots of 4? What are 3 lots of 9?

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Autumn 2: Week 2: Mastering this Objective

Multiplication & Division: Write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence	If pupils have mastered this objective they will be able to complete these activities:	
➢ Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x.	**Dice**  Harry threw 2 dice (1 to 6). The numbers when multiplied made 24. What were the numbers? Jenny threw 2 dice (1 to 6). The numbers when multiplied made 12. How many pairs of numbers could there have been? What are they?	**Pairs of calculations** What do you notice about the following pairs of calculations? 13 x 4 13 x 8 16 x 4 16 x 8 12 x 5 12 x 10
	Jigsaw Time Jamil is making a jigsaw. He has 96 pieces altogether. How many different rectangular arrangements could Jamil be looking at. One has been done for you. 16 x 6	**Dinosaur Park** A group of adults and children decided to visit the dinosaur park. The adults paid twice as much as the children. The group paid £150. How many adults and children could have been in the group? Give two different answers.

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Autumn 2: Week 2: Working at greater depth

Multiplication & Division: Write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence

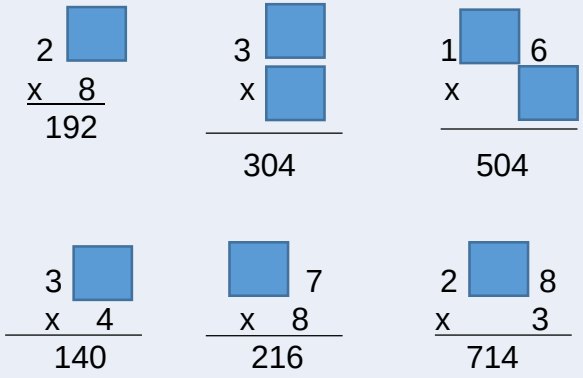
- Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x.

Activities for pupils working at greater depth:

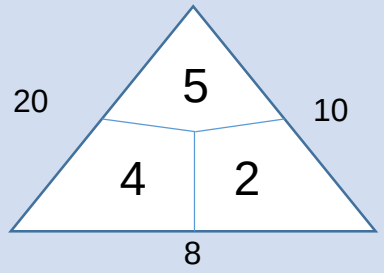
Helen and David set their munchy monsters out in rows.

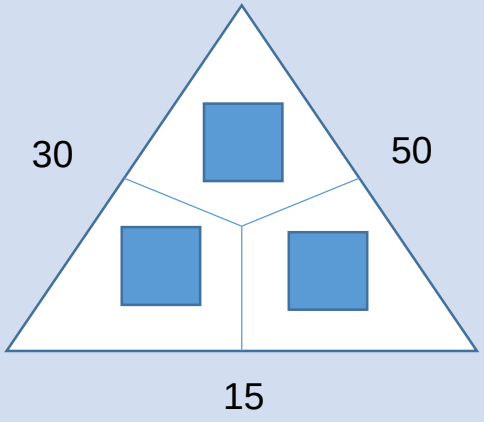
They can do this in 2 ways:
If they arrange them in 4 rows they have 2 left over;
If they arrange them in 3 rows they have none left over.
How many munchy monsters could they have altogether?
Explain your reasoning.

Find the missing digits:



Look at the example below and then find the missing numbers in the triangle beneath it.





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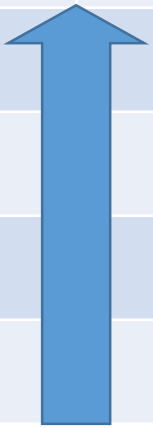
Autumn 2: Week 2: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Multiplication & Division: Write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Me	My Teacher
Can you multiply a 2-digit number by 4, and 8x?		
Can you multiply a 2-digit number by 2, 3, 5 and 10x ?		
Can you see the relationship between the original number and the answer when multiplying by 10?		
Can you multiply a 10s number by a single-digit number mentally, using 2, 3, 4, 5, 8 and 10x?		



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Year 3: Autumn 2

Week 3: Multiplication & Division

Write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

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Autumn 2: Week 3: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 2 Week 3
Objective: Multiplication & Division	Write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Count on or back as required

72 ÷ 8			64 ÷ 8		
32 ÷ 4			44 ÷ 4		
40 ÷ 5			55 ÷ 5		
70 ÷ 10			90 ÷ 10		

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Autumn 2: Week 3: Practice and Consolidation

Multiplication & Division: Write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.	• Start by rapid division of a 10s number by 10, in order and then out of order. • Move on to division of 2-digit numbers by 2. Talk to the children about what they notice (in effect half of the original number). • Move on to division of 2-digit numbers by 4. Talk to the children about what they notice (in effect a quarter of the original number). • Demonstrate how to set out a division of a 2-digit number by 2, 3, 4, 5 or 8. • Talk to children about dividing a 2-digit number by 3, 4 or 8.	Complete these calculations: 24 ÷ 3 = ☐ 240 ÷ 3 = ☐ What do you notice? 48 ÷ 4 = ☐ 480 ÷ 4 = ☐ What do you notice? 20 ÷ 4 = ☐ 60 ÷ 3 = ☐ 25 ÷ 5 = ☐ 40 ÷ 8 = ☐ 90 ÷ 10 = ☐ 60 ÷ 5 = ☐ 35 ÷ 5 = ☐ 72 ÷ 8 = ☐ 55 ÷ 5 = ☐ 72 ÷ 4 = ☐ 75 ÷ 5 = ☐ 78 ÷ 3 = ☐ How many 4s in 12? How many 8s in 64? How many 5s in 35? How many 10s in 90? How many 3s in 27? How many 8s in 80? How many 2s in 36? How many 8s in 88? How many 5s in 75? How many 10s in 120?

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Autumn 2: Week 3: Mastering this Objective

Multiplication & Division: Write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence

- Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder.
- Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.

If pupils have mastered this objective they will be able to complete these activities:

Throw 2 dice. I represents a tens number and the other a ones number.
Work out which of the 2-digit numbers you throw will be divisible by:
2; 3; 4; 5; 8 or 10
One has been done for you:

Number	56					
	2	3	4	5	8	10
Yes/ no	yes	no	yes	no	yes	no

Pairs of calculations
What do you notice about the following pairs of calculations?

24 ÷ 4	24 ÷ 8
16 ÷ 4	16 ÷ 8
50 ÷ 5	50 ÷ 10

Make up some other pairs

Patio time

Two builders were laying a patio in Tim's garden.
They had 72 slabs.
12 slabs were used to make up the longest side.
How many slabs were used to make up the shorter side?

Zoo Entrance

12 children went to the zoo.
They had £50 to pay for their entry.
When they had paid they were given £2 back in change.
How much did each child pay to enter the zoo?
What if they had £100 and had £4 change.
How much would they have paid then?

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Autumn 2: Week 3: Working at greater depth

Multiplication & Division: Write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence

- Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder.
- Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.

Activities for pupils working at greater depth:

Find the missing digit:

$3\overline{)8\square}$ = 28

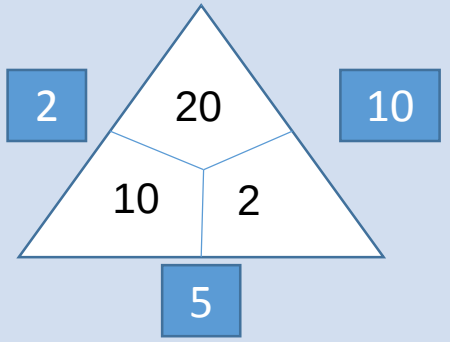
$4\overline{)5\square}$ = 14

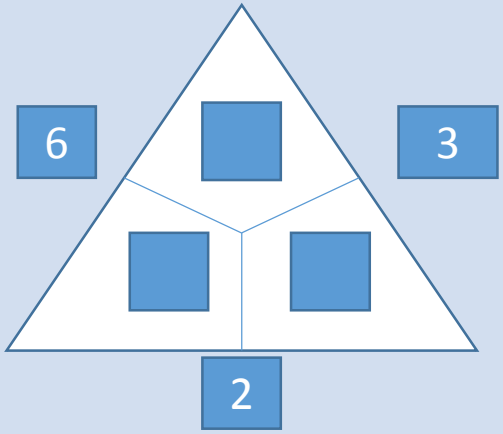
$5\overline{)\square 5}$ = 11

$8\overline{)\square 4}$ = 8

Reece, Jamil and Rosie share out the marbles. They have more than 30.
When they share them between the three of them they have 2 left over.
They are then joined by Helen so they share them out again.
This time they still have 2 left over.
When Alfie joins them, they share them out again. This time they have none left over.
How many marbles could they have had in the first place?

Look at the example below and then find the missing numbers in the triangle beneath it.





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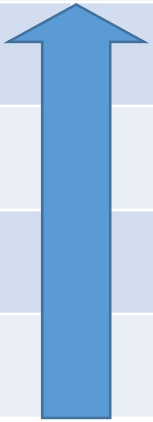
Autumn 2: Week 3: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Multiplication & Division: Write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Me	My Teacher
Can you divide a 2-digit number by 4, and 8x (without reminder)?		
Can you divide a 2-digit number by 2, 3, 5 and 10x (without reminder)?		
Can you see the relationship between the original number and the answer when dividing by 10?		
Can you divide a 10s number by a single-digit number mentally, using 2, 3, 4, 5, 8 and 10x?		



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Year 3: Autumn 2

Week 4: Measures: Time

Estimate and read time with increasing accuracy to the nearest minute;
-Tell and write the time from an analogue clock, including using Roman numerals from I to XII

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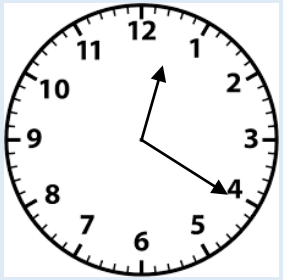
Autumn 2: Week 4: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 2 Week 4
Objective: Measures: Time	Estimate and read time with increasing accuracy to the nearest minute; -Tell and write the time from an analogue clock, including using Roman numerals from I to XII

What's the time?



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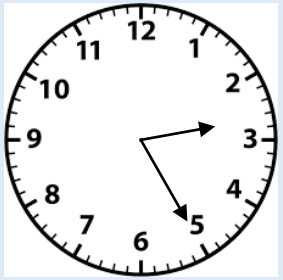

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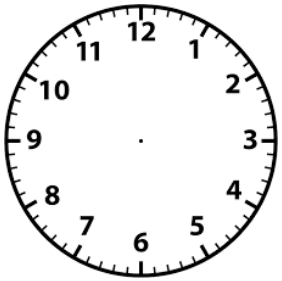
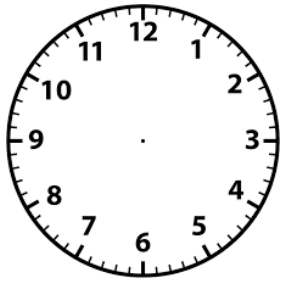
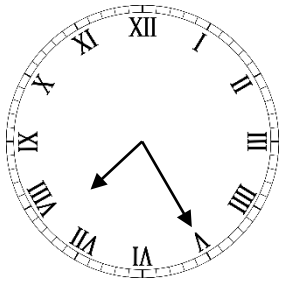




Put twenty to six and twenty past seven on these two clock faces.



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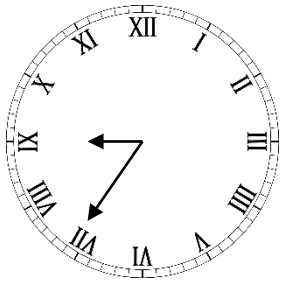

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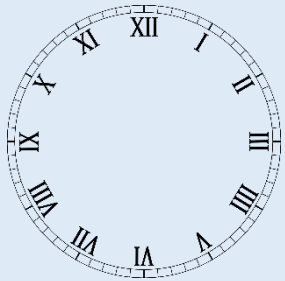

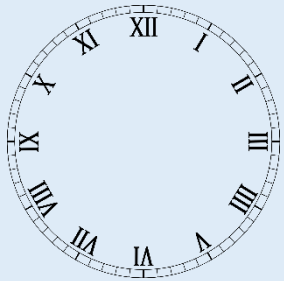

Put twenty-five past six and five to seven on these two clock faces.

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Autumn 2: Week 4: Practice and Consolidation

Measures: Time: Estimate and read time with increasing accuracy to the nearest minute; Tell and write the time from an analogue clock, including using Roman numerals from I to XII

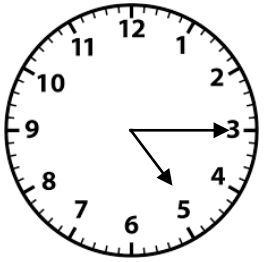
Teaching Sequence

- Read the time to one minute intervals.
- Estimate the time to the nearest five minute interval, e.g. it is nearly ten past four.
- Recognise the Roman numerals from I to XII.
- Place I – XII on a clock face in correct place
- Read time on clock with Roman numerals
- Show equivalent time from Roman numeral clock face on regular analogue face and vice versa

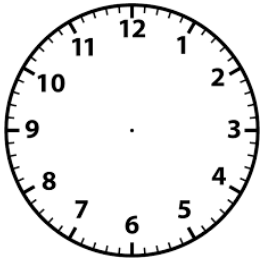
Oral and Mental Activities. Examples:

- Show the children a number of clock faces to include ones that have Roman numerals. Ensure that the children are familiar with the differences.
- Play a game of snap which includes numbers 1 to 12 and Roman numerals 1 to 12. (1 to X11).
- Using a large clock face set the time so that it is not exactly on one of the numbers, eg, a little past the one, etc. Get the children to tell the time to the nearest five minutes.
- Use cards with Roman numeral and conventional times set out on them and get pupils to put the time on a clock which has moving hands.

Pencil and Paper Activities Examples:



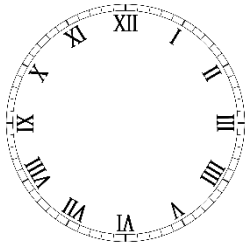
What is the time on the clock to the left?



It is ten past three. Put in the correct time on the clock face to the left.

Write the Roman numerals for the numbers 1 to 12.
It is V past V11 on a Roman Numeral clock face.
What time is it?
Put in the time on a clock face.
Now do the same with the following times:

- X past 1V;
- the big hand is on V111 and the small hand is on V.



It is twenty past eight. Put in the correct time on the clock face to the left.

It is seventeen minutes past six. Which two numbers will the minute hand be between?

It is seventeen minutes to eight. Which two numbers will the minute hand be between?

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Autumn 2: Week 4: Mastering this Objective

Measures: Time: Estimate and read time with increasing accuracy to the nearest minute; Tell and write the time from an analogue clock, including using Roman numerals from I to XII

Teaching Sequence	**If pupils have mastered this objective they will be able to complete these activities:**	
➢ Read the time to one minute intervals. ➢ Estimate the time to the nearest five minute interval, e.g. it is nearly ten past four. ➢ Recognise the Roman numerals from I to XII. ➢ Place I – XII on a clock face in correct place ➢ Read time on clock with Roman numerals ➢ Show equivalent time from Roman numeral clock face on regular analogue face and vice versa	It is eighteen minutes past five. What is the time to the nearest five minutes? It is twenty-two minutes to nine. What is the time to the nearest five minutes?	If the minute hand is on V111 and the hour hand is near the V1, what is the time? Show the time on a clock face. If the minute hand is on V11 and the hour hand is on 1V, what is the time? Show the time on a clock face.
	Make up two sets of 20 cards. One set has the time using conventional time, eg, ten past four; and the other using Roman numerals, eg, X past IV. Keep the two sets separate and time a friend to see how quickly they can match the cards. Try to beat your friend's time. Ten Past eight X past V111	Using sets of cards that have the time written in words; as Roman numerals; as a clock face with numbers; and, as a clock face with Roman numerals; play a game of snap.  Twenty Past Nine  X Past 1V

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Autumn 2: Week 4: Working at greater depth

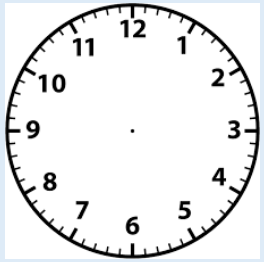
Measures: Time: Estimate and read time with increasing accuracy to the nearest minute;
-Tell and write the time from an analogue clock, including using Roman numerals from I to XII

Teaching Sequence

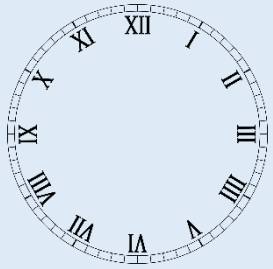
- Read the time to one minute intervals.
- Estimate the time to the nearest five minute interval, e.g. it is nearly ten past four.
- Recognise the Roman numerals from I to XII.
- Place I – XII on a clock face in correct place
- Read time on clock with Roman numerals
- Show equivalent time from Roman numeral clock face on regular analogue face and vice versa

Activities for pupils working at greater depth:

A television programme lasting 45 minutes finished at 5.20.
At what time did it start?
Put the start and finish time on the two clocks below



start



finish

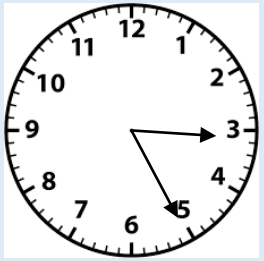
Use a clock face to show the time one and half hours after twenty past three.

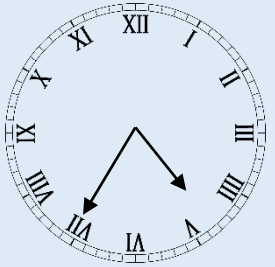
Use a Roman numeral clock face to show the time two hours and 15 minutes after quarter past three.

The answer is 25 minutes.
What could the question be?

The answer is 45 minutes.
What could the question be?

The answer is one hour and 15 minutes.
What could the question be?





What is the time difference between these two times? Now make up some more for your friends to solve.

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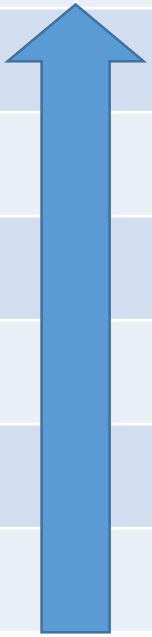
Autumn 2: Week 4: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Measures: Time: Estimate and read time with increasing accuracy to the nearest minute; Tell and write the time from an analogue clock, including using Roman numerals from I to XII	Me	My Teacher
Can you tell the time to the nearest five minutes when the hand is not exactly on a number?		
Can you tell the time to the nearest minute, either past or to the hour?		
Can you read all Roman numerals between 1 and 12 (1 and X11)?		
Can you tell the time to twenty-five to; twenty to; ten to and five to the hour?		
Can you tell the time to five past; ten past; twenty past and twenty-five past the hour?		
Can you tell the time to o'clock; half past the hour and quarter past and to the hour?		



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Year 3: Autumn 2

Week 5: Geometry: Shape

Make 3D shapes using modelling materials; recognise 3D shapes in different orientations; & describe them

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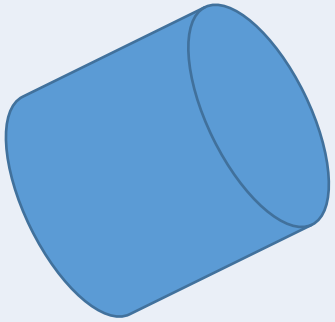
Autumn 2: Week 5: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Autumn 2 Week 5
Objective: Geometry	Make 3D shapes using modelling materials; recognise 3D shapes in different orientations; & describe them



Name the shape.

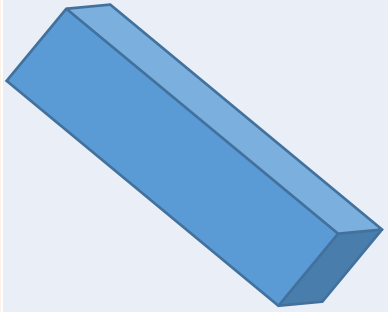
_____

Describe its properties.

_____

_____

Think of at least one use for this shape.



Name the shape.

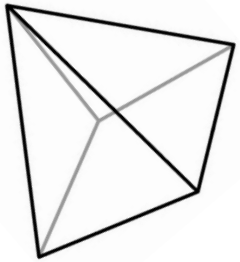
_____

Describe its properties.

_____

_____

Think of at least one use for this shape.

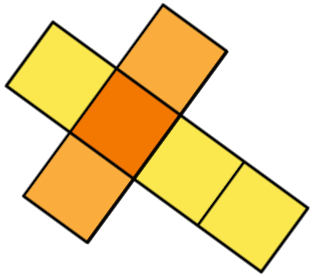


Name the shape.

_____

What would you use this shape for?

_____



What 3D shape does this net make?

_____

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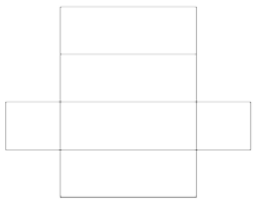
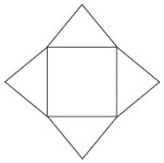
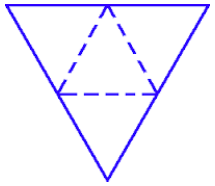
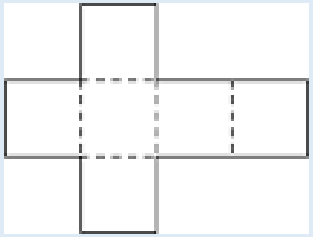
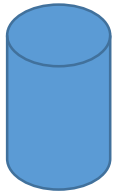
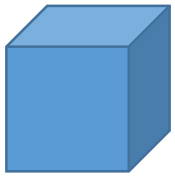
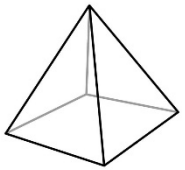
Autumn 2: Week 5: Practice and Consolidation

Geometry: Shape: Make 3D shapes using modelling materials; recognise 3D shapes in different orientations; & describe them

Teaching Sequence	Oral and Mental Activities: Examples:	Pencil and Paper Activities Examples:
➢ Make 3D shapes from a range of materials (including modelling materials and construction) ➢ Accurately describe the properties of 3D shapes	• Collect a number of containers, such as cereal boxes; tins of beans, etc. • Talk to the pupils about each of the 3D shapes and their uses. • Where it is possible, open up the boxes to see what the net looks like. • Give pupils card and let them try to create their own 3D shapes using the containers they have seen as an example. • Create a class collection of boxes and containers of different shape and classify them accordingly.	What 3D shapes will these nets make?    Make up 3 cubes starting from a piece of card. One should be large; one medium size and one small.  Describe the properties of the following shapes, using terms like faces, edges and corners.   

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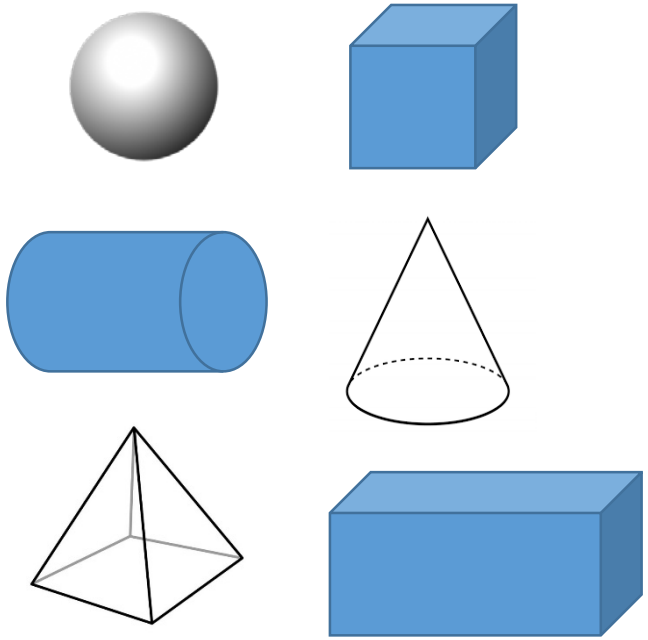
Autumn 2: Week 5: Mastering this Objective

Geometry: Shape: Make 3D shapes using modelling materials; recognise 3D shapes in different orientations; & describe them

Teaching Sequence	If pupils have mastered this objective they will be able to complete these activities:
➢ Make 3D shapes from a range of materials (including modelling materials and construction) ➢ Accurately describe the properties of 3D shapes	Put the following shapes into a feely bag: cube; cuboid; triangular pyramid; square-based pyramid; sphere, cylinder and cone. One person has to reach into the feely bag and describe accurately the shape they have without showing it to others. Pupils should work out which shape it is according to the description given.
	I am thinking of a 3-dimensional shape which has faces that are triangles and squares. What could my shape be? One face of a 3-D shape looks like this.  What could it be? Are there any other possibilities?



Look at the six 3D shapes above.
Take any 2 shapes and explain what is the same and what is different about each pair.

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Autumn 2: Week 5: Working at greater depth

Geometry: Shape: Make 3D shapes using modelling materials; recognise 3D shapes in different orientations; & describe them

Teaching Sequence

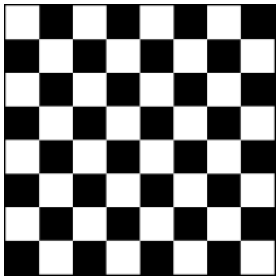
- Make 3D shapes from a range of materials (including modelling materials and construction)
- Accurately describe the properties of 3D shapes

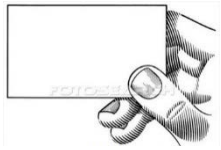
Activities for pupils working at greater depth:

Futuristic Town Design

Working with a partner:
Create a futuristic space town, using 3D shapes that you have made up from nets.
Try to use different 3D shapes of different sizes.
Design your town first before you make it.

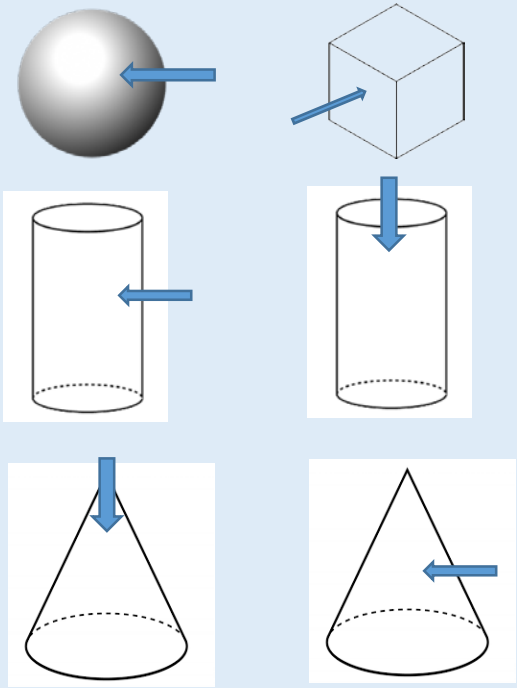
Create a board game that has either a 2D or a 3D shape in each square.





Make up a set of cards with the description of 2D and 3D properties on them.
From a given starting point move to the nearest square that matches the description on the card.
The winner is the one that makes most moves after picking up three cards.

Look at the following shapes.
If you cut down the middle (cross section) of each shape, in the direction of the arrow, what 2D shape will be left exposed?



Now do the same with a cuboid cut in two different ways.

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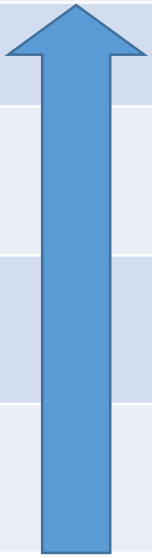
Autumn 2: Week 5: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Geometry: Shape: Make 3D shapes using modelling materials; recognise 3D shapes in different orientations; & describe them	Me	My Teacher
Can you see what different 3D shapes are used for in everyday life?		
Do you know what the net of the following shapes look like: cube; cuboid; cylinder; square-based pyramid; and, triangular-based pyramid?		
Can you recognise and name the following 3D shapes: cube; cuboid; sphere; cone; cylinder; square-based pyramid; triangular-based pyramid?		
Can you recognise and name all the regular 2D shapes: square; rectangle; circle; triangle and semi-circle?		



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Year 3: Autumn 2

Week 6: Consolidate and Assess

- Start this week by using the warm ups outlined on the next page so as to ensure pupils are fluent and secure with their basic skills.
- Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in the Autumn term.
- Analyse the results and use information to help focus the intervention sessions, as needed, for the following term.

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Year 3: Autumn 2: Week 6

The focus of the consolidation should be the following aspects:

- Count on/back in steps of 2s,5s, 10s, 3s to 100 and beyond, from 0 and any given number
- Count on/back in multiples of 4 and 8 from 0?
- Count on/back in 50s, 100s from 0 to 1000
- Find 10/100 more or less than a given number up to 500?
- Count on/back in tenths
- Read and write all numbers to 1000 in numerals and write all numbers in words to 400 and over
- Order a set of numbers (4 and/or 5) to at least 1000 in increasing and decreasing value
- Compare numbers up to 200 and beyond using =, <, > symbols?
- Round numbers to the nearest 10 to at least 500 and to the nearest 100 to 500
- Partition 3 digit numbers (hundreds, tens and ones)
- Recall fluently all addition number bonds to 20 and know all the subtraction number bonds to 20 to begin to become fluent in deriving facts (e.g. 3 + 7 = 10; 10 – 7 = 3 and 7 = 10 -3 to calculate 30 + 70 = 100; 100 – 70 = 30 and 70 = 100 – 30 and 300 + 700 = 1000; 1000 – 700 = 300 and 700 = 1000 – 300)
- Add/subtract: 3-digit and 1-digit numbers, a 3-digit number and tens and a 3-digit number and hundreds
- Count on/back in ½s , ¼s and $^{1}/_{3}$s including on a number line.
- Recall the 2, 3, 4, 5 and 10 times tables and the derived division facts
- Double any number up to 50 and halve any even 2-digit number up to 100
- Halve any even 2-digit number up to 60

- Although practise and consolidation should be on-going through each half term, during Week 6 there should be greater opportunity taken to check pupils' learning and understanding.
- Summative and Formative assessment procedures should help teachers gain a clear picture as to which pupils are at different stages, including mastery and greater depth.

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YEAR 3 : SPRING 1

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
3 Place Value	**1 Fractions**	**2 Fractions**	**5 Measures Length/ Mass/ Volume**	**4 Multiplication & Division**	**5 Multiplication & Division**
Compare and order numbers up to 1000 Recognise the place value of each digit in a 3 digit number	Recognise and show, using diagrams, equivalent fractions with small denominators. Recognise, find and write fractions of a discrete set of objects: unit fractions & non-unit fractions with small denominators.	Compare and order unit fractions, and fractions with the same denominators.	Measure, compare, add & subtract: - lengths (m/cm/mm) - mass (kg/g) - volume/ capacity (l/ml).	Consolidate: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length
➢ Know which number in a set of 3 digit numbers is the greatest ➢ Know which number in a set of 3 digit numbers is the smallest ➢ Order a set of 3 digit numbers from smallest to largest ➢ Order a set of 3 digit numbers from largest to smallest ➢ Identify the hundreds, tens and ones in any 3 digit number ➢ Partition a 3 digit number identifying the value of each digit	➢ Know that 1/2 is the same as 2/4 ➢ Be able to show 1/3 and 2/6 of a square ➢ Know what fractional values are, e.g. ¼ is one part of four, etc. ➢ Know what a unit fraction is ➢ Know what a non-unit fraction is ➢ Use fractions to solve problems ➢ Use a fraction wall diagram to solve problems	➢ Order fractions with the same denominator. ➢ Order any unit fractions.	➢ Use measuring apparatus to measure length, mass and volume ➢ Measure accurately to nearest mm, cm, m ➢ Measure accurately to nearest g, kg ➢ Measure accurately to nearest ml, l ➢ Know and use equivalence, e.g. 10mm = 1cm; 50cm = ½m; 100cm = 1m ➢ Know and use equivalence, e.g. 1000g = 1kg; 500g = ½kg ➢ Know and use equivalence, e.g. 1000ml = 1l; 500ml = ½l	➢ Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. ➢ Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.	➢ Multiply monetary values (£ only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply monetary values (£ and p only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Divide 2, 3, 4, 5, 8 into any monetary value (£ only) with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any monetary value (£ and p only) with no remainder.

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Year 3: Spring 1

Week 1: Place Value

Compare and order numbers up to 1000.
Recognise the place value of each digit in a 3 digit number.

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Spring 1: Week 1: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 1: Week 1
Objective: Place Value	Compare and order numbers up to 1000 Recognise the place value of each digit in a 3 digit number

Place the hundreds, tens and the ones in the correct place

	Hundreds	Tens	Ones	
317				
300				
426				
615				
405				
670				
87				
902				

Say which is the greater and the smaller number

657 or 234		
113 or 233		
109 or 201		
100 or 98		
Order these numbers (smallest first)		
803, 296, 105		
230, 788, 982		
115, 78, 902		
67, 98, 230		

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Spring 1: Week 1: Practice and Consolidation

Place Value: Compare and order numbers up to 1000.
Recognise the place value of each digit in a 3 digit number.

Teaching Sequence

- Know which number in a set of 3-digit numbers is the greatest
- Know which number in a set of 3-digit numbers is the smallest
- Order a set of 3-digit numbers from smallest to largest
- Order a set of 3-digit numbers from largest to smallest
- Identify the hundreds, tens and ones in any 3-digit number
- Partition a 3-digit number identifying the value of each digit

Oral and Mental Activities Examples:

- Use cards with numbers up to 1000 on them and get pupils to pick out the hundreds, tens or ones number.
- Recognise the value of each digit in a 3-digit number. Reinforce this through practise and consolidation.
- Have 3 pupils holding a 3-digit number in front of them. Get pupils to order the pupils according to the value of the number (greatest first or smallest first as commanded)
- Get pupils to recognise that a number like 362 has 3 hundreds; six tens and 2 ones; or, 36 tens and 2 ones; or, 362 ones.

Pencil and Paper Activities Examples:

Partition

Partition the following numbers following the example below:

379 = (300 + 70 + 9)

359	601	730
481	201	999
291	520	310

Smallest or Greatest

Put a circle around the smallest number and underline the greatest number in the sets below:

428, 104, 723	529, 521, 561
193, 601, 651	649, 726, 869
381, 726, 923	477, 511, 611

Order Numbers

Order the following numbers (smallest first):

258, 104, 823	729, 721, 761
103, 301, 451	629, 926, 269
581, 926, 823	177, 311, 711

Put each digit in the correct column.

	Hundreds	Tens	Ones
502			
610			
920			

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Spring 1: Week 1: Mastering this Objective

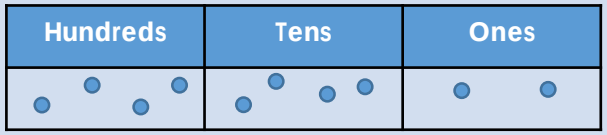
Place Value: Compare and order numbers up to 1000
Recognise the place value of each digit in a 3 digit number

Teaching Sequence

- Know which number in a set of 3 digit numbers is the greatest
- Know which number in a set of 3 digit numbers is the smallest
- Order a set of 3 digit numbers from smallest to largest
- Order a set of 3 digit numbers from largest to smallest
- Identify the hundreds, tens and ones in any 3 digit number
- Partition a 3 digit number identifying the value of each digit

If pupils have mastered this objective they will be able to complete these activities:

Taking 10 counters, how many different 3-digit numbers can you make? One is shown below:



= 442

6 hundreds, 4 tens and 9 ones together make: ☐

729 is made up of ☐ hundreds; ☐ tens and ☐ ones.

A number like 729 can be expressed as 7 hundreds; 2 tens and 9 ones.
Or it can be expressed as 72 tens and 9 ones;
Or it can be 729 ones.

Now do the same with the numbers

719; 820; 358; 429; 620; 103

Take 3 numbers: 7 3 and 8.

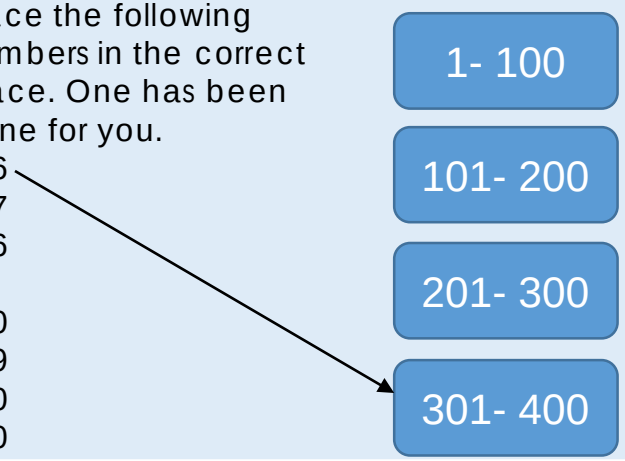
Place them on a card as shown below:

7	3	8

to make up the 3-digit number 738.
How many different numbers can you make using these three digits?
Which is the largest number?
Which is the smallest number?

Place the following numbers in the correct place. One has been done for you.

356
267
126
87
290
399
140
210



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Spring 1: Week 1: Working at greater depth

Place Value: Compare and order numbers up to 1000
Recognise the place value of each digit in a 3 digit number

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Know which number in a set of 3 digit numbers is the greatest ➢ Know which number in a set of 3 digit numbers is the smallest ➢ Order a set of 3 digit numbers from smallest to largest ➢ Order a set of 3 digit numbers from largest to smallest ➢ Identify the hundreds, tens and ones in any 3 digit number ➢ Partition a 3 digit number identifying the value of each digit	Make up a 3-digit number where the sum of the three digits is 9, eg, 333 or 450. Which is the largest number you can make? Which is the smallest number you can make?	Look at the set of numbers below: 6 7 3 5 2 Make up two 3-digit numbers that are less than 100 apart. Now make up two 3-digit numbers that are more than 100 apart. Now make up two 3-digit numbers that are more than 50 apart.
	6 children were given a maths problem where the answer was 198. Ariana put down 155 as her answer; George put down 183; Jemma put down 208; Hamid put down 217; Harry put down 164 and Mustafa put down 198. Who was closest to the answer and who was furthest away? Explain how you worked this out.	Create some 3-digit numbers where the unit is one less than the tens and the tens is one less than the hundreds. What are the largest and smallest possible numbers you can create? Create two 3-digit numbers that have a difference of more than 10, with the ones number being 7 and the hundreds number being 6?

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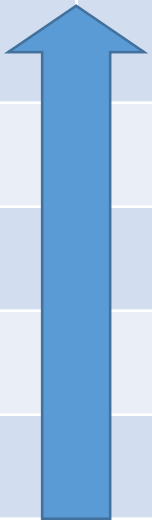
Spring 1: Week 1: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Place Value: Compare and order numbers up to 1000 Recognise the place value of each digit in a 3 digit number	Me	My Teacher
Can you order a set of 3-digit numbers from largest to smallest?		
Can you order a set of 3-digit numbers from smallest to largest?		
Do you know which of two 3-digit numbers is the greater and smaller?		
Can you partition any number up to 999 showing the value of each digit?		
Do you know and use terms: ones; tens and hundreds correctly?		



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Year 3: Spring 1

Week 2: Fractions

Recognise and show, using diagrams, equivalent fractions with small denominators.
Recognise, find and write fractions of a discrete set of objects: unit fractions & non-unit fractions with small denominators.

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Spring 1: Week 2: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 1: Week 2
Objective: Fractions	Recognise and show, using diagrams, equivalent fractions with small denominators. Recognise find and write fractions or a discrete set of objects: unit fractions & non-unit fractions with small denominators.

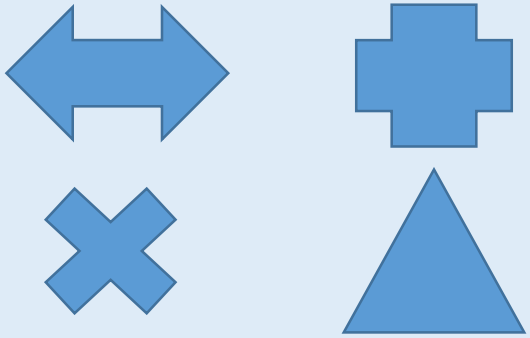
Put the following fractions in order according to their value, highest value first.

$\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{10}$ $\frac{1}{8}$ $\frac{1}{6}$

Shade in one tenth of the following table.

Shade in one quarter of the following table.

Colour in ½ of the following shapes:



Which of the following values is the same as ¼? Circle them.

$\frac{2}{8}$ $\frac{6}{7}$ $\frac{2}{6}$ $\frac{5}{10}$ $\frac{3}{12}$

Now put a square box around any that are the same as ½.

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Spring 1: Week 2: Practice and Consolidation

Fractions: Recognise and show, using diagrams, equivalent fractions with small denominators. Recognise find and write fractions or a discrete set of objects: unit & non-unit fractions with small denominators.

Teaching Sequence

- Know that 1/2 is the same as 2/4
- Be able to show 1/3 and 2/6 of a square
- Know what fractional values are, e.g. ¼ is one part of four, etc..
- Know what a unit fraction is
- Know what a non-unit fraction is
- Use fractions to solve problems
- Use a fraction wall diagram to solve problems

Oral and Mental Activities: Examples:

- Write all unit fractions from ½ to 1/10 and talk to the pupils about which unit fraction has the highest value and which has the smallest value.
- Use practical applications to show ½, ¼ and 1/10 values. Reinforce that ½ is a greater value than ¼.
- Express ½ as one part of two and ¼ as one part of 4, etc.
- Use the term 'unit fraction' with the pupils and explain its meaning.
- Use the term 'non unit fraction' and explain its meaning.
- Create a wall diagram that shows one whole and then one whole broken into halves; thirds, quarters, etc.

Pencil and Paper Activities Examples:

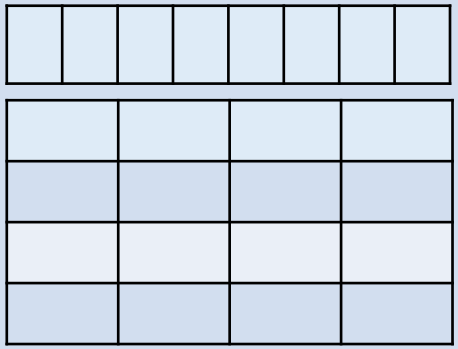
Put the following unit fractions in order according to value with the highest value first:

½ ¼ ⅛

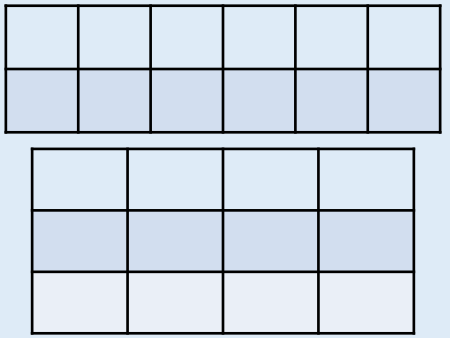
Look at the following fractions. Which fractions are the same value as ½? Circle each one.

$\frac{2}{4}$ $\frac{4}{6}$ $\frac{5}{7}$ $\frac{6}{9}$ $\frac{3}{6}$ $\frac{5}{10}$ $\frac{8}{9}$ $\frac{9}{10}$

Colour ¼ of the following shapes:



Colour 2/3 of the following shapes:



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Spring 1: Week 2: Mastering this Objective

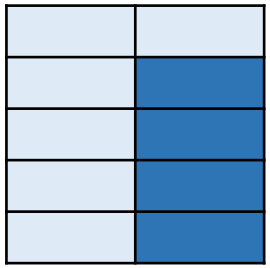
Fractions: Recognise and show, using diagrams, equivalent fractions with small denominators. Recognise find and write fractions or a discrete set of objects: unit fractions & non-unit fractions with small denominators.

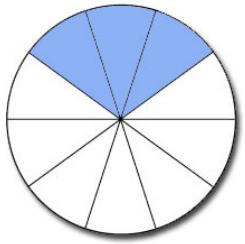
Teaching Sequence

- Know that 1/2 is the same as 2/4
- Be able to show 1/3 and 2/6 of a square
- Know what fractional values are, e.g. ¼ is one part of four, etc..
- Know what a unit fraction is
- Know what a non-unit fraction is
- Use fractions to solve problems
- Use a fraction wall diagram to solve problems

If pupils have mastered this objective they will be able to complete these activities:

Which shape shows the fraction $\frac{3}{10}$?



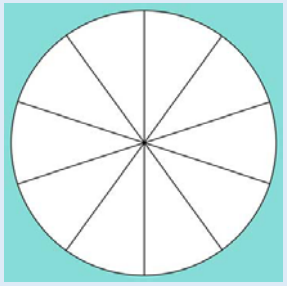


Complete the following equivalent fractions.

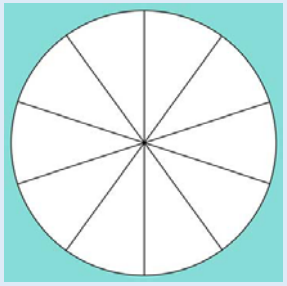
$\frac{1}{4} = \frac{2}{\square} = \frac{3}{\square} = \frac{\square}{16} = \frac{6}{\square}$

$\frac{1}{5} = \frac{2}{\square} = \frac{3}{\square} = \frac{\square}{20} = \frac{\square}{25}$

Using the circles below show $\frac{7}{10}$ and $\frac{3}{10}$ by shading.



$\frac{7}{10}$



$\frac{3}{10}$

Put the following in order from least to greatest:

$\frac{1}{8}$ $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{10}$

$\frac{6}{10}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{3}{10}$

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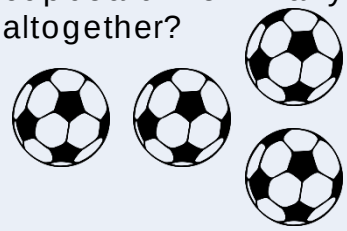
Spring 1: Week 2: Working at greater depth

Fractions: Recognise and show, using diagrams, equivalent fractions with small denominators. Recognise find and write fractions or a discrete set of objects: unit fractions & non-unit fractions with small denominators.

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Know that 1/2 is the same as 2/4 ➢ Be able to show 1/3 and 2/6 of a square ➢ Know what fractional values are, e.g. ¼ is one part of four, etc.. ➢ Know what a unit fraction is ➢ Know what a non-unit fraction is ➢ Use fractions to solve problems ➢ Use a fraction wall diagram to solve problems	**Apple Pie and Pizza** An apple pie is divided into 8 equal pieces. Tom had 2 portions. What fraction of the apple pie did Tom eat? What fraction of the apple pie was still left? A pizza is dived into 12 equal pieces. Sam had 3 pieces and Javid had 4 pieces. What fraction of the pizza did Sam have? What fraction of the pizza did Javid have?	Fill in the numerators so that these calculations are correct. How many different ways can you do these two calculations? $\frac{\_}{6} + \frac{\_}{6} = 1$ $\frac{\_}{10} + \frac{\_}{10} = 1$
	On a number line from 0 to 1, mark in ⅛, ¼ and ½. On another number line from 0 to 5, put in the following: 1½; 3⅛; 4¾; and 2⅜	The balls below make up $\frac{1}{5}$ of the total amount of balls in the school's games cupboard. How many balls are there altogether? 

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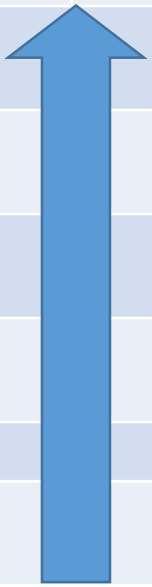
Spring 1: Week 2: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Fractions: Recognise and show, using diagrams, equivalent fractions with small denominators. Recognise find and write fractions or a discrete set of objects: unit fractions & non-unit fractions with small denominators.	Me	My Teacher
Can you solve problems involving unit fractions?		
Can you place unit fractions in order according to value?		
Do you know the difference between a unit and a non-unit fraction?		
Do you know that a unit fraction shows one part of the value of the denominator, eg, 1/5th is one part of five?		
Do you appreciate that ½ is the same as 2/4; 3/6; etc.?		
Can you shade in ¼, ½, and ¾ of a given regular shape?		



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Year 3: Spring 1

Week 3: Fractions

Compare and order unit fractions, and fractions with the same denominators.

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Spring 1: Week 3: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 1: Week 3
Objective: Fractions	Compare and order unit fractions, and fractions with the same denominators.

Order the following unit fractions: Highest value first.

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

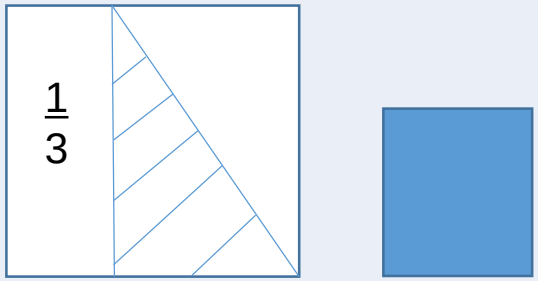
Show the values indicated on each of these bars.

4/10th

2/5th

3/7th

How much of the shape below is shaded? Explain your answer.



What is 1/7th of 14?	
What is ⅛ of 24?	
What is 1/9th of 27?	
What is 1/10th of 60?	
What is 1/6th of 36?	

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Spring 1: Week 3: Practice and Consolidation

Fractions: Compare and order unit fractions, and fractions with the same denominators.

Teaching Sequence

- Order fractions with the same denominator.
- Order any unit fractions.

Oral and Mental Activities Examples:

- Focus on unit fractions and emphasise that they are in effect one part of the denominator, eg, 1/6th is one part of six.
- Consider the values of different unit fractions and use practical methods to show their respective values.
- Use a metre rule to show the difference between 1/5th and 1/10th , etc.
- Look at fractions with the same denominator. Use practical methods to show the difference between say, 2/5th and 4/5th.
- Use numbers to reinforce this by working out 2/5th of 10 and 4/5th of 10, etc.

Pencil and Paper Activities Examples:

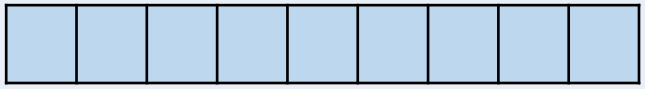
Find the following values:

$\frac{1}{6}$ of 36	$\frac{1}{7}$ of 49	$\frac{1}{5}$ of 25	$\frac{1}{8}$ of 64
$\frac{5}{6}$ of 36	$\frac{2}{7}$ of 49	$\frac{3}{5}$ of 25	$\frac{5}{8}$ of 64

Show the fraction indicated on the following bars.

2/7th

4/9th



3/5th

Complete the following:

$\frac{1}{2} = \frac{3}{\square}$ $\quad \frac{1}{4} = \frac{4}{\square}$ $\quad \frac{2}{3} = \frac{6}{\square}$

$\frac{3}{4} = \frac{\square}{16}$ $\quad \frac{4}{5} = \frac{\square}{20}$ $\quad \frac{2}{3} = \frac{\square}{12}$

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Spring 1: Week 3: Mastering this Objective

Fractions: Compare and order unit fractions, and fractions with the same denominators.

Teaching Sequence

- Order fractions with the same denominator.
- Order any unit fractions.

If pupils have mastered this objective they will be able to complete these activities independently:

What do you notice?
Continue the pattern:

$1/10^{th} + 9/10^{th} = 1$
$2/10^{th} + 8/10^{th} = 1$
$3/10^{th} + 7/10^{th} = 1$

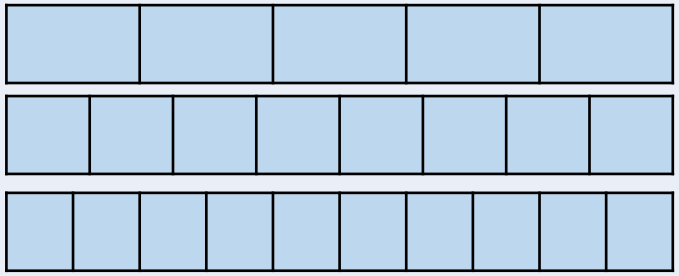
Now make up a similar pattern for $1/8^{th}$.

Use the >; < or = signs to put between these fractions:

$\frac{1}{4}$ $\frac{4}{10}$ $\frac{3}{4}$ $\frac{6}{10}$

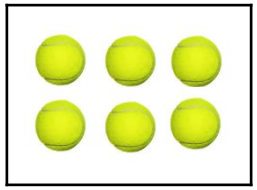
$\frac{3}{4}$ $\frac{1}{2}$ $\frac{5}{6}$ $\frac{6}{7}$

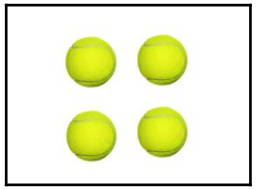
Look at each of the bars below and say what fraction of the bar does each section represent on each one.



Which number is the greater: a fifth, an eighths or a tenth?

A tennis player carries a number of balls with them. The box on the left has $1/5^{th}$ of the balls he carried on Monday and the box on the right has $2/3^{rd}$ of the balls he carried on Tuesday.





How many balls did he carry on Monday and Tuesday?

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Spring 1: Week 3: Working at greater depth

Fractions: Compare and order unit fractions, and fractions with the same denominators.

Teaching Sequence

- Order fractions with the same denominator.
- Order any unit fractions.

Activities for pupils working at greater depth:

A gardener has been very busy planting seeds.
Work out how many of these become full grown plants by looking at the table below.

No. of seeds	1500	500	300	1000
Name	peas	pansies	cress	Sun-flower
Fraction Germinated	½	1/5th	2/3rd	4/5th
Answer				

Bowl of Fruit
One eighth of a bowl of fruit was made up of bananas.
A quarter was made up of pears and a half was made up of apples.

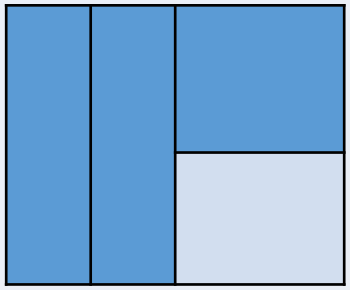
If there were no more than 30 pieces of fruit altogether, how many bananas, pears and apples could there have been in the fruit bowl?

Could you get another set of answers if you could have had up to 35 pieces of fruit?

Farmyard Puzzle
On a farm there were sheep; chickens; cows and horses.
½ of the animals were sheep, 1/3rd were chickens, 1/10th were cows and the rest were horses.

If the farm had more than 200 animals but less than 230, how many sheep, chickens, cows and horses were there on the farm?

Look at the square below:



The shape is divided into 4 equal parts.
Do you agree?

Explain your reasoning.

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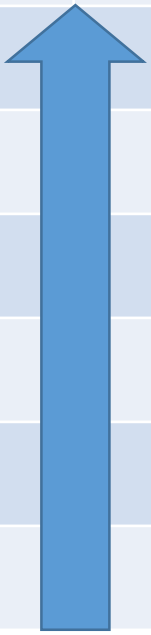
Spring 1: Week 3: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Fractions: Compare and order unit fractions, and fractions with the same denominators.	Me	My Teacher
Can you solve problems involving unit fractions?		
Can you place unit fractions in order according to value?		
Do you know the difference between a unit and a non-unit fraction?		
Do you know that a unit fraction shows one part of the value of the denominator, eg, 1/5th is one part of five?		
Do you appreciate that ½ is the same as 2/4th; 3/6th; etc.?		
Can you shade in ¼, ½, and ¾ of a given regular shape?		



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Year 3: Spring 1

Week 4: Measures - Length/ Mass/ Volume

Measure, compare, add & subtract:

- **lengths (m/cm/mm)**
- **mass (kg/g)**
- **volume/ capacity (l/ml).**

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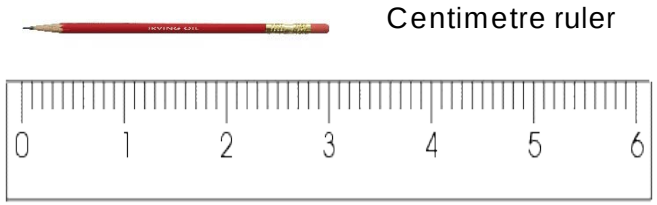
Spring 1: Week 4: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 1: Week 4
Objective: Measures	**Length/ Mass/ Volume:** Measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml).

Would you use a ruler, trundle wheel or tape measure to measure the following:

Book	
School Field	
A long jump	



How long is the pencil?

Which statement is most likely to be correct?
Underline the correct answer.

- A school football field is 5 meters long;
- A school football field is 200 cms. long
- A school football field is 120 metres long.

Which statements are most likely to be correct?
Underline the correct answer.

- A football weighs 3g;
- A grown man weighs 500Kg
- I eat 20 Kg of meat each day.
- I buy milk in 1 litre cartons
- I drink 50 litres of water each day.

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Spring 1: Week 4: Practice and Consolidation

Measures: Length/ Mass/ Volume: Measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml).

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Use measuring apparatus to measure length, mass and volume ➢ Measure accurately to nearest mm, cm, m ➢ Measure accurately to nearest g, kg ➢ Measure accurately to nearest ml, l ➢ Know and use equivalence, e.g. 10mm = 1cm; 50cm = ½m; 100cm = 1m ➢ Know and use equivalence, e.g. 1000g = 1kg; 500g = ½kg ➢ Know and use equivalence, e.g. 1000ml = 1l; 500ml = ½	**Measuring Length** • Talk to the pupils about a range of measuring apparatus for length. Talk about their suitability for measurement, eg, ruler, trundle wheel, tape measure, etc. • Provide pupils with practical opportunities to use these measurement apparatus. • Talk to pupils about equivalence in relation to measuring length, eg, 10mm =1cm and 100cm = 1 metre. • Show pupils how to measure with a ruler, taking account of the extra piece put on edges of some rulers. **Measuring Mass** • Talk to pupils about measuring weight and mass, using the correct terminology of grams and kilograms. • Ensure pupils know that 1000g makes 1 Kg. **Measuring Volume** • Now do the same with volume, taking account of suitability and equivalence.	Use a ruler to draw as accurately as you can the following lines: 10cm 20cm 15cm and 7cm Label each carefully. Weigh pieces of Lego or unifix (or something else equally suitable). How many will you need to make the following weights? 500g 1Kg 20g 120g and 70g Record your findings in appropriate ways. How many litres does a bucket hold? Use an appropriate measuring instrument to find out how much a bucket holds and record your findings. If you run once around the racing track in school you will have run 250 metres. How many times will you need to run around the track to have completed 1 Kilometre? Tracey waters the plants in her classroom. She uses a cup which holds 100ml of water to water each plant. How many plants will she have watered when she has used 1 litre of water?

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Spring 1: Week 4: Mastering this Objective

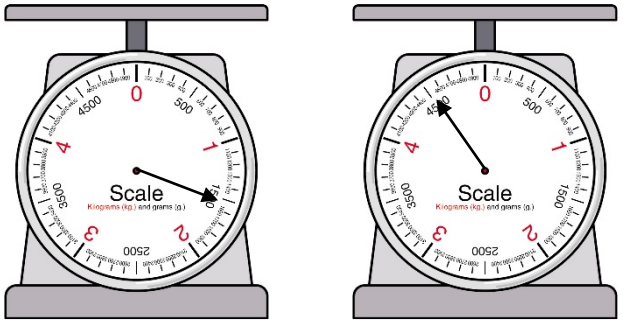
Measures: Length/ Mass/ Volume: Measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml).

Teaching Sequence

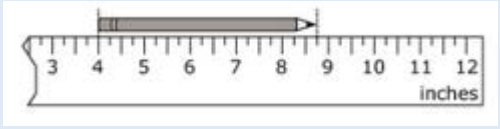
- Use measuring apparatus to measure length, mass and volume
- Measure accurately to nearest mm, cm, m
- Measure accurately to nearest g, kg
- Measure accurately to nearest ml, l
- Know and use equivalence, e.g. 10mm = 1cm; 50cm = ½m; 100cm = 1m
- Know and use equivalence, e.g. 1000g = 1kg; 500g = ½kg
- Know and use equivalence, e.g. 1000ml = 1l; 500ml = ½

If pupils have mastered this objective they will be able to complete these activities:

What is the reading on each of these 2 weighing scales?



Express your answer in more than 1 way.



Look at the broken ruler above.
How can you still measure the length of the pencil?
Could you measure a pencil that was 10cm long with this ruler?
Explain your reasoning.

One boy measures 1m 34cm and his friend is 12cm taller.
How tall is the taller person?

One girl can skip without stopping for a distance of 58 metres. Her friend, Dylan, can only go half that distance,
How far can Dylan skip?

The milk monitor takes 30 cartons of milk to each of 4 classes each day.

Each carton contains 250ml of milk.
How much milk is drunk by the children each day?

A water boiler holds 5l of water.
The teapot holds 1litre and 250ml when full.

How many times can the teapot be filled from using the water in the boiler?

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Spring 1: Week 4: Working at greater depth

Measures: Length/ Mass/ Volume: Measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml).

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Use measuring apparatus to measure length, mass and volume ➢ Measure accurately to nearest mm, cm, m ➢ Measure accurately to nearest g, kg ➢ Measure accurately to nearest ml, l ➢ Know and use equivalence, e.g. 10mm = 1cm; 50cm = ½m; 100cm = 1m ➢ Know and use equivalence, e.g. 1000g = 1kg; 500g = ½kg ➢ Know and use equivalence, e.g. 1000ml = 1l; 500ml = ½	A school decides to create a new 'fun' run for charity. The Year R pupils will run 400 metres; Year 1 and 2 will run 600 metres and all Key Stage 2 (Years 3 to 6) pupils will run 1Kilometre. How far will a group of 3 Year R, plus 4 Year 1 and 6 Key Stage 2 pupils have run in total?	I have a piece of string 2 metres long. I cut it into equal pieces and I am left with 20 cm. How many pieces of more than 20cm. could I have. Think of at least two alternative answers.
	Two boys discover that one weighs 6Kg more than the other. If their combined weight is 112 kg , how much does the lighter boy weigh? Two girls from YR and Y6 discover that one weighs twice as much as the other. Their total weight is 150Kg. How much does each girl weigh?	Mum is 1 metre and 60cm tall. Dad is 20 cm. taller than mum. Saleem is half the height of dad. How tall is Saleem? Saleem's sister, Ayra, is exactly half way between Saleem and mum. How tall is Ayra?
	If there are 630ml of water in a jug, how How much water do you need to add to make a litre of water? Now create some similar problems for your friends to solve.	James has three kittens. Each weighs a different amount. The first and second weigh 7Kg altogether. The second and third weigh 8Kg altogether. The first and third weigh 11g altogether. How much does each kitten weigh?

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Spring 1: Week 4: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Measures: Length/ Mass/ Volume: Measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml).	Me	My Teacher
Do you know how many ml makes up 1 litre?		
Can you measure a weight of up to 5Kg using a weighing machine giving the answer in Kg and g?		
Do you recognise 1Kg as having 1000g and know that 500g is ½ a Kg?		
Can you measure a distance of up to 5m using a tape measure giving the answer in m and cm?		
Can you measure accurately a distance of up to 30cm using a ruler?		
Can you measure to the nearest metre a distance of up to 10m?		
Do you recognise 1m as having 100cm and know that 50cm is ½ a metre?		
Can you practise using appropriate tools to measure distances and weight?		

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Year 3: Spring 1

Week 5: Multiplication & Division

Consolidate:
Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental methods and progressing to formal written methods.

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Spring 1: Week 5: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 1: Week 5
Objective: Multiplication & Division	Consolidate: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Complete these calculations

20 x 3			50 ÷ 2		
30 x 5			150 ÷ 3		
40 x 8			240 ÷ 8		
70 x 10			250 ÷ 5		
24 x 8			27 ÷ 3		
41 x10			88 ÷ 8		
35 x 5			72 ÷ 4		
17 x 4			55 ÷ 5		

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Spring 1: Week 5: Practice and Consolidation

Multiplication & Division: Consolidate: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. ➢ Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.	• Revise the work undertaken at the beginning of the Autumn 2 half term. • Revise the times tables for 2x; 3x; 4x; 5x; 8x; and 10x. • Do this by chanting them and by writing them out. • Multiply 2-digit numbers by 10 and expect rapid responses. • Talk and demonstrate multiplication as 'lots of' and multiple addition. • Talk about and demonstrate division as 'sharing' and multiple subtraction. • Remind pupils of the relationship between multiplication and division.	20 x 4 = ☐ 10 x 5 = ☐ 12 x 4 = ☐ 12 x 8 = ☐ 10 x 4 = ☐ 9 x 4 = ☐ 20 ÷ 4 = ☐ 32 ÷ 8 = ☐ 33 ÷ 3 = ☐ 60 ÷ 5 = ☐ 8 √80 ÷ 5 √55 ÷ 4 √48 ÷ 3 √36 ÷ 32 x4 ; 56 x5 ; 71 x3 ; 23 x8 ; 52 x2 19 x3 ; 61 x4 ; 72 x5 ; 18 x4 ; 55 x8

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Spring 1: Week 5: Mastering this Objective

Multiplication & Division: Consolidate: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence

- Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x.
- Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder.
- Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.

If pupils have mastered this objective they will be able to complete these activities:

Using the digits 2, 3, 4, 5 and 8 in the first two boxes below, how close can you get to 100?

☐ X ☐ = ☐

How close can you get to 150 and then 200.

3 x ☐ = 15 4 x ☐ = 20

☐ x 8 = 24 ☐ x 3 = 27

9 x ☐ = 45 8 x ☐ = 64

10 x ☐ = 40 10 x ☐ = 50

I threw 2 dice (1 to 6).
The numbers when divided made 3.
What were the possible combination of the dice numbers?

- Make up a story to 4 x 8 and solve it.
- Make up another story for 20 ÷ 5.
- Make up a third story for 18 ÷ 3.

Will the answer to the following be less or greater than 80? Put in yes or no.

23 x 3=	23 x 8 =	23 x 4 =
32 x 3 =	32 x 4 =	32 x 2 =
42 x 3 =	42 x 3 =	41 x 2 =
36 x 2=	16 x 4 =	3 x 10 =

Talk to your friend about how you could work these out very rapidly.

Which of these statements or questions can be worked out by 10 ÷ 2?

- I buy two bags of apples that have 10 in each bag. How many apples will I have?
- 10 people travel in 2 cars to the cinema. If each car holds the same number of people, how many are there in each car?
- The teacher asks me to share 10 coloured pencils between me and my friend. How many will I have?

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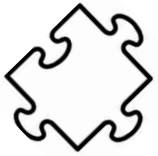
Spring 1: Week 5: Working at greater depth

Multiplication & Division: Consolidate: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence

- Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x.
- Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder.
- Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder.

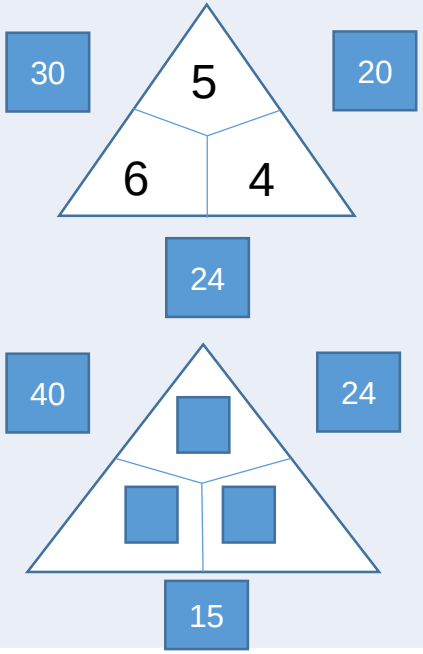
Activities for pupils working at greater depth:



I have 80 jigsaw pieces.
How many possible rows could I make.
For example, I could have just one row with 80 pieces; or 2 rows of .....

- When I share my marbles out equally between my 8 friends I have 2 left over.
- When I share them equally between my 6 friends I have 4 left over.
- When I share them equally between my 5 friends I have 1 left over.

How many marbles could I have had in the first place?



Look at the example to the left.
Now solve the example below.
Make up your own triangles which require multiplication to solve them.

Triangular Division

Make up some triangle examples as seen to the left.
This time use division instead of multiplication as the main operation.

Concentrate on dividing by 2, 3, 4, 5, 8 and 10.

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Spring 1: Week 5: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Multiplication & Division: Consolidate: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Me	My Teacher
Can you divide 2, 3, 4, 5, 8 and 10 into any 2-digit number (no remainder)?		
Can you divide 2, 3, 4, 5, 8 and 10 into any 10s number (no remainder)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 3, 4 and 8x ?		
Can you multiply a 2-digit number by a single-digit number using 2, 5 and 10x ?		
Can you multiply a 10s number by a single-digit number mentally, using 3, 4, and 8x?		
Can you multiply a 10s number by a single-digit number mentally, using 2, 5, and 10x?		

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Year 3: Spring 1

Week 6: Multiplication & Division

Write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length

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Spring 1: Week 6: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 1: Week 6
Objective: Multiplication & Division	Write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length

x 5

x 8

X 8

X 3

4 children walk 150 metres each.
How far have they walked altogether?

250 Km x 4

8 children collect money for charity. They each walk 5 km each and they have 50p for every Km walked. How much will they collect?

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Spring 1: Week 6: Practice and Consolidation

Multiplication & Division: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length

Teaching Sequence

- Multiply monetary values (£ only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Multiply monetary values (£ and p only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Divide 2, 3, 4, 5, 8 into any monetary value (£ only) with no remainder.
- Divide 2, 3, 4, 5, 8 into any monetary value (£ and p only) with no remainder.

Oral and Mental Activities Examples:

- Give pupils multiples of the same coin. The multiples will be in 2s, 3s, 4s, 5s, 8s, and 10s.
- Work out how much they have altogether.
- Similarly, share a number of coins by 2, 3, 4, 5, 8 and 10.
- Use cards with different statements like: 5 lots of £5 and 8 lots of 50p written on them and a corresponding set with answers on. Play various games of snap or match, etc.
- Look at the lengths of journeys children make to see relatives in different parts of the country. Start by talking about doubling the length for return journeys and then multiplying according to how many times they make the journey each year.

Pencil and Paper Activities Examples:

Journey to work

Dad works away from home. Each day he travels 50Km. to his work and 50Km back again. How far does he travel in a 5-day week?

True or False:

£16 ÷ 4 = £4	£20 ÷ 5 = £6
£12 ÷ 3 = £4	£64 ÷ 8 = £8
£30 ÷ 4 = £10	£39 ÷ 4 = £10
£2 x 5 = £10	£4 x 8 = £32
£14 x 5 = £70	£23 x 4 = £92

How many coins?

How many 5p coins would you need to make up 95p?
How many 20p coins would you need to make up £2?
How many 10p coins would you need to make up £1.50?
How many £2 coins would you need to make up £24?
How many £5 notes would you need to make up £55?

Plot of land

A plot of land is 75 metres long and 20 metres wide.
A builder wants to divide the length of plot into 5 equal plots. The width will remain 20 metres but how long will each plot be now?
If the original length was 110 metres wide, how long would each of the 5 lengths be then?

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Spring 1: Week 6: Mastering this Objective

Multiplication & Division: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length

Teaching Sequence

- Multiply monetary values (£ only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Multiply monetary values (£ and p only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Divide 2, 3, 4, 5, 8 into any monetary value (£ only) with no remainder.
- Divide 2, 3, 4, 5, 8 into any monetary value (£ and p only) with no remainder.

If pupils have mastered this objective they will be able to complete these activities independently:

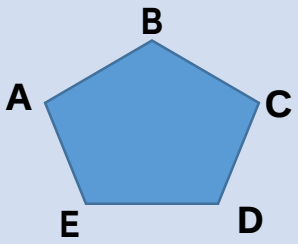
Piggy Bank
Sadiq emptied her money box.
She had 3 x £1; 5 x 50p; and 8 x 20p.
How much did she have in her money box?

Empty my pocket
In my pocket I have 4 x 50p; 3 x 10p; and 8 x 2p.
How much money have I got in my pocket?

Sharing Coins
Get the following coins from the coin tray: 6 x 50p; 8 x 20p; 10 x 10p; 8 x 5p; 10 x 2p and 20 x 1p.
Is it possible to share this money equally between 2, 3, 4, 5 and 8 people using only the coins you have?
Explain how much each person would get and how much would be left over when you cannot share all the money equally.

Swimming
At a swimming pool Lizzie swam 4 lengths of the pool. The length of the pool is 25 metres. How far did Lizzie swim altogether?

If the width of the swimming pool was 10 metres. How many widths would Lizzie need to swim to have swam the same distance?



At a rounders match there is the home base A and 4 other bases B to E.
Children run clockwise from A to score a run.
The distance from A, moving clockwise around and back to A is 100m. The distance between each base is equal.
How far is it between each base?
How far would the distance be all the way around if the distance between each base was 20 metres?

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Spring 1: Week 6: Working at greater depth

Multiplication & Division: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length

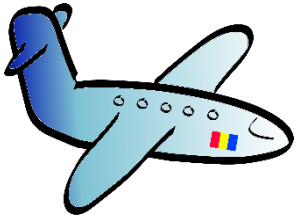
Teaching Sequence

- Multiply monetary values (£ only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Multiply monetary values (£ and p only) by a single digit mentally, using 2, 3, 4, 5, 8 and 10x.
- Divide 2, 3, 4, 5, 8 into any monetary value (£ only) with no remainder.
- Divide 2, 3, 4, 5, 8 into any monetary value (£ and p only) with no remainder.

Activities for pupils working at greater depth:

In a Mediterranean hotel a breakfast costs £5.

The bill for the room and breakfasts, at the end of 7 days, costs £315.
How much does the room cost each day?



A family of 2 adults and 4 children go on holiday.
The air tickets cost £105 for each adult and £72 for each child.
The hotel bill is £250 for all of them.
How much does the family spend altogether?

A family of 6 (2 adults and 4 children) decided to go to see the latest film about a Stone Age boy. All tickets cost is in full £s, ie, £4, £5, etc.
Tickets for the adults cost twice as much as the tickets for the children. How much might the family have spent altogether?
Tick the possible answers.

£64	£44	£63	£16	£80

5 children decide to do a charity run.
Harry runs twice as far as each of the others.
If they run a distance of 6Km altogether, how far did Harry run?

If they had run 24Km altogether, how far would Harry have run then?

If Harry and Jenny had run twice as much as the other three and they had run 21Km altogether, how far would Harry and Jenny have run?

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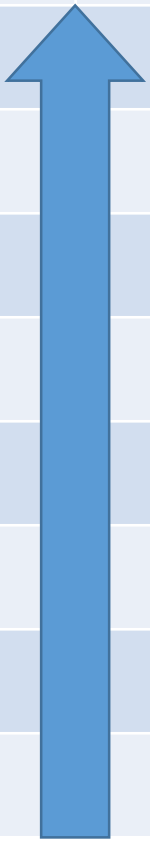
Spring 1: Week 6: Assessment (as for Week 5)

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Multiplication & Division: Consolidate: Write and calculate mathematical statements for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Me	My Teacher
Can you divide 2, 3, 4, 5, 8 and 10 into any 2-digit number (no remainder)?		
Can you divide 2, 3, 4, 5, 8 and 10 into any 10s number (no remainder)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 3, 4 and 8x ?		
Can you multiply a 2-digit number by a single-digit number using 2, 5 and 10x ?		
Can you multiply a 10s number by a single-digit number mentally, using 3, 4, and 8x?		
Can you multiply a 10s number by a single-digit number mentally, using 2, 5, and 10x?		



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YEAR 3 : SPRING 2

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
2 Geometry 2D/3D Shape	**3 Addition & Subtraction**	**3 Fractions**	**3 Geometry Angles**	**4 Measures Time**	**Consolidate and Assess**
Draw 2D shapes	Estimate the answer to a calculation and use the inverse operations to check answers.	Add and subtract fractions with the same denominator within one whole.	Recognise angles are a property of shape or a description of a turn. Identify right angles; recognise that two right angles make a half-turn, three make three quarters & four a complete turn Identify whether angles are greater than or less than a right angle	12-hour & 24-hour clocks Record and compare time in terms of seconds, minutes, hours. Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.	Start this week by revising the learning covered in the Autumn and Spring terms so as to ensure pupils are fluent and secure with their basic skills. Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in the Autumn and Spring terms. Analyse the results and use information to help focus the intervention sessions, as needed, for the following term.
➢ Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.	➢ Use estimation to check the reasonableness of an answer, e.g. Why can't 65+32 = 89? ➢ Use inverse operations involving + and – to check answers.	➢ Add two fractions with the same denominator that add up to no more than one whole. ➢ Subtract one fraction from another with the same denominator (below one whole).	➢ Know that the space between two lines joined at a point is known as an angle and can be measured in degree ➢ Know that the measurement in degrees is greater when the space is wider ➢ Understand that angle can be used to describe a turn ➢ Be able to identify right angles in the environment ➢ Know a right angle as having 90º and use the degrees symbol ➢ Know that two right angles effectively make a straight line and is equivalent to 180º ➢ Know that two right angles make a half turn ➢ Know that three right angles make a three-quarter turn ➢ Know that four right angles make a complete turn ➢ Identify angles smaller than a right angle ➢ Identify angles larger than a right angle	➢ Read 24 hour clock and show time on analogue clock face, e.g. 18:30 is half past 6 in the evening. ➢ Be able to tell whether a time is am or pm on a 24 hour clock ➢ Know that 60 seconds is one minute. ➢ Know that 60 minutes is one hour. ➢ Show understanding of equivalence, e.g. 90 secs = 1 minute and a half; 75 minutes = 1 hour and a quarter. ➢ Order amounts of time using different units of measurement, e.g. 90 secs; 2 minutes; 120 minutes; 1.5 hours etc. ➢ Know that am represents time from midnight to noon. ➢ Know that pm represents time from noon to midnight.	

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Year 3: Spring 2

Week 1: Geometry: 2D and 3D Shapes

Draw 2D shapes: Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.

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Spring 2: Week 1: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 2: Week 1
Objective: Geometry	**2D and 3D Shapes:** Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.

Draw a square with a side of 4cm.

Draw a triangle which has one side of 4cm.

Draw a rectangle with a side of 4cm and another of 6cm.

Draw 2 squares with one having a side that is twice as long as the other square.

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Spring 2: Week 1: Practice and Consolidation

Geometry: 2D and 3D Shapes: Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.

Teaching Sequence	Oral and Mental Activities: Examples:	Pencil and Paper Activities Examples:
➢ Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.	• Revise pupils' knowledge of 2D shapes, ie, the sides of a square measure the same and they have a right angle • A rectangle has two opposite sides of the same length • A triangle has three sides and can be very different according to the length of the sides. • Remind pupils about using a ruler to measure. • Draw large circles with chalk on a playground using string. Show pupils how they must not move the centre point. • Introduce pupils to geoboards or dot paper and get them to experiment with drawing different shapes.	Draw 5 different triangles that look different from one another. Explain what the differences are. Look for examples of triangles in the environment and talk about why they are as they are, eg, long and pointed (church steeple) or equilateral (road sign). • Using triangles of different sizes and different colours create a modern art design. Ensure that it has a purpose and has been well-thought out. Using dot paper draw a square that has a side of 5cm. Now one of 10cm and then 7cm. Draw rectangles with one pair of sides being 5cms. and the other pair being 10cm. Using dot paper, draw a right-angled triangle with two sides of the same length (10cm.) Using two pencils and an elastic band, draw a circle. Hold one pencil as steady as you can and stretch the elastic band as much as you can and move it in a clockwise or anti-clockwise direction around the central pencil. Once you have got used to doing it try and find an elastic band that you can stretch 5cm and draw a circle.

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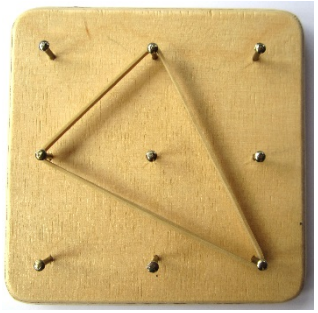
Spring 2: Week 1: Mastering this Objective – Deeper Understanding

Geometry: 2D and 3D Shapes: Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.

Teaching Sequence	If pupils have mastered this objective they will be able to complete these activities independently:	
➢ Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.	 Using a 3x3 geoboard. Make 5 different triangles using an elastic band on a 3x3 geoboard. Record them in your maths book. Are any of the triangles the same even though they are in different places on the geoboard?	Now create 5 different rectangles on the geoboard. Record them. How many squares can you make on a 3x3 geoboard? Record them. Use a 5x5 geoboard and create as many squares of different size as you can and record them in your maths book.
	Using a compass, set it up properly and make a circle with a radius of 5cm; 10cm and 7cm.  Now make up semi-circles with the same radius.	Cut out 5 different squares; 5 different triangles; 5 different rectangles and 5 different circles. (colours can vary) Ensure each shape is accurate. Using as many or as few as you want, create a collage which has a theme of your choice. Take a photograph of your final collage and place it into your maths book, explaining how many of each shape you have used.

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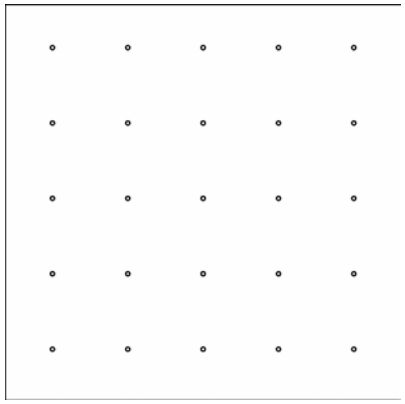
Spring 2: Week 1: Working at greater depth

Geometry: 2D and 3D Shapes: Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.

Teaching Sequence

- Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.

Activities for pupils working at greater depth:



Using a 5 x 5 geoboard or dot paper.
Create as many squares as you can and record each.
How many squares can you make that have a different length?

Now do the same with triangles.
Record at least 10 different triangles that you can make on your board or dot paper.

Try rectangles: Show 10 different rectangles of different size.

If I make the two opposite sides of a square 5 cm longer, the new lengths of those sides are 27cm.
What was the length of the side of my original square?
What is the name and length of sides of my new shape?

How many squares can you make by overlapping 3 identical squares?
Start by cutting out 3 squares with a side of 10cm.

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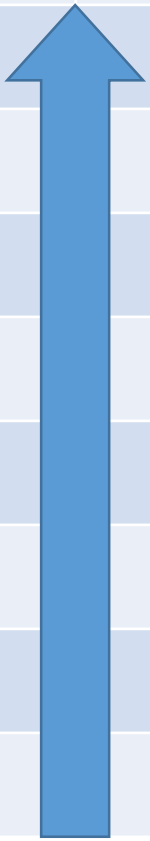
Spring 2: Week 1: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Geometry: 2D and 3D Shapes: Accurately draw 2D shapes and name them, e.g. squares, rectangles and triangles.	Me	My Teacher
Can you draw circles that have a radius of 5cm; 10cm; 20cm; etc..?		
Can you draw circles with a compass and know the term radius?		
Can you use a compass appropriately?		
Can you draw a triangle with a right angle?		
Can you draw a triangle with a given dimension accurately?		
Can you draw a rectangle with given dimensions accurately?		
Can you draw a square with a given dimension accurately?		
Do you use the terms: triangle; square; rectangle; circle and semi-circle accurately?		



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Year 3: Spring 2

Week 2: Addition and Subtraction

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

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Spring 2: Week 2: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 2: Week 2
Objective: Addition and Subtraction	Estimate the answer to a calculation and use the inverse operations to check answers.

Quickly estimate the answers to these calculations and then check			***What do you notice about these pairs of calculations?***		
77 + 65			100 + 200		
39 - 13			300 - 100		
123 + 65					
256 + 99			250 + 130		
367 - 50			480 - 130		
345 - 90					
429 + 60			560 - 200		
345 + 90			760 - 560		

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Spring 2: Week 2: Practice and Consolidation

Addition & Subtraction: Estimate the answer to a calculation and use the inverse operations to check answers.

Teaching Sequence

- Use estimation to check the reasonableness of an answer, e.g. Why can't 65+32 = 89?
- Use inverse operations involving + and – to check answers.

Oral and Mental Activities: Examples:

- Explain the principle that helps us to be able to estimate appropriately.
- Use oral examples of estimating how far certain things are or how long things will take.
- Pupils should understand that a good estimate will help them know if their calculations are likely to be correct.
- They should also understand what a poor estimate is like and how it could lead to confusion.
- Re-introduce the term inverse to pupils so that can see the relationship between addition and subtraction and also multiplication and division.

Pencil and Paper Activities Examples:

Which is the most sensible estimate?: Tick as appropriate.

calculation	1st estimate	2nd estimate
23 + 65	100	90
120 - 67	60	90
310 + 112	420	500
450 - 129	400	320

Make an initial estimate and then calculate to see how accurate your estimation was.

23 + 89	45 + 67
78 + 123	24 + 489
34 + 503	145 + 610
78 – 29	89 – 56
167 – 89	270 – 128

If 38 + 45 = 83 what do we know about:
83 – 45 =
and 83 – 38 =

Now do the same with the following calculations:

23 + 123;	34 + 156	78 + 320
89 + 209	176 + 67	306 + 129
150 – 34	160 – 67	302 - 146

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Spring 2: Week 2: Mastering this Objective – Deeper Understanding

Addition & Subtraction: Estimate the answer to a calculation and use the inverse operations to check answers.

Teaching Sequence

- Use estimation to check the reasonableness of an answer, e.g. Why can't 65+32 = 89?
- Use inverse operations involving + and – to check answers.

If pupils have mastered this objective they will be able to complete these activities independently:

Bar Models

Write the four number sentences that these bar models shows:

607	
205	402

729	
356	373

Always: Sometimes: Never

Is it always, sometimes or never true that if you subtract a multiple of 10 from any number the ones digit of that number stays the same?

Is it always, sometimes or never true that when you add two numbers together you will get an even number?

Answer: Always; Sometimes or Never

Estimating

Which of the number sentences on the left has an answer that is between 50 and 60 and which of the number sentences on the right has an answer between 110 and 130?

174 – 119	67 + 67
333 – 276	180 - 45
932 – 871	56 + 69

Harry and Dylan have 629 marbles between them. Harry has 478 so how many does Dylan have?

If you take Harry's marbles away from the 629, what are you left with? What do these two problems tell you?

Using the numbers 629, 478 and 151, make up 4 number sentences involving addition and subtraction.

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Spring 2: Week 2: Working at greater depth

Addition & Subtraction: Estimate the answer to a calculation and use the inverse operations to check answers.

Teaching Sequence

- Use estimation to check the reasonableness of an answer, e.g. Why can't 65+32 = 89?
- Use inverse operations involving + and – to check answers.

Activities for pupils working at greater depth:

Look for the nearest 10

Look at the following calculation:
328 + 158. If you look at the nearest 10 value then you could say that the answer to this calculation is close to 330 + 160 which is 490. 490 could therefore be a reasonable estimate.
Now find a reasonable estimate for the following using the same method.

268 + 174	626 + 274
591 + 338	532 + 558
720 – 381	691 – 458

Bar Models

Find the missing number and then write the four number sentences that these bar models shows:

874	
267	

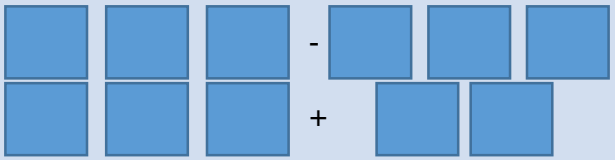
629	
398	

Get 10 table tennis balls with numbers 0 to 9 on them.
Look at the calculation below:

The idea is to put the balls in a bag and draw one out at a time.
Place the number on the ball in any one of the six boxes. (Don't replace the ball in the bag). Now draw another.
The idea is to play this game with a friend so that you try to:

- Get the highest number possible
- Get the smallest number possible
- Get as close to 1000 as you can
- Get as close to 500 as you can.

Now look at the following calculations:



Use the same rules as above.

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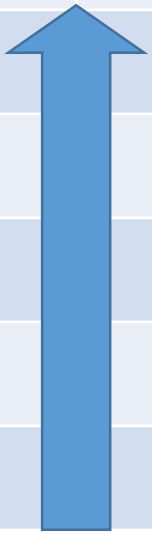
Spring 2: Week 2: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Addition & Subtraction: Estimate the answer to a calculation and use the inverse operations to check answers.	Me	My Teacher
Can you round numbers to the nearest 10 in order to make your estimation as accurate as you can?		
Given an addition or a subtraction calculation can you estimate what the answer might be?		
Can you give an example of inverse rule as it relates to addition and subtraction?		
Do you know what is meant by the term 'inverse'?		
Do you know what is meant by the term 'estimate'?		



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Year 3: Spring 2

Week 3: Fractions

Add and subtract fractions with the same denominator within one whole.

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Spring 2: Week 3: Pre-Learning Task

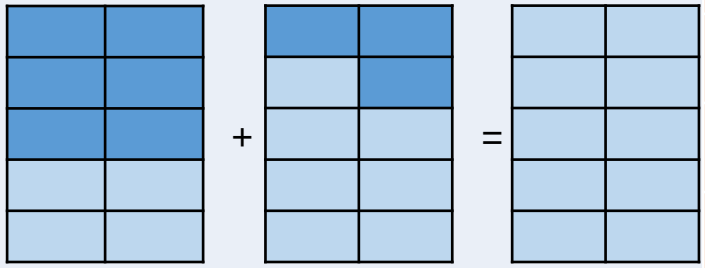
The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 2: Week 3
Objective: Fractions	Add and subtract fractions with the same denominator within one whole.

$\frac{1}{4} + \frac{3}{4} =$ ☐ $\quad \frac{2}{5} + \frac{1}{5} =$ ☐

$\frac{3}{7} + \frac{2}{7} =$ ☐ $\quad \frac{4}{9} + \frac{2}{9} =$ ☐

Add the shaded parts together:



$\frac{5}{7} - \frac{3}{7} =$ ☐ $\quad \frac{7}{10} - \frac{3}{10} =$ ☐

$\frac{3}{4} - \frac{1}{4} =$ ☐ $\quad \frac{9}{10} - \frac{7}{10} =$ ☐

Complete the following:

⅛ + ⅞ = 1

2/8 + 6/8 = 1

.... + ... = 1

.... + ... = 1

.... + ... = 1

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Spring 2: Week 3: Practice and Consolidation

Fractions: Add and subtract fractions with the same denominator within one whole.

Teaching Sequence

- Add two fractions with the same denominator that add up to no more than one whole.
- Subtract one fraction from another with the same denominator (below one whole).

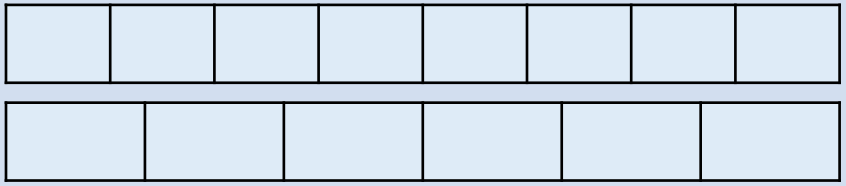
Oral and Mental Activities Examples:

- Use a large ruler segmented into 10 or 8.
- Show how one part of the ten added to 9 parts of the 10 makes one whole, then repeat for the rule with eight segments.
- Emphasise that when dealing with the same denominator it is quite quick to work out which two parts make up the whole.
- Similarly, show how when starting with a given number of segments you are able to take away from that given number to create subtraction of fractions with the same denominator.
- Repeat this with a large sheet of paper with a 2 x 5 or 2 x 4 matrix.
- Use other divisions to help reinforce the main concept.

Pencil and Paper Activities Examples:

Use the bar above to create as many 1/10th additions and subtractions as you can.

Then do the same with the following bars:



$\frac{2}{3} + \frac{1}{3} = \square$ $\quad\quad$ $\frac{2}{7} + \frac{3}{7} = \square$

$\frac{4}{9} + \frac{1}{9} = \square$ $\quad\quad$ $\frac{3}{10} + \frac{1}{10} = \square$

$\frac{7}{10} - \frac{3}{10} = \square$ $\quad\quad$ $\frac{7}{9} - \frac{2}{9} = \square$

$\frac{6}{7} - \frac{3}{7} = \square$ $\quad\quad$ $\frac{4}{5} - \frac{1}{5} = \square$

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Spring 2: Week 3: Mastering this Objective – Deeper Understanding

Fractions: Add and subtract fractions with the same denominator within one whole.

Teaching Sequence	**If pupils have mastered this objective they will be able to complete these activities independently:**	
➢ Add two fractions with the same denominator that add up to no more than one whole. ➢ Subtract one fraction from another with the same denominator (below one whole).	Continue the Pattern: 1/10 + 9/10 = 1 2/10 + 8/10 = 1 3/10 + 7/10 = 1 Make up similar patterns for eighths.	Complete the pattern: 1 - ⅛ = ⅞ ⅞ - ☐ = ☐ ☐ - ⅜ = ⅜ ⅝ - ☐ = ⅛ Now create a similar pattern with tenths.
	___/10 + ___/10 = Complete the calculation above so that the answer is less than 1. Find three different ways of doing this.	___/10 -- ___/10 = Complete the calculation above so that the answer is less than ½. Find three different ways of doing this.
	Look at the bar below:  As it is, you could record this as: $1/12^{th} + 11/12^{th} = 1$. Shade in one more segment and then record; do this until all segments are shaded.	Using as many fractions of the same denominator as you can think of, show 10 ways of using addition to make up 1, eg, ⅝ +⅜ Now using fractions with the same denominator show 5 ways of using subtraction to make ½, eg, ⅞ - ⅜.

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Spring 2: Week 3: Working at greater depth

Fractions: Add and subtract fractions with the same denominator within one whole.

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Add two fractions with the same denominator that add up to no more than one whole. ➢ Subtract one fraction from another with the same denominator (below one whole).	14 makes up 2/7th of the school's football squad. How many are in the full squad? 12 makes up 3/8th of the school's swimming squad. How many are in the full squad? 84 make up 6/7th of school that are also in the brownies. How many children from the school are in the brownies?	2/9th of the class chose pasta as their favourite meal. 1/9th chose pizza; 4/9th chose burgers; and another 2/9th chose lasagne. If there were 27 children in the class: How many chose either lasagne or pasta? How many chose either pizza or burgers? How many chose anything other than pizza?
	$\frac{\_\_}{10} + \frac{\_\_}{10} = 1$ Find all the possible combinations that makes this calculation correct. Now do the same with the following: $\frac{\_\_}{10} - \frac{\_\_}{10} = \frac{1}{2}$	 The circle on the left has been divided into 4 so as to create the following calculations: ¾ + ¼ = 1, etc. Divide the following circles into eight and ten and write as many addition and subtraction calculations as you can with eight or ten being the denominator.

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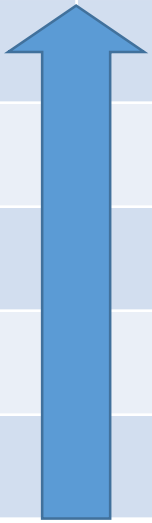
Spring 2: Week 3: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Fractions: Add and subtract fractions with the same denominator within one whole.	Me	My Teacher
Can you subtract one fraction from another of the same denominator?		
Can you add 2 fractions with the same denominator that add up to no more than 1 whole?		
Do you appreciate that eight eighths and ten tenths makes up one whole?		
Do you appreciate that 2 halves and four quarters make up one whole?		
Do you know and use the term 'denominator' and understand its relevance in a fraction?		



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Year 3: Spring 2

Week 4: Geometry: Angles

Recognise angles are a property of shape or a description of a turn.
Identify right angles, recognise that two right angles make a half-turn, three make three quarters & four a complete turn
Identify whether angles are greater than or less than a right angle

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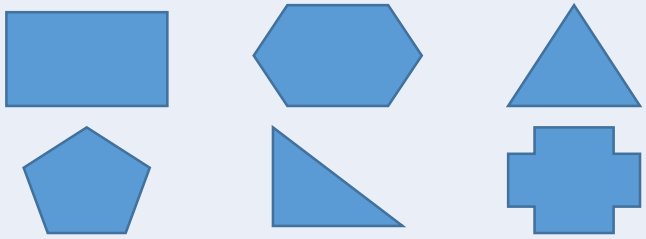
Spring 2: Week 4: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

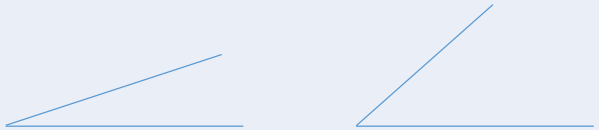
Name	Spring 2: Week 4
Objective: Geometry	**Angles:** Recognise angles are a property of shape or a description of a turn; Identify right angles, recognise that two right angles make a half-turn, three make three quarters & four a complete turn; Identify whether angles are greater than or less than a right angle

Which of these shapes has at least one right angle?



Circle the ones that have.

Which of these two angles is the greater?



Now draw another two pairs of angles and show which angle is the greater.

Indicate where you see two right angles in the environment.

1. _____

2. _____

Below, draw two right angled triangles.

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Spring 2: Week 4: Practice and Consolidation

Geometry: Angles: Recognise angles are a property of shape or a description of a turn; Identify right angles, recognise that two right angles make a half-turn, three make three quarters & four a complete turn;
Identify whether angles are greater than or less than a right angle

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Know that the space between two lines joined at a point is known as an angle and can be measured in degree ➢ Know that the measurement in degrees is greater when the space is wider ➢ Understand that angle can be used to describe a turn ➢ Be able to identify right angles in the environment ➢ Know a right angle as having 90º and use the degrees symbol ➢ Know that two right angles effectively make a straight line and is equivalent to 180º ➢ Know that two right angles make a half turn ➢ Know that three right angles make a three-quarter turn ➢ Know that four right angles make a complete turn ➢ Identify angles smaller than a right angle ➢ Identify angles larger than a right angle	• Use two pieces of string joined together at one point by a drawing pin, show pupils how you can make angles larger and smaller by opening or closing the two strings. • Explain to pupils how the angle is measured and introduce the term 'degree'. • Show pupils a large example of a right angled triangle using one cut from card or a wooden example. • Explain how the angle created for a right angled triangle is 90 degrees and the symbol for degree is '°'. • Show through photographs that the right angle is very important when it comes to buildings – corners are usually 90°. • Link 90° to a quarter turn, two 90° make half a turn, etc.	Find as many examples of 90° as you can whilst on a walk around the school, school grounds or the immediate environment outside the school. Why do you think that the right angle is important in buildings? Draw a number of triangles that have a right angle. Make them different sizes and different shapes. Indicate on each triangle which is the right angle. If a right angle has 90° then attempt to draw an angle that has approximately 45° and then 30° and 60°. Below are a number of angles: Mark the angles that are greater than 90° with a G and those that are less than 90° with a L. 

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Spring 2: Week 4: Mastering this Objective – Deeper Understanding

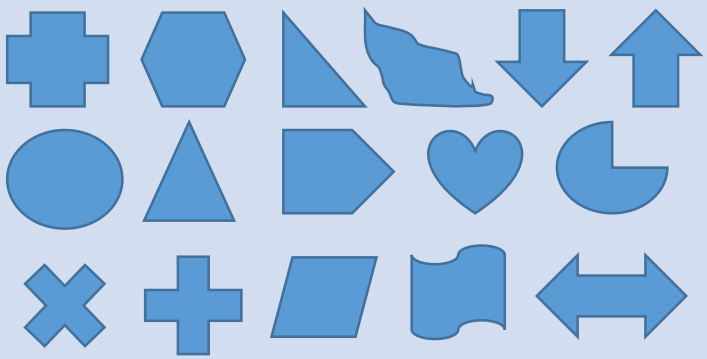
Geometry: Angles: Recognise angles are a property of shape or a description of a turn; Identify right angles, recognise that two right angles make a half-turn, three make three quarters & four a complete turn;
Identify whether angles are greater than or less than a right angle

Teaching Sequence

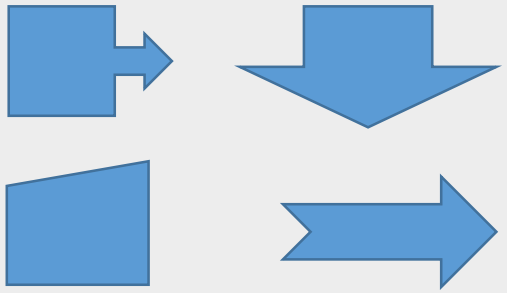
- Know that the space between two lines joined at a point is known as an angle and can be measured in degree
- Know that the measurement in degrees is greater when the space is wider
- Understand that angle can be used to describe a turn
- Be able to identify right angles in the environment
- Know a right angle as having 90º and use the degrees symbol
- Know that two right angles effectively make a straight line and is equivalent to 180º
- Know that two right angles make a half turn
- Know that three right angles make a three-quarter turn
- Know that four right angles make a complete turn
- Identify angles smaller than a right angle
- Identify angles larger than a right angle

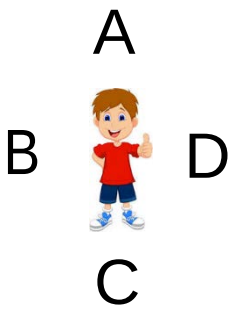
If pupils have mastered this objective they will be able to complete these activities independently:

Put a circle around all the right angles in the following shapes:



Put a circle around any angle within the shapes that are less than 90°. Look carefully, there may be more than you first think.





Alfie faces C.
Which letter will he face if he turns through 180°?
Which of two letters could he face if he turns through 90°?
How many degrees will Alfie have to turn through to move around and end up facing C again?

Think of 5 capital letters that have at least one right angle. Record them.

Think of 5 capital letters that have no right angles. Record them.

Think of at least three numbers 0 to 9 that have a right angle. Record them.

Think of at least two lower case letters that have a right angle. Record them.

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Spring 2: Week 4: Working at greater depth

Geometry: Angles: Recognise angles are a property of shape or a description of a turn; Identify right angles, recognise that two right angles make a half-turn, three make three quarters & four a complete turn;
Identify whether angles are greater than or less than a right angle

Teaching Sequence

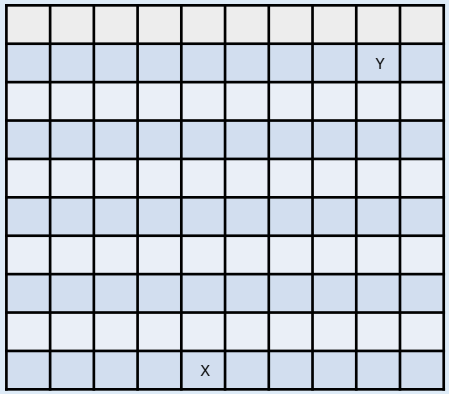
- Know that the space between two lines joined at a point is known as an angle and can be measured in degree
- Know that the measurement in degrees is greater when the space is wider
- Understand that angle can be used to describe a turn
- Be able to identify right angles in the environment
- Know a right angle as having 90º and use the degrees symbol
- Know that two right angles effectively make a straight line and is equivalent to 180º
- Know that two right angles make a half turn
- Know that three right angles make a three-quarter turn
- Know that four right angles make a complete turn
- Identify angles smaller than a right angle
- Identify angles larger than a right angle

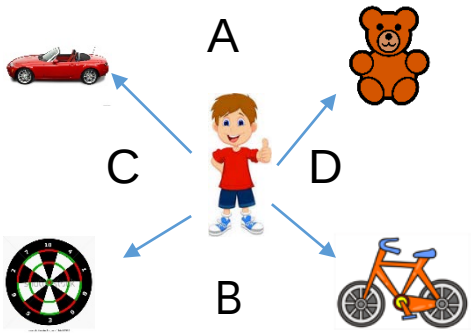
Activities for pupils working at greater depth:

Think of the capital letters within the alphabet: A to Z.
How many have right angles; more than one right angle and no right angle.
Complete the table below with your results:

No right angle	One right angle	More than one right angle
O	L	H

Using a 10 x 10 grid, start at a given square of your choice and aim to get to another square by providing appropriate instructions using 90°; 180° and 270° turns to the left or right, as well as backwards and forwards so many spaces.





Alfie faces B.
If he makes a clockwise turn that is less than 90°, what will he be facing?
If he makes an anti-clockwise move that is more than 90° but less than 180°, what will he be facing?
Make up some more questions and check to see if your friends can answer them.

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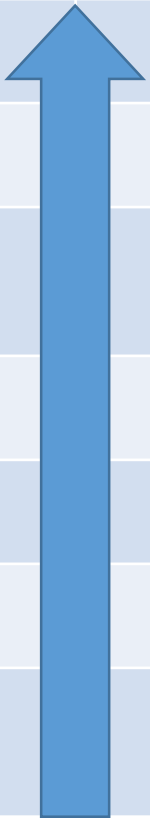
Spring 2: Week 4: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Geometry: Angles: Recognise angles are a property of shape or a description of a turn; Identify right angles, recognise that two right angles make a half-turn, three make three quarters & four a complete turn; Identify whether angles are greater than or less than a right angle	Me	My Teacher
Do you know that the measurement in degrees is greater when the opening is wider?		
Do you know that 4 right angles is a full turn?		
Do you know that two right angles make a straight line and is equivalent to 180˚ or can also be described as half a turn?		
Do you know a right angle has 90 degrees which is written as 90˚?		
Can you recognise right angles in the environment and recognise their importance?		
Do you know that the measurement in degrees is greater when the opening is wider?		
Do you know that the opening between two lines joined at a point is known as an angle and can be measured in degrees?		



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Year 3: Spring 2

Week 5: Measures: Time

12-hour & 24-hour clocks
Record and compare time in terms of seconds, minutes, hours.
Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.

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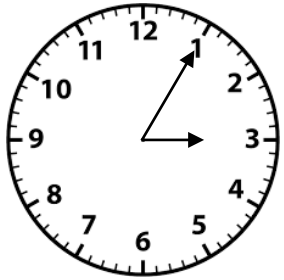
Spring 2: Week 5: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Spring 2: Week 5
Objective: Measures	**Time:** -12-hour & 24-hour clocks; Record and compare time in terms of seconds, minutes, hours; Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.



The time on the left is during the afternoon.
Show the time using the 24-hour clock system.

Do the following times say morning or afternoon/ evening?	
0530	Morning
1427	
1936	
1035	
1316	

How many minutes are there in the following times:

2 hours and 15 minutes:

1 hour and 16 minutes:

4 hours and 7 minutes:

5 hours exactly:

Write these times, using the 24 hour clock method.

3.30 am	
7.15 pm	
11.35 am	
2.30 pm	
8.16 pm	

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Spring 2: Week 5: Practice and Consolidation

Measures: Time: -12-hour & 24-hour clocks
- Record and compare time in terms of seconds, minutes, hours.
- Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.

Teaching Sequence

- Read 24 hour clock and show time on analogue clock face, e.g. 18:30 is half past 6 in the evening.
- Be able to tell whether a time is am or pm on 24 hour clock
- Know that 60 seconds is one minute.
- Know that 60 minutes is one hour.
- Show understanding of equivalence, e.g. 90 secs = 1 minute and a half; 75 minutes = 1 hour and a quarter.
- Order amounts of time using different units of measurement, e.g. 90 secs; 2 minutes; 120 minutes; 1.5 hours etc.
- Know that am represents time from midnight to noon.
- Know that pm represents time from noon to midnight.

Oral and Mental Activities: Examples:

- Explain how the day has 24 hours but our clocks are set out in 12 hours.
- Talk about how we now use a 24 hour clock system digitally.
- Show the system by having a variety of digital clocks available in the classroom.
- Explain how four digits are used and the 0 is placed in front of am times from 1 to 9.
- Look at how the minute hand moves around the clock and explain that there are 60 minutes in one hour, link this to our quarter past and to the hour being 15 minutes past or to and that 30 minutes past is half past.
- Explain the relationship between minutes and seconds.

Pencil and Paper Activities Examples:

If the digital clock shows the following times, what would a clock face look like?

07:30	14:15
19:10	02:45
16:20	17:50

How many hours and minutes are there in the following:

75 minutes;	139 minutes;	220 minutes
105 minutes	230 minutes;	176 minutes

How many minutes and seconds are the in the following:

230 seconds	150 seconds	305 seconds
140 seconds	201 seconds	430 seconds

Show the following times as the 24-hour clock would show them:

2.30am	6.25am	7.23pm	8.16pm
2.30 in the afternoon		7.30 in the morning	
half past six in the morning		quarter to five in the afternoon	

Name six things you can definitely do in under 2 minutes.

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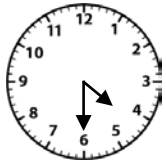
Spring 2: Week 5: Mastering this Objective – Deeper Understanding

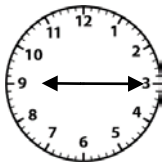
Measures: Time: 12 hour & 24 hour clocks
Record and compare time in terms of seconds, minutes, hours.
Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.

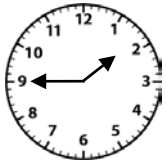
Teaching Sequence

- Read 24 hour clock and show time on analogue clock face, e.g. 18:30 is half past 6 in the evening.
- Be able to tell whether a time is am or pm on 24 hour clock
- Know that 60 seconds is one minute.
- Know that 60 minutes is one hour.
- Show understanding of equivalence, e.g. 90 secs = 1 minute and a half; 75 minutes = 1 hour and a quarter.
- Order amounts of time using different units of measurement, e.g. 90 secs; 2 minutes; 120 minutes; 1.5 hours etc.
- Know that am represents time from midnight to noon.
- Know that pm represents time from noon to midnight.

If pupils have mastered this objective they will be able to complete these activities independently:





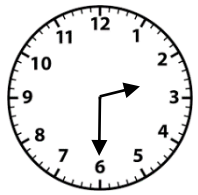


Match the clock faces to the two possible digital times.

09:15
01:45
04:30
16:30
21:15
13:45

It is half past eight in the evening when I go to bed. What will this look like on a 24 hour digital clock?
It is quarter past twelve when I have lunch. What will this look like on a 24 hour digital clock?
My PE lesson starts at twenty past two in the afternoon. What will this look like on a 24 hour digital clock?

Complete this table:

		Half past two in the afternoon
	09:20	
		Quarter to five in the afternoon
	21:45	

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Spring 2: Week 5: Working at greater depth

Measures: Time: -12-hour & 24-hour clocks
- Record and compare time in terms of seconds, minutes, hours.
- Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Read 24 hour clock and show time on analogue clock face, e.g. 18:30 is half past 6 in the evening. ➢ Be able to tell whether a time is am or pm on 24 hour clock ➢ Know that 60 seconds is one minute. ➢ Know that 60 minutes is one hour. ➢ Show understanding of equivalence, e.g. 90 secs = 1 minute and a half; 75 minutes = 1 hour and a quarter. ➢ Order amounts of time using different units of measurement, e.g. 90 secs; 2 minutes; 120 minutes; 1.5 hours etc. ➢ Know that am represents time from midnight to noon. ➢ Know that pm represents time from noon to midnight.	**Are you the time expert?** 1 minute = 60 seconds 2 minutes = 120 seconds Continue the pattern for up to 10 minutes. Write down other time facts you now know using vocabulary such as: am; pm; afternoon; morning; evening; yesterday; today; tomorrow, week; month; days. Challenge your friend to come with some that you have not thought of.	A television programme ended at twenty to six in the evening. It lasted for 1 hour and 10 minutes. Use a digital system (24 hours) to record what time it started and ended. A football match lasts 90 minutes but there were 6 minutes of additional time played. The half time break was 15 minutes. The game ended at 21 minutes past nine in the evening. Record digitally (24 hours) what time the game started and finished.
	Bus timetable A bus leaves the depot for the town centre every 45 minutes; it takes 1 hour and 30 minutes to get to the town centre and then stops at the town centre for 15 minutes before returning to the depot. • The first bus leaves for the town centre at 06:00, at what time does it comes back to the depot? • At what time does the third bus get to the town centre?	**Adventure Day** Your class goes to an adventure centre for the day. You arrive at the centre at 09.30 am. And put into 3 groups (red; yellow; and blue). There are three different activities: Canoeing; Climbing and Go Carting. Event 1 starts at 10.00 am Event 2 starts at 11.30 am Event 3 starts at 02.00 pm Make up a chart to show how each group will do each of the three activities.

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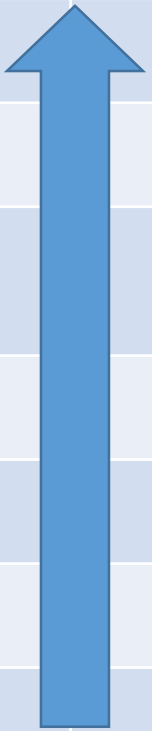
Spring 2: Week 5: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Measures: Time: 12-hour & 24-hour clocks Record and compare time in terms of seconds, minutes, hours. Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.	Me	My Teacher
Given a time, can you record it as am or pm and on an analogue clock face, as well as on a 24-hour clock face?		
Can you convert a 'pm' time to the digital 24 hour system?		
Can you convert an 'am' time to the digital 24 hour system?		
Do you know that quarter past is 15 minutes past; and that half past is 30 minutes past?		
Do you know that 60 seconds is one minute and that 60 minutes is one hour?		
Do you know that the term 'pm' represents time from noon to midnight?		
Do you know that the term 'am' represents time from midnight to noon?		



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Year 3: Spring 2

Week 6: Consolidate and Assess

- Start this week by using the warm ups outlined on the next page so as to ensure pupils are fluent and secure with their basic skills.
- Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in the Autumn and Spring terms.
- Analyse the results and use information to help focus the intervention sessions, as needed, for the following term.

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Year 3: Spring 2: Week 6

The focus of the consolidation should be the following aspects:

- Count on/back in steps of 2s,5s, 10s, 3s to 100 and beyond, from 0 and any given number
- Count on/back in multiples of 4 and 8 from 0
- Count on/back in 50s, 100s from 0 to 1000
- Find 10/100 more or less than a given number up to 500 and more
- Read and write all numbers to 1000 in numerals and write all numbers in words to 500 and over
- Order a set of numbers (4 and/or 5) to at least 1000 in increasing and decreasing value
- Compare numbers up to 500 and beyond using =, <, > symbols
- Round numbers to the nearest 10 to at least 1000 and to the nearest 100 to 1000
- Partition 3 digit numbers (hundreds, tens and ones) and partition numbers in different ways
- Recall fluently all addition number bonds to 20 and know all the subtraction number bonds to 20 to begin to become fluent in deriving facts (e.g. 3 + 7 = 10; 10 – 7 = 3 and 7 = 10 -3 to calculate 30 + 70 = 100; 100 – 70 = 30 and 70 = 100 – 30 and 300 + 700 = 1000; 1000 – 700 = 300 and 700 = 1000 – 300)
- Add/subtract: 3-digit and 1-digit numbers, a 3-digit number and tens and a 3-digit number and hundreds
- Count on/back in ½s , ¼s and $^{1}/_{3}$s including on a number line
- Recall the 2, 3, 4, 5, and 10 times tables and the derived division facts
- Double any number up to 100; double any multiple of 50 up to 500 and halve any number up to 100
- Find complements to 100 and recall addition and subtraction facts for 100 (e.g. 37 + 63 = 100, 63 + 37 = 100, 100 – 37 = 63, 100 – 63 = 37)

- Although practise and consolidation should be on-going through each half term, during Week 6 there should be greater opportunity taken to check pupils' learning and understanding.
- Summative and Formative assessment procedures should help teachers gain a clear picture as to which pupils are at different stages, including mastery.

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YEAR 3 : SUMMER 1

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
6 Multiplication & Division	**4 Addition & Subtraction Decimals**	**5 Addition & Subtraction (using measures)**	**7 Multiplication & Division (using measures)**	**5 Measures Time**	**5 Geometry Properties**
Additional practise for formal methods of multiplication and division, including a high focus on reasoning	Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.	Add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.	Write and calculate measures for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	Know the numbers of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events, for example to calculate time taken by particular events or tasks.	Identify horizontal and vertical lines and pairs of perpendicular & parallel lines.
➢ Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x; Setting everything out in formal method ➢ Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x, setting everything out using a formal method ➢ Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder, setting everything out using a formal method ➢ Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder, setting everything out using a formal method	➢ Count up in tenths starting at zero ➢ Count back in tenths to zero ➢ Count up in tenths starting at any 'tenth number' ➢ Count back in tenths starting at any 'tenth number' ➢ Know that tenths arise from dividing an object, quantity or number into 10 equal parts ➢ Place factions (tenths) in order – ascending and descending.	➢ Add two 2-digit numbers using columnar addition without exchanging. ➢ Subtract a 2-digit number from a 2-digit number without exchanging. ➢ Add two 3-digit numbers using columnar addition without exchanging. ➢ Subtract a 2 or 3-digit number from a 3-digit number without exchanging. ➢ Add two 2-digit numbers where the units make more than 10 ➢ Add two 3-digit numbers where the units and/or tens make more than 10 ➢ Subtract a 2-digit number from a 2-digit number where exchanging is required ➢ Subtract a 2-digit number from a 3-digit number where exchanging is required	➢ Multiply a measure with a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a measure with a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. ➢ Divide 2, 3, 4, 5, 8 into any measure of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any measure with 2-digit number with no remainder.	➢ Know 60 minutes = 1 hour ➢ Know 60 seconds = 1 minute ➢ Know the number of days per month varies from 28-31 ➢ State how many days in each month ➢ Know the number of days in a year varies between 365 and 366 ➢ Know that there are 366 days in a leap year ➢ Find the time difference between two events by counting on	➢ Know and be able to accurately use: horizontal and vertical ➢ Recognise horizontal and vertical in everyday situations ➢ Know the relationship between horizontal and vertical ➢ Know and be able to accurately use: parallel and perpendicular ➢ Accurately draw a line that is parallel or perpendicular to a given line

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Year 3: Summer 1

Week 1: Multiplication & Division

Additional practise for formal methods of multiplication and division, including a high focus on reasoning

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Summer 1: Week 1: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 2: Week 1
Objective: Multiplication & Division	Additional practise for formal methods of multiplication and division, including a high focus on reasoning

Complete the calculations below:

36 × 4x 48 × 5x 72 × 8x	28 × 8x 79 × 10x 38 × 5x
4√48 ÷ 5√55 ÷ 3√39 ÷	8√72 ÷ 8√96 ÷ 10√90 ÷
Tom, Peter, Helen and Aysha had 96 marbles between them. They decided to share out equally. How many will each have?	Each of eight girls have scored 12 in the maths test. How many marks have they got altogether?

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Summer 1: Week 1: Practice and Consolidation

Multiplication & Division: Additional practise for formal methods of multiplication and division, including a high focus on reasoning

Teaching Sequence

- Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x, setting everything out in formal method
- Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. setting everything out using a formal method
- Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder, setting everything out using a formal method
- Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder, setting everything out using a formal method

Oral and Mental Activities Examples:

- This is a revision unit on the whole but with a greater focus on problem solving and reasoning.
- Practice the times tables for 2x; 3x; 4x; 5x; 8x; and the 10x.
- For the pupils that require it provide them with many practical activities which involve sharing and multiplying.
- For example, use mathematical apparatus such as unifix and share them between different numbers of people.
- Also use coins in the same way, even if it just recognising that each will have 4 x 20p coins, etc.
- For the majority, they should be able to move directly to the abstract examples on the right.

Pencil and Paper Activities Examples:

Set out the following using formal methods of multiplication:

23 x 5	72 x 3	38 x 4	77 x 8
81 x 4	93 x 4	82 x 10	32 x 8
35 x 5	72 x 8	28 x 10	66 x 8

Set out the following using formal methods of division:

8√ 96÷	5√ 55÷	4√ 44÷	3√ 72÷
4√ 72÷	2√ 68÷	3√ 39÷	5√ 75÷

All the 8 children in red group in Class 5 have collected 96 merit badges during the term. They decide to share them out equally between them. How many merit badges will each get?

There are five planting areas around the school ground. Children have planted 36 bulbs in each planting area. How many flowers should they have altogether if each bulb turns into a flower?
However, 5 bulbs in each planting area do not flower. How many flowers did they get in the end?

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Summer 1: Week 1: Mastering this Objective – Deeper Understanding

Multiplication & Division: Additional practise for formal methods of multiplication and division, including a high focus on reasoning

Teaching Sequence

- Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x, setting everything out in formal method
- Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x, setting everything out using a formal method
- Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder, setting everything out using a formal method
- Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder, setting everything out using a formal method

If pupils have mastered this objective they will be able to complete these activities independently:

Complete the following:

4 x ☐ = 20

6 x ☐ = 48

12 x ☐ = 60

7 x ☐ = 56

☐ 6 x 8 = 128

2 ☐ x 5 = 120

☐ 4 x 5 = 170

22 x ☐ = 176

Dice Game

There are two dice:
One has the usual numbers 1 to 6 and the other has the numbers 10, 20, 30, 40 ,50 and 60.

When throwing the two dice and multiplying the two numbers, it made 120. Which combinations could you have?

What about if they made 60?

Holiday Time

A family of 2 adults and 2 children go on holiday.
The air tickets cost £195 for each adult and £105 for each child.
The hotel bill is £520 for all of them.
How much does the family spend altogether?

Relationships

How could I record the following calculations in a different way:

5 + 5 + 5 + 5 + 5 + 5 + 5

8 + 8 + 8 + 8 + 8 + 8

10 + !0 + 10 + 10 + 10 + 10 + 10 + 10

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Summer 1: Week 1: Working at greater depth

Multiplication & Division: Additional practise for formal methods of multiplication and division, including a high focus on reasoning

Teaching Sequence

- Multiply a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x, setting everything out in formal method
- Multiply a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. setting everything out using a formal method
- Divide 2, 3, 4, 5, 8 into any multiple of ten with no remainder, setting everything out using a formal method
- Divide 2, 3, 4, 5, 8 into any 2-digit number with no remainder, setting everything out using a formal method

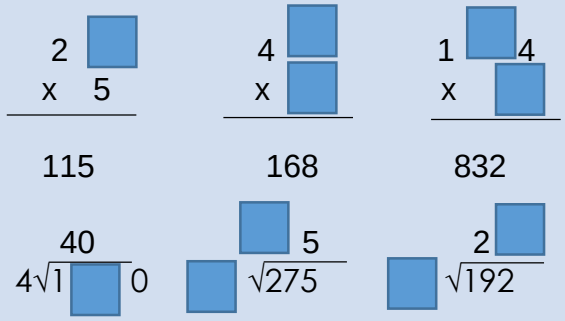
Activities for pupils working at greater depth:

Bread Rolls

Packers in a bakery have the job of packing bread rolls into a packet of 8.
They discover that they can make up 11 packets but have 3 left over.
How many bread rolls did they have in the first place?

Make up similar problems for your friend to solve.

Work out what the missing digits are.



Coloured Pencils

A group of 5 children share out their pencils.
Each has 5 red; 3 blue; 2 yellow and 4 pink.
However after the sharing there were 6 other colours left over.
How many pencils were there in the first place?
How many red and yellow pencils were there altogether?
If they had shared the pencils between them without bothering about the colours, how many would each have had and how many would be left over?

Planting in the garden

John and his mum are planting potato bulbs in the garden. They plant 8 potato bulbs and when it comes to digging up their potatoes they discover that they have 72 potatoes altogether.
They sell each potato for 5p.
If each potato bulb gave them the same number of potatoes, how much money did they make from each one?

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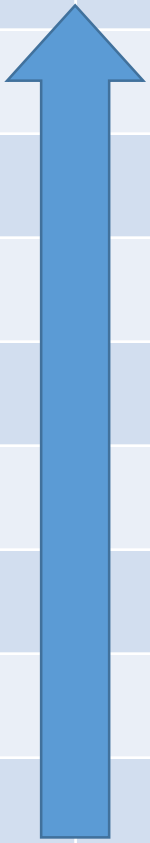
Summer 1: Week 1: Assessment (similar to Spring 1 Week 5)

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Multiplication & Division: Additional practise for formal methods of multiplication and division, including a high focus on reasoning	Me	My Teacher
Can you solve problems involving multiplication and division by 2, 3, 4, 5, 8 and 10?		
Can you divide 2, 3, 4, 5, 8 and 10 into any 2-digit number (no remainder)?		
Can you divide 2, 3, 4, 5, 8 and 10 into any 10s number (no remainder)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 3, 4 and 8x ?		
Can you multiply a 2-digit number by a single-digit number using 2, 5 and 10x ?		
Can you multiply a 10s number by a single-digit number mentally, using 3, 4, and 8x?		
Can you multiply a 10s number by a single-digit number mentally, using 2, 5, and 10x?		



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Year 3: Summer 1

Week 2: Addition & Subtraction: Decimals

Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.

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Summer 1: Week 2: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 1: Week 2
Objective: Addition & Subtraction	**Decimals:** Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.

Complete the following tasks:

Continue the following sequence:

$1/10^{th}$; $2/10^{th}$; $3/10^{th}$ ☐ ☐

How many tenths in 2½?

☐

How else can we express $5/10^{th}$?

☐

Continue the following sequence:

1 $1/10^{th}$; 2 $3/10^{th}$; 3 $5/10^{th}$; ☐

Continue the following sequence:

$9/10^{th}$; $7/10^{th}$; $5/10^{th}$; ☐ ☐

Which tenth number is between $7/10^{th}$ and $9/10^{th}$?

What is the next tenth number after 1$3/10^{th}$?

☐

What is the tenth number immediately before 3$3/10^{th}$?

☐

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Summer 1: Week 2: Practice and Consolidation

Addition & Subtraction: **Decimals:** Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.

Teaching Sequence

- Count up in tenths starting at zero
- Count back in tenths to zero
- Count up in tenths starting at any 'tenth number'
- Count back in tenths starting at any 'tenth number'
- Know that tenths arise from dividing an object, quantity or number into 10 equal parts
- Place fractions (tenths) in order – ascending and descending.

Oral and Mental Activities Examples:

- Use a metre stick and divide into 10 parts (use a coloured tape to emphasise the divisions). Get pupils to count in tenths, eg, one tenth; two tenths, etc. as you move your hand across the metre stick.
- Get pupils to chant in tenths both forwards and backwards.
- Show pupils how 5/10th is exactly the same as ½.
- Link the division by 10 to a tenth of the original number.
- Use practical examples and divide by 10 but use the term one tenth of ...../. is .....

Pencil and Paper Activities Examples:

- Count on in tenths starting with 3/10th
- Count back in tenths starting at 7/10th
- Count on in tenths from 3/10th to 2.
- Count back in tenths from 1 7/10th

Order the following numbers starting with the smallest:

$\frac{3}{10}$ $\frac{6}{10}$ $\frac{7}{10}$ $\frac{1}{10}$ $\frac{9}{10}$ $\frac{4}{10}$ $\frac{2}{10}$ $\frac{5}{10}$

How many tenths are there in the following:

1 3/10th 4 7/10th 8 1/10th 7 9/10th

Write the following as a mixed fraction, showing the whole numbers and the tenths.

47 tenths 56 tenths 68 tenths 92 tenths

What is 1/10th of the following:

40	60	70	20	90	100	10
23	46	69	71	88	56	36

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Summer 1: Week 2: Mastering this Objective – Deeper Understanding

Addition & Subtraction: **Decimals:** Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.

Teaching Sequence

- Count up in tenths starting at zero
- Count back in tenths to zero
- Count up in tenths starting at any 'tenth number'
- Count back in tenths starting at any 'tenth number'
- Know that tenths arise from dividing an object, quantity or number into 10 equal parts
- Place fractions (tenths) in order – ascending and descending.

If pupils have mastered this objective they will be able to complete these activities independently:

What is 3/10th of the following numbers?:

70 100 80 90

What is 1/10th of the following amounts?:

£120 £370 £290 £320

What is 3/10th of the following distances?:

350 metres 720 Km 280 metres

What are the next 3 tenth numbers that come after $4_{7/10th}$?

What are the next 5 tenth numbers that come after $6_{9/10th}$

What are the 3 tenth numbers that come immediately before $8_{1/10th}$?

What are the 5 tenth numbers that come immediately before $10_{3/10th}$?

Complete this matrix where the rows and columns have to add up to the numbers on the outside

	9/10th	1 1/10th	1 7/10th
	3/10th	7/10th	9/10th
	1/10th		
9/10th		1/10th	3/10th

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Summer 1: Week 2: Working at greater depth

Addition & Subtraction: **Decimals:** Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.

Teaching Sequence

- Count up in tenths starting at zero
- Count back in tenths to zero
- Count up in tenths starting at any 'tenth number'
- Count back in tenths starting at any 'tenth number'
- Know that tenths arise from dividing an object, quantity or number into 10 equal parts
- Place fractions (tenths) in order – ascending and descending.

Activities for pupils working at greater depth:

Working back from tenths value

- If one tenth of a number is 9 what was the original number?
- If one tenth of an amount is 5 metres, what was the original amount?
- If one tenth of my bank account is £5, how much money is in my bank account?
- If three tenths (3/10th) of a number is 27, what was the original number?
- If seven tenths (7/10th) of the money in my purse is £14, how much money is in my purse?

Create your own problem

Create your own problem involving a tenth or a tenth value.
You could ask to find a tenth value of a given amount or provide the value in the first place and get your friend to work backwards.
Agree with your friend that your question was a correct one.

Bus Journey

A bus was travelling between London and Manchester.
The original journey was 500 Km.
However, after 1/10th of the journey the bus broke down.
The passengers were picked up by another bus.
How far did the passengers travel in the new bus?

Complete the following matrix:
The rows and columns must add up to the bold number on the outside.

+	**4/10th**	**1 2/10th**
8/10th		
8/10th	1/10th	

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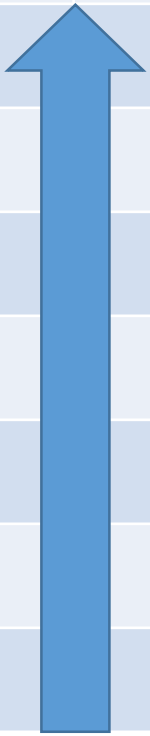
Summer 1: Week 2: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Addition & Subtraction: **Decimals:** Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.	Me	My Teacher
Can you count on in tenths from any given tenth number up to 5?		
Can you count on in tenths from any given tenth number up to 5?		
Can you count on in tenths from any given tenth number up to 5?		
Do you recognise 5/10th as being the same as ½?		
Can you count back in 1/10th starting from any tenth number smaller than 1?		
Can you count up in 1/10th starting from any tenth number smaller than 1?		
Do you know that 1/10th of a number is the same as dividing by 10?		



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Year 3: Summer 1

Week 3: Addition & Subtraction (using measures)

Add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.

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Summer 1: Week 3: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 1: Week 3
Objective: Addition & Subtraction	**Using Measures:** Add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.

1.24 Km +2.72 Km	5.12 Km + 3.12Km		350gms +472gms	1.44Kg +2.45Kg
4.45Km +3.36Km	6.17Km +4.67Km		673gms -523gms	3.26Kg -2.15Kg
6.76L +3.16L	3.15L +4.78L		£3.78 +£4.67	£2.98 +£5.76
5.73L - 2.34L	8.91L - 6.72L		£9.17 - £4.76	£5.53 - £1.56

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Summer 1: Week 3: Practice and Consolidation

Addition & Subtraction: Using Measures: Add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.

Teaching Sequence

- Add two 2-digit numbers using columnar addition without exchanging.
- Subtract a 2-digit number from a 2-digit number without exchanging.
- Add two 3-digit numbers using columnar addition without exchanging.
- Subtract a 2 or 3-digit number from a 3-digit number without exchanging.
- Add two 2-digit numbers where the units make more than 10
- Add two 3-digit numbers where the units and/or tens make more than 10
- Subtract a 2-digit number from a 2-digit number where exchanging is required
- Subtract a 2-digit number from a 3-digit number where exchanging is required

Oral and Mental Activities: Examples:

- Remind pupils of addition with up to 3 digits and how to set calculations out using the formal methods of columnar addition and subtraction.
- Show how formal addition with money, length, weigh and capacity is set out in line with formal addition and subtraction of 3-digit numbers, except for the decimal point.
- Take pupils through addition of 3-digit numbers to include money, length, weight and capacity without any exchange between columns, then with exchange in either of the first two columns.
- Take pupils through subtraction of 3-digit numbers without exchange and then with exchange.

Pencil and Paper Activities Examples:

Using formal methods of setting up, add the following:

1.34Km + 3.24Km	3.12Km + 3.45Km	2.24Kg + 3.51Kg
4.12L + 3.12L	7.12Km + 2.56Km	3.12L + 5.23L

Using formal methods of setting up, subtract the following:

6.62Kg – 2.31Kg	4.78Kg – 1.43Kg	7.39Kg – 1.17Kg
16.65L – 9.23L	18.34Km – 9.11Km	9.96Km – 3.62Km

Using formal methods of setting up, add the following:

4.89Km + 5.05Km	7.49Km + 9.28Km	3.67Km + 2.17Km
5.89L + 7.09L	5.87Kg + 4.03Kg	8.05Km + 9.86Km

Using formal methods of setting up, subtract the following:

Take the following distances away from 10 metres:

3m 38cm 4m 78cm 5m 93cm.

Take the following weights away from 10Kg:

5.23Kg 6.34Kg 8.64Kg

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Summer 1: Week 3: Mastering this Objective – Deeper Understanding

Addition & Subtraction: Using Measures: Add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.

Teaching Sequence	If pupils have mastered this objective they will be able to complete these activities independently:	
➢ Add two 2-digit numbers using columnar addition without exchanging. ➢ Subtract a 2-digit number from a 2-digit number without exchanging. ➢ Add two 3-digit numbers using columnar addition without exchanging. ➢ Subtract a 2 or 3-digit number from a 3-digit number without exchanging. ➢ Add two 2-digit numbers where the units make more than 10 ➢ Add two 3-digit numbers where the units and/or tens make more than 10 ➢ Subtract a 2-digit number from a 2-digit number where exchanging is required ➢ Subtract a 2-digit number from a 3-digit number where exchanging is required	**Weights and Heights** Two boys weigh themselves and discover that one weighs 5Kg more than the other. Their joint weight is 140Kg. • How much does each boy weigh? They then go and measure each other's height. One is 1.56m tall and the other is 1.49m tall. • What is their combined height? • What is the difference in their heights? *Use formal methods of addition and subtraction to solve the problems.*	**Weighing Horses** The three horses that live at the local stables are all very different. The first weighs 550.23Kg The second weighs 702.56Kg, and The third weighs 892.88Kg • What is the difference in weight between the heaviest and lightest horses? • How much do the two heaviest horses weigh? • How much do the two lightest weigh? *Use formal methods of addition and subtraction to solve the problems.*
	Garden Pond During a hot day a garden pond has 175.89l of water in it but should hold 235.50l of water. • How much water has to be added to the pond to fill it up? • 14 days later the pond had lost 52.98l. • How much water was left in the pond at this time? *Use formal methods of addition and subtraction to solve the problems.*	**Runners** Three runners are training to run a marathon. Each day they run a different amount. On average: Runner 1 runs 25.78Km; Runner 2 runs 30.76Km Runner 3 runs 35.83Km • How much further does Runner 3 run than Runner 1? • How much, on average, does each runner run each day?

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Summer 1: Week 3: Working at greater depth

Addition & Subtraction: Using Measures: Add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.

Teaching Sequence

- Add two 2-digit numbers using columnar addition without exchanging.
- Subtract a 2-digit number from a 2-digit number without exchanging.
- Add two 3-digit numbers using columnar addition without exchanging.
- Subtract a 2 or 3-digit number from a 3-digit number without exchanging.
- Add two 2-digit numbers where the units make more than 10
- Add two 3-digit numbers where the units and/or tens make more than 10
- Subtract a 2-digit number from a 2-digit number where exchanging is required
- Subtract a 2-digit number from a 3-digit number where exchanging is required

Activities for pupils working at greater depth:

Harry and Tom weigh themselves and discover that Tom weighs 5Kg more than Harry.
Their joint weight is 140Kg. How much does each boy weigh?

Harry and Tom are also training for a charity run and they discover that one night Harry ran 5.34Km. Jointly they ran 12.78Km.
How far did Tom run?

Three calves (A, B and C) are weighed.
A and B weigh 185.94Kg, and
B and C weigh 168.03Kg, and
A and C weigh 162.73Kg

We know that A weighs 90.32Kg.
How much do B and C weigh?

During a science lesson, five children weigh themselves and check how tall they are. The information is set out on the table below:

	Aysha	Betty	Carl	Donesh	Evie
Weight (Kg)	70.34	66.32	67.45	72.58	56.21
Height (m)	1.34	1.29	1.33	1.52	1.22

- What is the difference between Aysha and Betty's weight?
- How much taller is Donesh than Evie?
- What is the weight difference between the heaviest and lightest person?
- Would all five people weigh more than 500Kg? Explain your reasoning.
- Would all five people weigh less than 250Kg? Explain your reasoning.

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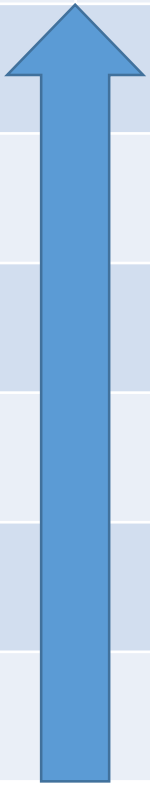
Summer 1: Week 3: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Addition & Subtraction: Using Measures: Add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.	Me	My Teacher
Can you add or subtract weights, lengths and capacity measures which involve up to 3-digits but set out as word problems or as reasoning and thinking problems?		
Can you subtract weights, lengths or capacity, involving 3-digits, from another, using columnar subtraction where the value of the tens is 0?		
Can you subtract weights, lengths or capacity, involving 3-digits, from one another, using columnar subtraction which requires exchange between the ones, tens or hundreds?		
Can you subtract weights, lengths or capacity, involving 3-digits, from one another, using columnar subtraction which requires no exchange between the ones, tens or hundreds?		
Can you add weights, lengths or capacity together, with 3-digits, using columnar addition, where the ones and tens when added make more than 10?		
Can you add weights, lengths or capacity together, with 3-digits, using columnar addition without exchange between the ones and tens?		



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Year 3: Summer 1

Week 4: Multiplication & Division (using measures)

Write and calculate measures for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

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Summer 1: Week 4: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 1: Week 4
Objective: Multiplication & Division	**Using Measures:** Write and calculate measures for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

50Kg x 4			50Kg ÷ 5	
20Kg x 8			64Km ÷ 8	
30Km x 10			120 metres ÷ 4	
40L x 3			750l ÷ 3	

Complete these using formal method:

23kg	102Km	56L
x 4	x8	x5

Complete these using formal method:

5√125Km	4√640metres
8√440Kg	5√350Litres

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Summer 1: Week 4: Practice and Consolidation

Multiplication & Division: Using Measures: Write and calculate measures for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence	Oral and Mental Activities: Examples:	Pencil and Paper Activities Examples:
➢ Multiply a measure with a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a measure with a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. ➢ Divide 2, 3, 4, 5, 8 into any measure of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any measure with 2-digit number with no remainder.	• Remind pupils of the methods used to multiply using formal methods. • Remind pupils of the methods used to divide using formal methods. • Remind pupils of the terminology used with weights; lengths and capacity. • Remind pupils of multiplication and division principles related to multiplying and dividing by 10. • Rehearse the tables for 2x; 3x; 4x; 5x; 8x; and 10x.	Calculate the following: 50Kg x 5 70Km x 4 120gms x 3 170metres x 4 90l x 3 80Kg x 8 30Km x 8 60Kg x 5 100metres x 8 Use formal methods to calculate the following: 450Kg x 5 120Km x4 89l x8 205metres x3 Use formal methods to calculate the following: 5√25Kg÷ 8√64Km÷ 4√240Kg÷ 3√240L÷ 8√240Km÷ Aunt Helen had made 16Kg of a cake mixture. She had to make 4 cakes. How much mixture will go into each cake? Uncle Tom was watering his plants. His watering can held 6 litres of water. He filled it 8 times. How many litres did he use to water his garden?

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Summer 1: Week 4: Mastering this Objective – Deeper Understanding

Multiplication & Division: Using Measures: Write and calculate measures for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence	If pupils have mastered this objective they will be able to complete these activities independently:	
➢ Multiply a measure with a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a measure with a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. ➢ Divide 2, 3, 4, 5, 8 into any measure of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any measure with 2-digit number with no remainder.	**Weights and Heights** Four girls weigh exactly the same. Their joint weight is 280Kg. • How much does each girl weigh? • They are also as tall as each other. If their combined height is 500cms, how tall is each girl? *Use formal methods of multiplication and division to solve the problems.*	**Weighing Horses** Three young foals weigh exactly the same. Their total weight is 750Kg altogether. • How much does each foal weigh? • After six months each foal had put on 60Kg each, how much do all three foals weigh now? *Use formal methods of multiplication and division to solve the problems.*
	Fish Tank A large fish tank contains 120l of water. Hamid fills the fish tank using a large bucket. The bucket holds 8 litres of water. How many times will Hamid have to fill his bucket before he has filled the fish tank? What if the fish tank held 160l of water? *Use formal methods of multiplication and division to solve the problems.*	**Relay** It takes 400 metres to run around the school running track. • One runner runs half way around the track and then hands on to another. If there are eight children involved in doing this, how far will they have run altogether? • What if there were 5 runners involved? *Use formal methods of multiplication and division to solve the problems.*

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Summer 1: Week 4: Working at greater depth

Multiplication & Division: Using Measures: Write and calculate measures for multiplication and division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Multiply a measure with a multiple of ten by a single digit mentally, using 2, 3, 4, 5, 8 and 10x. ➢ Multiply a measure with a 2-digit number by a single digit using 2, 3, 4, 5, 8 and 10x. ➢ Divide 2, 3, 4, 5, 8 into any measure of ten with no remainder. ➢ Divide 2, 3, 4, 5, 8 into any measure with 2-digit number with no remainder.	**Tiling a wall** A builder has a wall to tile. The wall measures 6 metres by 4 metres. Each tile is 60cm x 60 cm How many full tiles will he be able to fit on to the wall. You may need to make diagram to help you.	**Growing a lawn** The area of a garden is 40 sq. metres. New people have moved into the house and wish to plant a new lawn. They have to buy special grass seed. The grass seed is sold in 5 Kg bags. Each 5Kg bag will seed 8 sq. metres of the garden. How many 5Kg bags will they need to buy?
	Carpet or Wooden Floor? A couple has just moved into a new house. The living room is 6 metres long by 5 metres wide. This is 30 sq metres in total. They like a carpet which will cost £8 per square metre. They also like a wooden floor. Each wooden floor strip is 3 metres long by 1 metre wide. First work out how many strips they would need. Each strip of wood costs £25. Which is the cheaper: the carpet or the wood?	**Roofing** One side of a roof is 15 metres by 5 metres. This is 75 sq metres. 5 tiles are used by the roofer for every one square metre. How many tiles will be required to cover the roof? If the tiles weigh 2Kg for every 1 sq metre, how much will the tiles weight in total?

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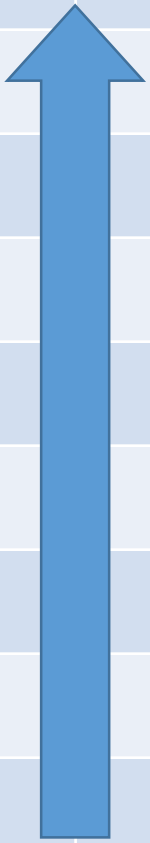
Summer 1: Week 4: Assessment (similar to Spring 1 Week 5)

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Multiplication & Division: Additional practise for formal methods of multiplication and division, including a high focus on reasoning	Me	My Teacher
Can you solve problems involving multiplication and division by 2, 3, 4, 5, 8 and 10?		
Can you divide 2, 3, 4, 5, 8 and 10 into any 2-digit number (no remainder)?		
Can you divide 2, 3, 4, 5, 8 and 10 into any 10s number (no remainder)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 2, 3, 4, 5, 8 and 10x (using formal methods)?		
Can you multiply a 2-digit number by a single-digit number using 3, 4 and 8x ?		
Can you multiply a 2-digit number by a single-digit number using 2, 5 and 10x ?		
Can you multiply a 10s number by a single-digit number mentally, using 3, 4, and 8x?		
Can you multiply a 10s number by a single-digit number mentally, using 2, 5, and 10x?		



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Year 3: Summer 1

Week 5: Measures: Time

Know the numbers of seconds in a minute and the number of days in each month, year and leap year.

Compare durations of events, for example, to calculate time taken by particular events or tasks.

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Summer 1: Week 5: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

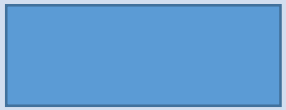
Name	Summer 1: Week 5
Objective: Measures	**Time:** Know the numbers of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events, for example, to calculate time taken by particular events or tasks.

Name the 4 months that have 30 days in them?

_____ _____

_____ _____

How often do we have a leap year?



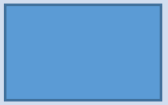
Match the following to the approximate time it takes:

Eat my dinner	10 hours
Sleep at night	60 minutes
Maths lesson	1 minute
Say a poem	15 minutes

How many minutes are there in:

- 2 hours 
- 1 hour and 45 minutes 

The summer term starts on April 1st and finishes on July 20th. How many days are there in the summer term? 

During a bank holiday weekend, we have three days away from school. How many hours is this? 

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Summer 1: Week 5: Practice and Consolidation

Measures: Time: Know the numbers of seconds in a minute and the number of days in each month, year and leap year.
Compare durations of events, for example to calculate time taken by particular events or tasks.

Teaching Sequence	Oral and Mental Activities Examples:	Pencil and Paper Activities Examples:
➢ Know 60 minutes = 1 hour ➢ Know 60 seconds = 1 minute ➢ Know the number of days per month varies from 28-31 ➢ State how many days in each month ➢ Know the number of days in a year varies between 365 and 366 ➢ Know that there are 366 days in a leap year ➢ Find the time difference between two events by counting on	• Remind pupils of the number of seconds in a minute and the number of minutes in one hour. • Debate with pupils about why 60 and not 100 was used to measure seconds and minutes. • Say out loud together the poem 'There are 30 days in ……' as a way to help pupils remember how many days there are in each month. • Talk about leap year and associate it with the Olympics. • Estimate the length of time it takes for things to happen. Use as many everyday examples as possible, such as time to get to school; time to drink a glass of milk or water, etc.	How many seconds are there in: 2minutes; 4 minutes and 20 seconds; 4 minutes; 5 minutes and 10 seconds; 7 minutes and five seconds? How many minutes are there in: 1 hour and 10 minutes; a quarter of an hour; 6 hours; 2 hours and six minutes; 4 hours and twenty minutes? If it is June 3rd today, how many days will be before it is September 1st? If it is May 30th today, how many days will it be before September 5th? The school concert started at 7.30pm and finished at 9.15pm. How many minutes did the concert last for? A football match started at 3pm and finished at 4.47pm. There was 15 minutes break at half time. How many minutes did they play football for?

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Summer 1: Week 5: Mastering this Objective – Deeper Understanding

Measures: Time: Know the numbers of seconds in a minute and the number of days in each month, year and leap year.
Compare durations of events, for example to calculate time taken by particular events or tasks.

Teaching Sequence

- Know 60 minutes = 1 hour
- Know 60 seconds = 1 minute
- Know the number of days per month varies from 28-31
- State how many days in each month
- Know the number of days in a year varies between 365 and 366
- Know that there are 366 days in a leap year
- Find the time difference between two events by counting on

If pupils have mastered this objective they will be able to complete these activities independently:

Continue the pattern:

1 minute = 60 seconds
2 minutes = 120 seconds
3 minutes = 180 seconds
(continue until 10 minutes)

15 minutes = quarter of an hour
30 minutes = half an hour
45 minutes = three-quarters of an hour
60 minutes = 1 hour
75 minutes = 1 hour and a quarter (or 15 minutes)
(continue until you reach 300minutes)

Which of these is longest:

- 1 hour and 14 minutes
- 77 minutes
- 4,000 seconds

- 14 hours
- 850 minutes
- 2.30am to 2.30pm

Term starts on September 1st and ends on December 15th.
How many days does term last (including Saturdays and Sundays and half term)?

There are 15 weekends during this term and 5 days off for half term.
How many actual days do we attend school during the Autumn term?

Think of the seasons: Spring; Summer; Autumn and Winter.

In which season do these dates fall:

- December 25th
- August 11th
- April 23rd
- October 4th

There are 31 days in May.
How many hours are there?

I am awake for 16 hours each day.
How many minutes am I awake each day?

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Summer 1: Week 5: Working at greater depth

Measures: Time: Know the numbers of seconds in a minute and the number of days in each month, year and leap year.
Compare durations of events, for example, to calculate time taken by particular events or tasks.

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Know 60 minutes = 1 hour ➢ Know 60 seconds = 1 minute ➢ Know the number of days per month varies from 28-31 ➢ State how many days in each month ➢ Know the number of days in a year varies between 365 and 366 ➢ Know that there are 366 days in a leap year ➢ Find the time difference between two events by counting on	**Home on Time?** **It is now half past eight.** Helen has to be home by 11 o'clock and she is watching a film at her friend's house which lasts 2 hours. It takes 10 minutes to walk home. Has she enough time to watch all the film and get home on time?	**Playing Football** **It is now one o'clock** Paul has to be home by half past three. He is playing football for his team. The game lasts for 1 and a half hours. It takes half an hour to have a shower after the game and 15 minutes to walk home. Has he enough time to get home on time?
	Town Visit It is now between 9 and 10am. I arrived in town 135 minutes ago. I left my house at 7.10am and walked for 10 minutes before I caught the bus. The bus journey lasted 20 minutes. What time is it now? Record the time using the 24-hour clock system.	**Lazy Day** It is now between 2 and 3 pm I got out of bed 360 minutes ago. I woke up and read my book for 45 minutes before I got out of my bed. My alarm went off at 7.30am but I lay awake and thought about the day ahead for 30 minutes before I started to read. What time is it now? Record the time using the 24-hour clock system.

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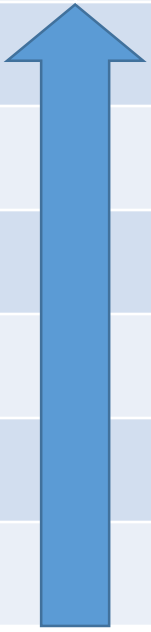
Summer 1: Week 5: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Measures: Time: Know the numbers of seconds in a minute and the number of days in each month, year and leap year. - Compare durations of events, for example to calculate time taken by particular events or tasks.	Me	My Teacher
Can you work out how many minutes or hours have elapsed between two given times?		
Can you explain what is meant by the term 'leap year'?		
Do you know which months have 31 days in them?		
Do you know the months of the year and their order?		
Do you know how many minutes make up one hour?		
Do you know how many seconds make up one minute?		



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Year 3: Summer 1

Week 6: Geometry: Properties

Identify horizontal and vertical lines and pairs of perpendicular & parallel lines

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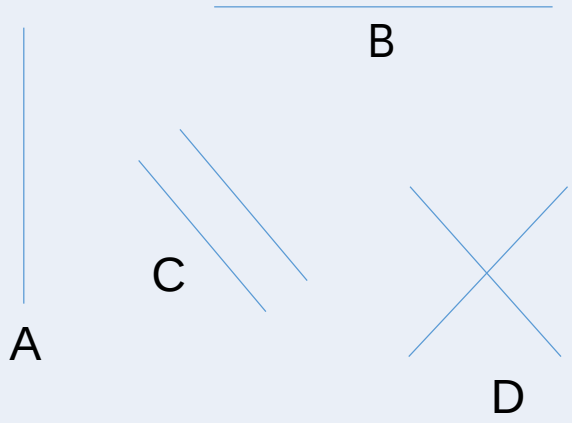
Summer 1: Week 6: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

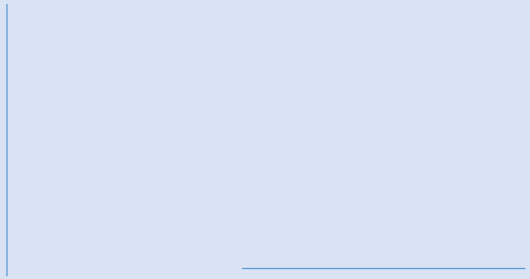
Name	Summer 1: Week 6
Objective: Geometry	**Properties:** Identify horizontal and vertical lines and pairs of perpendicular & parallel lines

Label A to D the following: horizontal line; vertical line; parallel lines and a perpendicular line:

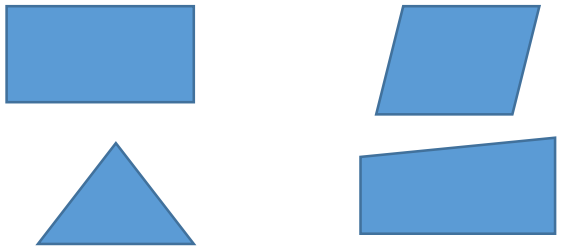


A _____
B _____
C _____
D _____

Draw a line that is at 90° to the lines below:



Show the parallel lines in these shapes (if they have any):



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Summer 1: Week 6: Practice and Consolidation

Geometry: Properties: Identify horizontal and vertical lines and pairs of perpendicular & parallel lines

Teaching Sequence

- Know and be able to accurately use: horizontal and vertical
- Recognise horizontal and vertical in everyday situations
- Know the relationship between horizontal and vertical
- Know and be able to accurately use: parallel and perpendicular
- Accurately draw a line that is parallel or perpendicular to a given line

Oral and Mental Activities Examples:

- Introduce the terms: horizontal and vertical.
- Explain how the word horizontal comes from the term horizon.
- Show photographs of various horizons and emphasise the line.
- Look for examples of horizontal lines in the classroom.
- Look for vertical lines in the classroom.
- Introduce the term parallel. Use common examples such as shelves to show how they are used in everyday lives.
- Introduce the term perpendicular and explain how it is different to vertical.
- Remind pupils of 90° angles and how this is relevant for perpendicular lines.

Pencil and Paper Activities Examples:

Explaining terms

- Explain what the term parallel is.
- Explain what the term horizontal is.
- Explain what the term vertical is.
- Explain what the term perpendicular is.

Record your explanations in your maths book.

Look at the numbers 0 to 9.
Write each down and explain if they have horizontal or vertical lines.
Make a table to show your findings:

	0	1	More than 1
Horizontal			
Vertical			

Record as many vertical and horizontal lines you see when you take a walk around:

- The classroom
- The school
- The playground
- The street immediately outside your school
- In your home

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Summer 1: Week 6: Mastering this Objective – Deeper Understanding

Geometry: Properties: Identify horizontal and vertical lines and pairs of perpendicular & parallel lines

Teaching Sequence

- Know and be able to accurately use: horizontal and vertical
- Recognise horizontal and vertical in everyday situations
- Know the relationship between horizontal and vertical
- Know and be able to accurately use: parallel and perpendicular
- Accurately draw a line that is parallel or perpendicular to a given line

If pupils have mastered this objective they will be able to complete these activities independently:

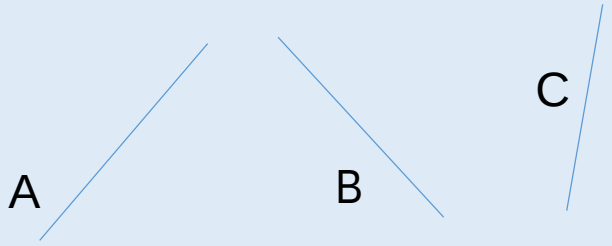
Drawing horizontal and vertical lines.

Draw vertical lines that are: 5cm long; 10cm long; 20cm long

Draw horizontal lines that are: 5cm long; 10cm long; 20cm long

Drawing parallel lines

Look at the lines below (A, B and C).
Draw lines that are parallel to them:



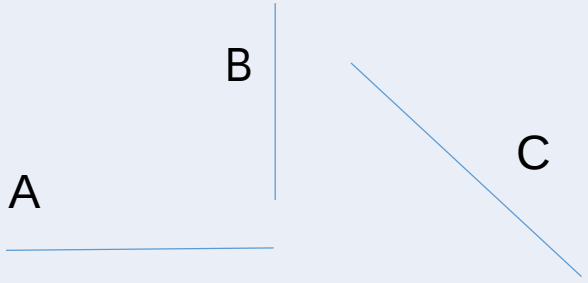
Capital and Small Case Letters

Which capital and small case letters have the following?:
Horizontal or Vertical lines.
Record in the table below:

	Capital Letters	Small case
Horizontal		
Vertical		

Perpendicular Lines

Draw a line that is perpendicular to the lines below.



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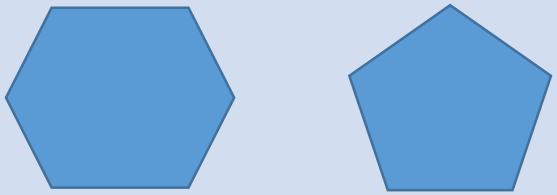
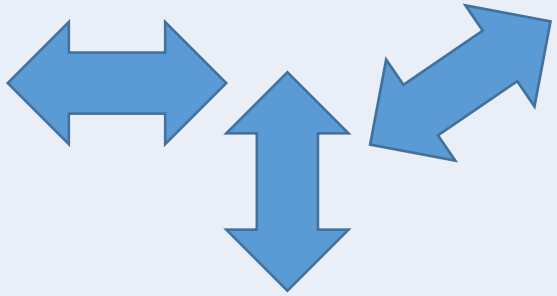
Summer 1: Week 6: Working at greater depth

Geometry: Properties: Identify horizontal and vertical lines and pairs of perpendicular & parallel lines

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Know and be able to accurately use: horizontal and vertical ➢ Recognise horizontal and vertical in everyday situations ➢ Know the relationship between horizontal and vertical ➢ Know and be able to accurately use: parallel and perpendicular ➢ Accurately draw a line that is parallel or perpendicular to a given line	**Regular shapes** Look at the two shapes below. Do they have parallel lines? If so, show by marking them appropriately. 	**School Logo** Create your own school logo that contains at least one set of parallel lines and a horizontal and vertical line. Record your logo in your book showing where the parallel; vertical and horizontal lines are.
	Capital and small case letters Which capital letters have perpendicular and / or parallel lines? Are there any small case letters that have a set of parallel or perpendicular lines. Do any small case letters have horizontal lines?	Look at the following shapes: Mark out any horizontal or vertical lines. Mark out a line that is perpendicular to another. Mark out any parallel lines. 

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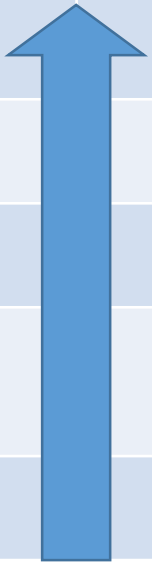
Summer 1: Week 6: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Geometry: Properties: Identify horizontal and vertical lines and pairs of perpendicular & parallel lines	Me	My Teacher
Can you draw lines that are perpendicular and parallel to a given line?		
Do you know the terms perpendicular and parallel?		
Do you know the relationship between horizontal and horizon?		
Can you recognise horizontal and vertical in everyday situations, eg, telephone pole being vertical, the sea being horizontal?		
Do you know the terms: horizontal and vertical?		



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YEAR 3 : SUMMER 2

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
4 Place Value	**6 Addition and Subtraction Problems**	**4 Fractions**	**6 Measures Money**	**2 Statistics**	**Consolidate and Assess**
Revise all Year 3 activities associated with place value, including additional reasoning activities.	Solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.	Revise all Year 3 activities associated with fractions and decimals.	Consolidate: Adding and subtracting amounts of money to give change, using both £ and p in practical contexts.	Solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs	Start this week by revising the learning covered in Year 3 so as to ensure pupils are fluent and secure with their basic skills. Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in Year 3. Analyse the results and use information to help focus the intervention sessions, as needed, for the following term.
➢ **Focus specifically on:** ➢ Knowing which number in a set of 3 digit numbers is the greatest ➢ Knowing which number in a set of 3 digit numbers is the smallest ➢ Ordering a set of 3 digit numbers from smallest to largest ➢ Ordering a set of 3 digit numbers from largest to smallest ➢ Identifying the hundreds, tens and ones in any 3 digit number ➢ Partitioning a 3 digit number identifying the value of each digit	➢ Solve missing number problems ➢ Solve word problems involving place value ➢ Solve problems with addition to 1000 ➢ Solve problems with subtraction to 1000	➢ **Focus specifically on:** ➢ Adding two fractions with the same denominator that add up to no more than one whole. ➢ Subtracting one fraction from another with the same denominator (below one whole). ➢ Counting up in tenths starting at zero ➢ Counting back in tenths to zero ➢ Counting up in tenths starting at any 'tenth number' ➢ Counting back in tenths starting at any 'tenth number' ➢ Knowing that tenths arise from dividing an object, quantity or number into 10 equal parts ➢ Placing fractions (tenths) in order – ascending and descending.	➢ Add any two amounts of money using notes and coins ➢ Sort out an amount of money by organising it into sets of the same coins and then making up sets of pounds ➢ Give change from £5 ➢ Give change from £10	➢ Solve problems using pictograms ➢ Solve problems using bar charts ➢ Solve problems using graphs ➢ Solve 1-step problems using pictograms, scaled bar charts and other graphs ➢ Solve 2-step problems using pictograms, scaled bar charts and other graphs ➢ Solve problems which ask, 'How many more…?' ➢ Solve problems which ask, 'How many fewer…?'	

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Year 3: Summer 2

Week 1: Place Value

Revise all Year 3 activities associated with place value, including additional reasoning activities.

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Summer 2: Week 1: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 2: Week 1
Objective: Place Value	Revise all Year 3 activities associated with place value, including additional reasoning activities.

Circle the tens value in each of the following numbers:

269 172 430 45

If 379 is be set as 300 + 70 + 9 Set the following in the same way:

279
358
612

Order the following putting the smallest first:

262; 98; 258; 82; 501; 239

Count on from the following sequence:

251.. 255..259.. ☐ .. ☐

Continue with the following sequences:

412..405.. ☐ ..391.. ☐

620.. 605.. ☐ .. 575.. ☐

Write the following amounts in words:

259 _____

167 _____

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Summer 2: Week 1: Practice and Consolidation

Place Value: Revise all Year 3 activities associated with place value, including additional reasoning activities.

Teaching Sequence

- **Focus specifically on:**
- Knowing which number in a set of 3 digit numbers is the greatest
- Knowing which number in a set of 3 digit numbers is the smallest
- Ordering a set of 3 digit numbers from smallest to largest
- Ordering a set of 3 digit numbers from largest to smallest
- Identifying the hundreds, tens and ones in any 3 digit number
- Partitioning a 3 digit number identifying the value of each digit

Oral and Mental Activities: Examples:

- During this session it is important to ensure all pupils are confident in place value of numbers with up to 3-digits.
- Go up and down in sequences with numbers up to 1000.
- Ensure pupils are confident going through the hundreds and through the tens when counting in amounts both forwards and backwards.
- Knowing the value of each digit is of paramount importance before they move on to Year 4, so double check pupils' understanding.

Pencil and Paper Activities Examples:

Partition the following numbers, as set out by the first example:

258 = (200 + 50 + 8)	723
349	174
402	509

Continue these sequences:

234…239…244… ☐
825…819…816…. ☐
264… ☐ …244…234.. ☐
518…503… ☐ 473… ☐

Which of the these numbers is the greatest value?
Write them in order – smallest first:

238	283	832	823	328	382
562	625	652	265	256	526

Write these numbers in words:

278	723	491	666
276	476	601	905

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Summer 2: Week 1: Mastering this Objective – Deeper Understanding

Place Value: Revise all Year 3 activities associated with place value, including additional reasoning activities.

Teaching Sequence

- **Focus specifically on:**
- Knowing which number in a set of 3 digit numbers is the greatest
- Knowing which number in a set of 3 digit numbers is the smallest
- Ordering a set of 3 digit numbers from smallest to largest
- Ordering a set of 3 digit numbers from largest to smallest
- Identifying the hundreds, tens and ones in any 3 digit number
- Partitioning a 3 digit number identifying the value of each digit

If pupils have mastered this objective they will be able to complete these activities independently:

Write the value of the numbers represented by counters in the following matrix:

100s	10s	1s	No.
●●●	●●●	●	
●●●●●	●●●	●●●●●	
●●	●●●		
	●●		
●●		●●●	

To which set do these numbers belong:

213
147
76
7
245
189
102
171
67
199
201

1 to 50

51 to 100

101 to 150

151 to 200

201 to 250

Harry has three cards:

6 8 5

Make up as many 3-digit numbers as you can using these three cards.

How many 3-digit numbers can you make if you could use each card twice?
How many if you could use each card three times?

Make up a set of 20 cards with numbers between 0 and 1000 written in words. There should be a good mixture of larger and smaller 3-digit numbers as well as the occasional 2-digit and one-digit number.

Now make up a set of 20 cards with the corresponding numbers on.
With a friend think of a suitable game to play. Make up and write out the rules.

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Summer 2: Week 1: Working at greater depth

Place Value: Revise all Year 3 activities associated with place value, including additional reasoning activities.

Teaching Sequence

- **Focus specifically on:**
- Knowing which number in a set of 3 digit numbers is the greatest
- Knowing which number in a set of 3 digit numbers is the smallest
- Ordering a set of 3 digit numbers from smallest to largest
- Ordering a set of 3 digit numbers from largest to smallest
- Identifying the hundreds, tens and ones in any 3 digit number
- Partitioning a 3 digit number identifying the value of each digit

Activities for pupils working at greater depth:

Look at the six cards with digits on below.
How many 3-digit numbers can you make from the set you have if:

- you use the number just once?
- you can use each digit twice?
- if one digit has to be in every number?
- If two of the digits have to be in every number?

Create two 3-digit numbers that have a difference of more than 10 with the ones number being 7 and the hundreds number being 6?

Create a 3-digit number where the sum of the 3 digits adds up to 12.
What is the largest number you can make?
What is the smallest number you can make?

Now create your own problems for your friends to solve.

There are six numbers below.
Each has a missing digit.
Add a digit to each so that the number on top is always smaller than the number beneath it.

	7	2
3		
5		7
5	2	
	6	8
8		0

Now create similar problems for your friends where the numbers go down in value.

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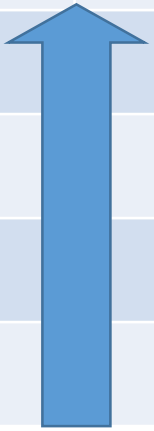
Summer 2: Week 1: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Place Value: Revise all Year 3 activities associated with place value, including additional reasoning activities.	Me	My Teacher
Can you write each 3-digit number in words?		
Can you continue a sequence of 3-digit numbers that either go up or down in value?		
Can you order a set of 3-digit numbers with either the highest number or lowest number first?		
Do you know the value of each number in a 3-digit number?		



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Year 3: Summer 2

Week 2: Addition and Subtraction

Solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.

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Summer 2: Week 2: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 2: Week 2
Objective: Addition and Subtraction	Solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.

Solve the following problems

John and Mary have 238 stickers each. How many have they altogether?		Sophie has 171 books, Saleem has 56 fewer. How many books do they have altogether?	
Perry has 402 merit stamps. Adele has 105 fewer than Perry. How many stickers does Adele have?		George collects football programmes. He has 529 in total. He has collected 158 since the beginning of term. How many did he have before the term started?	
What is 302 + 278?		What is 679 - 281	

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Summer 2: Week 2: Practice and Consolidation

Addition & Subtraction: Solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.

Teaching Sequence

- Solve missing number problems
- Solve word problems involving place value
- Solve problems with addition to 1000
- Solve problems with subtraction to 1000

Oral and Mental Activities: Examples:

- This is another revision unit but with problems of increasing difficulty.
- Pupils will need to be reminded of the key words associated with problems, ie, altogether, sum, difference, etc.
- Ensure pupils read the problem in the first instance and understand what is required.
- Some pupils may need to go through the process of explaining to their friend what it is they are asked to do, so as to give them more confidence.
- Ensure that there is a balance between additions and subtractions and remind pupils of the term 'inverse' which they met earlier in the year.

Pencil and Paper Activities Examples:

Complete the two tables below:

Rule	Add 167
In	Out
237	
406	
828	
391	

Rule	Subtract 204
In	Out
430	
606	
764	
491	

Peter's garden has produced 598 strawberries. He has collected 35 each day for 4 days. How many strawberries are left for him to collect?

Sadiq enjoys collecting munchkins. She has a total of 597. However, 120 of them are duplicates (doubles). How many different munchkins has she got?

908 attended a football match. All the supporters of United wore black and white T shirts. The 592 Rovers supporters wore other tops. How many United supporters were there?

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Summer 2: Week 2: Mastering this Objective – Deeper Understanding

Addition & Subtraction: Solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.

Teaching Sequence

- Solve missing number problems
- Solve word problems involving place value
- Solve problems with addition to 1000
- Solve problems with subtraction to 1000

If pupils have mastered this objective they will be able to complete these activities independently:

John and Mary have collected 158 conkers.
Mary has 10 more than John.
How many does each have?

Harry also collects conkers.
He has twice as many as John.
Does he have more or less than Mary?
What is the difference between the number Mary has and Harry?

Look at the bar models below.
Complete and then make up four sentences related to each one.

582	394

892	
429	

I have 8 dice (1 to 6).
Show three ways I can lay out the dice so that numbers on top add up to 32.

The two opposite sides of a dice always add up to 7.
The top numbers of 3 dice are 4, 2 and 5.
How much will the bottom numbers add up to?
What about if the three numbers on top were 5, 1 and 3?

Ralph works in a sports wear shop.
Every week they have a sale on Wednesday.
Each Wednesday they sell as many pairs of trainers as they do on each of the other days put together.
If one week Ralph sells 274 pairs of trainers, how many did he sell on Wednesday?

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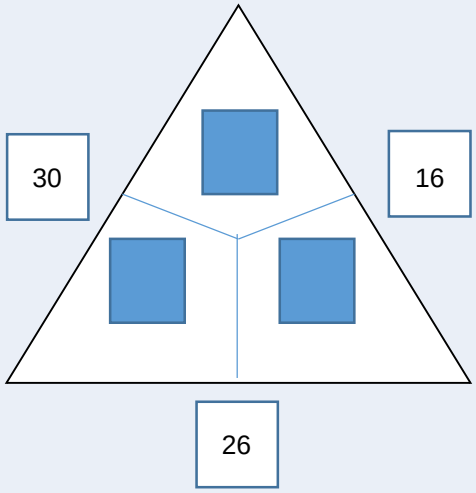
Summer 2: Week 2: Working at greater depth

Addition & Subtraction: Solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.

Teaching Sequence	Activities for pupils working at greater depth:	
➢ Solve missing number problems ➢ Solve word problems involving place value ➢ Solve problems with addition to 1000 ➢ Solve problems with subtraction to 1000	John and Mary have 357 stickers. When John has another 13 he will have 200. How many stickers does Mary have? James always scores highest in the weekly test. Over a 10 week period he has scored 185 marks. The person nearest to him, Aysha, scored one less than James each week. How many marks has Aysha over a 10 week period.	___ + ___ + ___ = 201 Each missing number is a 2-digit number which ends with either a 9 or a 1. Write in the missing digits. Find different ways of doing this. ___ + ___ + ___ = 224 This time each missing number is a 2-digit number that ends with a 1 or a 2. How many different solutions are there?
		Look at the triangle opposite. The two numbers along each of the three lines need to add up to the number in the square outside the triangle. Make up some of your own. Start with additions and then move on to try subtraction triangles.

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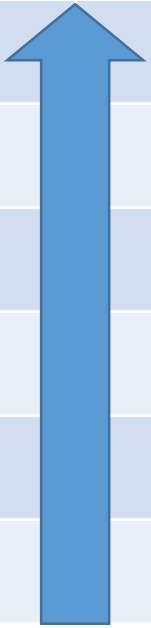
Summer 2: Week 2: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Addition & Subtraction: Solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.	Me	My Teacher
Can you solve addition and subtraction problems when missing information is involved?		
Can you solve addition and subtraction problems when a range of starting points is possible?		
Can you solve addition and subtraction problems when logical thinking is required?		
Can you solve addition and subtraction problems which have missing numbers?		
Do you tell your friend what is involved in the word problem before trying to solve it?		
Do you read an addition or subtraction problem through carefully before trying to solve it?		



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Year 3: Summer 2

Week 3: Fractions

Revise all Year 3 activities associated with fractions and decimals.

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Summer 2: Week 3: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 2: Week 3
Objective: Fractions	Revise all Year 3 activities associated with fractions and decimals.

Put the following fractions in order (smallest first):

9/10th 1/10th 3/10th 7/10th

Continue the pattern:

$\frac{1}{7} : \frac{3}{7} : \frac{5}{7} :$ ☐

$\frac{9}{10} : \frac{7}{10} : \frac{5}{10} :$ ☐

Find ½ of 36 ☐

Find ¼ of 44 ☐

Find ¾ of 60 ☐

Complete the following:

$\frac{3}{10} + \frac{1}{10} =$ ☐ $\frac{7}{9} + \frac{1}{9} =$ ☐

$\frac{8}{9} - \frac{4}{9} =$ ☐ $\frac{5}{7} - \frac{1}{7} =$ ☐

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Summer 2: Week 3: Practice and Consolidation

Fractions: Revise all Year 3 activities associated with fractions and decimals.

Teaching Sequence

- **Focus specifically on:**
- Adding two fractions with the same denominator that add up to no more than one whole.
- Subtracting one fraction from another with the same denominator (below one whole).
- Counting up in tenths starting at zero
- Counting back in tenths to zero
- Counting up in tenths starting at any 'tenth number'
- Counting back in tenths starting at any 'tenth number'
- Knowing that tenths arise from dividing an object, quantity or number into 10 equal parts
- Placing fractions (tenths) in order – ascending and descending.

Oral and Mental Activities: Examples

- This is a huge revision unit.
- Pupils need to be confident in dealing with all aspects relating to fractions with the same denominator before they move on to Year 4.
- Start by chanting fractional values, eg one tenth; two tenths; etc.; then one eighth, two eighths, etc.
- Ensure pupils are familiar with the terms denominator and numerator.
- They should be able to cope with moving up and down in values. Use a metre stick to help in this way.
- Move your hand up and down the metre stick as the pupils chant.

Pencil and Paper Activities Examples:

Order these fractions with the same numerator:

$\frac{1}{3}$ $\frac{1}{7}$ $\frac{1}{9}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{8}$

Put the smallest value first and the highest value last.

What is ½ of 30 metres? What is a ¼ of 32Kg?
What is ⅛ of 48p? What is ¾ of £4?

Add or subtract the following:

$\frac{1}{8} + \frac{3}{8}$ $\frac{4}{7} + \frac{2}{7}$ $\frac{3}{4} + \frac{1}{4}$

$\frac{6}{7} - \frac{3}{7}$ $\frac{9}{10} - \frac{3}{10}$ $\frac{7}{8} - \frac{3}{8}$

Continue with the patterns:

One tenth; two tenths; three tenths; ……..

Three sevenths; four sevenths; five sevenths; ……

eight ninths; seven ninths; six ninths; ……..

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Summer 2: Week 3: Mastering this Objective – Deeper Understanding

Fractions: Revise all Year 3 activities associated with fractions and decimals.

Teaching Sequence

- **Focus specifically on:**
- Adding two fractions with the same denominator that add up to no more than one whole.
- Subtracting one fraction from another with the same denominator (below one whole).
- Counting up in tenths starting at zero
- Counting back in tenths to zero
- Counting up in tenths starting at any 'tenth number'
- Counting back in tenths starting at any 'tenth number'
- Knowing that tenths arise from dividing an object, quantity or number into 10 equal parts
- Placing fractions (tenths) in order – ascending and descending.

If pupils have mastered this objective they will be able to complete these activities independently:

Six boys share 2 bars of chocolate equally.
Eight girls share 2 bars of chocolate equally.
Who will get more, the boys or the girls?
Make a diagram to explain your answer.

One tenth of a bowl of fruit was made up of kiwi fruit.
Three tenths was made up of pears and a half was made up of apples.

If there were no more than 50 pieces of fruit altogether.
how many kiwi fruit, pears and apples could there have been in the fruit bowl?
Is there more than one set of answers?

Put these fractions in the correct order, starting with the smallest.

$\frac{4}{8}$ $\frac{3}{4}$ $\frac{1}{4}$

$\frac{1}{3}$ $\frac{2}{5}$ $\frac{1}{8}$

In a garden centre, the owner was working out how well his plants were selling. Work out how many of each plant he had sold.

Name of plant	Rose	Conifer bush	Camellia	Honey-suckle
Number of plants	60	60	30	40
Fraction sold	2/3rd	1/4	1/2	3/5th
Answer				

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Summer 2: Week 3: Working at greater depth

Fractions: Revise all Year 3 activities associated with fractions and decimals.

Teaching Sequence

- **Focus specifically on:**
- Adding two fractions with the same denominator that add up to no more than one whole.
- Subtracting one fraction from another with the same denominator (below one whole).
- Counting up in tenths starting at zero
- Counting back in tenths to zero
- Counting up in tenths starting at any 'tenth number'
- Counting back in tenths starting at any 'tenth number'
- Knowing that tenths arise from dividing an object, quantity or number into 10 equal parts
- Placing fractions (tenths) in order – ascending and descending.

Activities for pupils working at greater depth:

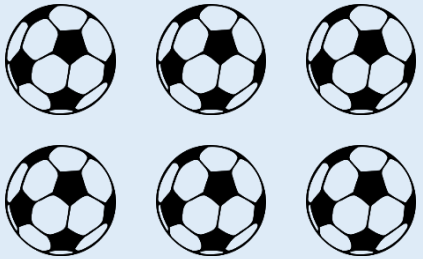
Farm Yard Fun

On a farm there were goats; sheep; hens and cows. 1/2 of the animals were hens, 1/3 were sheep, 1/10 were cows and the rest were goats.

If the farm had more than 200 animals but less than 230, how many sheep, hens, cows and goats were there on the farm?

If there were more than 250 animals altogether but less than 280, how many sheep, hens, cows and goats were there?

If the balls below represent 2/5th of the total number of balls in the PE cupboard, how many are there altogether?

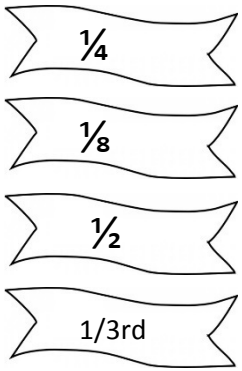


What if the balls shown represent 1/10th of the balls in the PE cupboard.
How many balls will there be in the PE cupboard then?

Draw a line from 0 to 1, as shown below.

0 1

Mark 1/6th on this line.
Mark 1/3rd on this line.
Mark 4/5th on this line
Mark 9/10th on this line.
Which will be closest to the 1 and which will closest to the 0?



There are four ribbons. The illustration on the left shows a ¼, ⅛, ½ and 1/3rd of the full ribbon.
Which full ribbon is the longest, second longest and shortest? Explain your reasoning.

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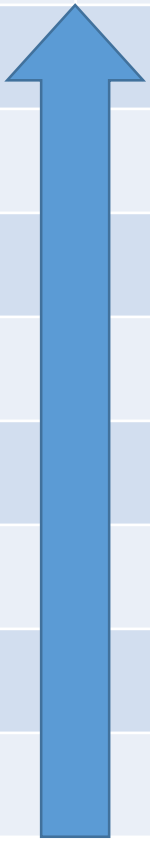
Summer 2: Week 3: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Fractions: Revise all Year 3 activities associated with fractions and decimals.	Me	My Teacher
Can you add together two fractions with the same denominator?		
Can you add together two fractions with the same denominator?		
Can you count down in eighths starting from 1?		
Can you count down in tenths starting from 1?		
Can you count up in eighths starting from 0?		
Can you count up in tenths starting from 0?		
Can you order by size a set of fractions with the same numerator?		
Can you order by size a set of fractions with the same denominator?		



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Year 3: Summer 2

Week 4: Measures: Money

Consolidate:
Adding and subtracting amounts of money to give change, using both £ and p in practical contexts.

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Summer 2: Week 4: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 2: Week 4
Objective: Measures	**Money:** Consolidate: Adding and subtracting amounts of money to give change, using both £ and p in practical contexts.

50p + 20p			If I have 7 x 50p, how much have I got?		
£1.50 + 25p					
£2.50 – 60p			If I have 8 x 20p, how much have I got?		
£3.25 – 75p					
4 x  + 6 x  =			I pay with a £5 note for goods to the value of £3.15p. How much change should I receive?		
6 x  + 10 x  =			I pay with a £10 for goods to the value of £4.80p. How much change should I receive?		

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Summer 2: Week 4: Practice and Consolidation

Measures: Money: Consolidate:
Adding and subtracting amounts of money to give change, using both £ and p in practical contexts.

Teaching Sequence	Oral and Mental Activities: Examples:	Pencil and Paper Activities Examples:
➢ Add any two amounts of money using notes and coins ➢ Sort out an amount of money by organising it into sets of the same coins and then making up sets of pounds ➢ Give change from £5 ➢ Give change from £10	• Another opportunity to help pupils to have deeper understanding of amounts of money before tackling Year 4 learning. • Use coins to help pupils work practically through buying and giving change. • Help pupils to organise themselves when counting large sums of money by organising money into sets of each amount and then making up pounds. • Pupils should be encouraged to buy two items from a shop and work out how much the combined items cost. • They should also learn to work out the difference between amounts.	Using coins make the following amounts in three different ways: £5.75p £8.25p £11.90p £15.67p £5.98p Record each in your maths books. Take a bag full of coins and organise the coins so that you can work out very quickly the amount in the bag. You could do this by challenging your friend to find out which of the ways is quicker. Explain how you count large amounts of money to your friend. If I pay with a £5 note for items that cost below, how much change should I receive? £2.89p £4.12p 89p £3.65p £2.90p £75p What if I had used a £10 note to pay, how much change would I have received then? Pay the following amounts using the least amount of notes and coins. £3.35p £6.98p £5.17p £2.78p 99p £6.76p

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Summer 2: Week 4: Mastering this Objective – Deeper Understanding

Measures: Money: Consolidate:
Adding and subtracting amounts of money to give change, using both £ and p in practical contexts.

Teaching Sequence

- Add any two amounts of money using notes and coins
- Sort out an amount of money by organising it into sets of the same coins and then making up sets of pounds
- Give change from £5
- Give change from £10

If pupils have mastered this objective they will be able to complete these activities independently:

£2.80p + ☐ = £10

£35.50p + ☐ = £50

£6.73p + ☐ = £15.20p

45p + ☐ = £12.50p

£6.76p + ☐ = £40

Lunch time
I buy my lunch and my friend's lunch.
I buy two teas for 90p each; 2 sandwiches for £1.25p each and 2 yogurts for 55p each.

How much change will I get from a £10 note?

My friend says she can pay me half now and half tomorrow. How much will she have to pay me tomorrow?

Buying an Electronic Game

I bought a new game for my X Box.
It cost between £9 and £10.
I paid with a £10 note.
I received 4 silver coins as my change.
How much could the game have cost if all the silver coins were the same?
How many different answers could there be?

Coins in a row

I pay for my lunch with these 4 coins.
Show me three other ways we could have ended up paying for lunch.

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Summer 2: Week 4: Working at greater depth

Measures: Money: Consolidate:
Adding and subtracting amounts of money to give change, using both £ and p in practical contexts.

Teaching Sequence

- Add any two amounts of money using notes and coins
- Sort out an amount of money by organising it into sets of the same coins and then making up sets of pounds
- Give change from £5
- Give change from £10

Activities for pupils working at greater depth:

Savings

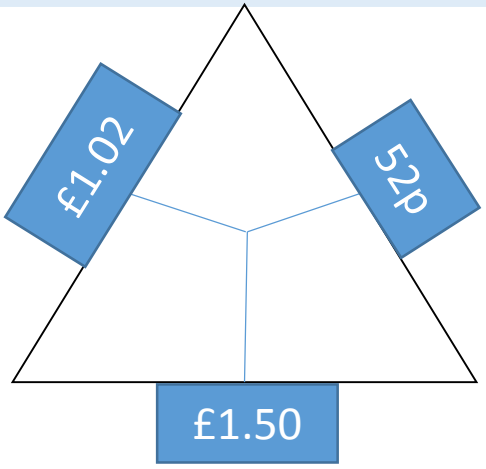
Tom and Andy have saved £45 between them.
Tom has saved £11 more than Andy.
How much had each one saved?

Nita and India have saved £67 between them. Nita has saved £17 more than India.
How much has each one saved?

Place these five coins in a row following these instructions:
The total of the first three coins is 31p
The total of the last three coins is £1.12p
The last coin is double the value of the first coin.
Now make up some more instructions with these 5 coins and then with a different set of 5 coins.

Buying an Electronic Game

I bought another new game for my X Box.
It cost between £15 and £20.
I paid with a £20 note.
I received 4 silver coins as my change.
How much could the game have cost if all the silver coins were different?
How much could the game have cost if all the coins were the same?



Place a coin in each segment so that this money triangle works.

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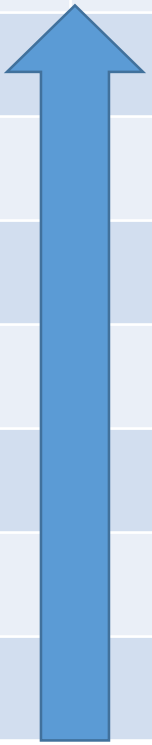
Summer 2: Week 4: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Measures: Money: Consolidate: Adding and subtracting amounts of money to give change, using both £ and p in practical contexts.	Me	My Teacher
Can you solve word problems involving money where the amounts do not exceed £10?		
Can you add any two amounts of money up to £10 in value?		
Can you give change from a £10 for any amount that costs less than £10?		
Can you give change from a £5 for any amount that costs less than £5?		
Can you give change from a £1 for any amount costing less than a £1?		
Can you sort money into like sets to make it easy for counting?		
Can you immediately recognise all coins and notes between 1p and £10?		



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Year 3: Summer 2

Week 5: Statistics

Solve 1-step and 2-step questions such as ‘How many more?’ and ‘How many fewer?’ using information presented in scaled bar charts pictograms and other graphs

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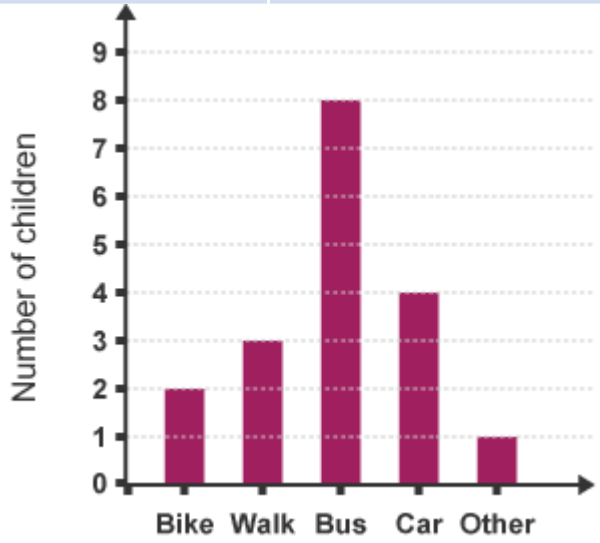
Summer 2: Week 5: Pre-Learning Task

The pre-learning task below could be used to assess pupils' starting points within this objective. It needs to be completed by all/ or some of the pupils in advance of the main teaching.

Name	Summer 2: Week 5
Objective: Statistics	Solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs

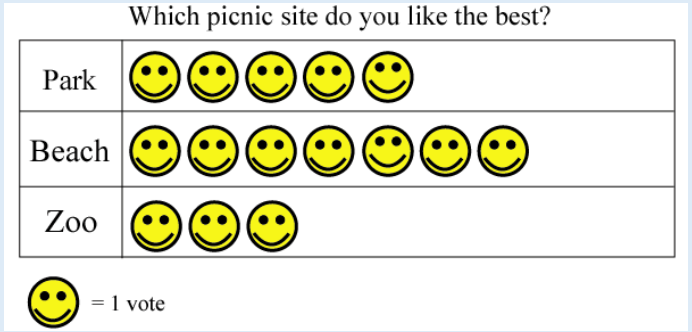


The bar graph shows how children travel to school.
How do most children get to school?

_____

Do most people walk or come on a bike?

_____



A class was asked where they like picnicking. They had 3 choices.
Which was the favourite destination for a picnic? _____
How many more preferred the park to the zoo? [ ]

Why do you think the beach was so popular? _____

_____

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Summer 2: Week 5: Practice and Consolidation

Statistics: Solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs

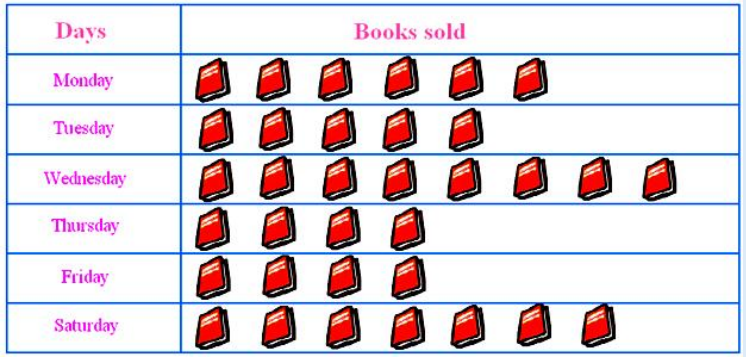
Teaching Sequence

- Solve problems using pictograms
- Solve problems using bar charts
- Solve problems using graphs
- Solve 1-step problems using pictograms, scaled bar charts and other graphs
- Solve 2-step problems using pictograms, scaled bar charts and other graphs
- Solve problems which ask, 'How many more…?'
- Solve problems which ask, 'How many fewer…?'

Oral and Mental Activities: Examples:

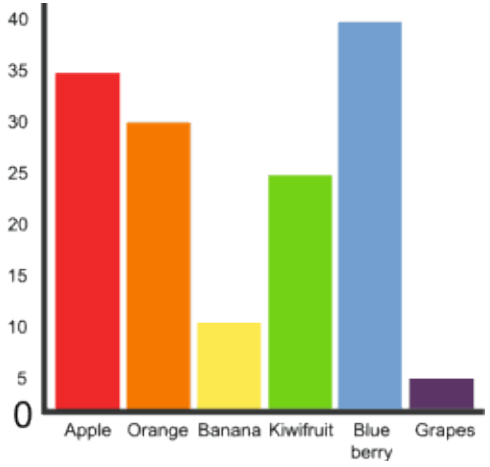
- Collect information from the pupils about their favourite food; TV programme; leisure activity; holiday; etc.
- Create a pictogram and a bar chart with this information and use it to help pupils understand how information can be compiled and presented in different ways.
- Use a scaled system so pupils can see how large numbers can be accommodated within the graphs.
- Use example questions with the pupils and help them to create their own.
- Time permitted, let them collect their own information and create their own bar charts and then let them think of questions.

Pencil and Paper Activities Examples:



The pictogram shows how many books were sold on each day of a given week. Study the pictogram and then answer these questions.

How many books were sold altogether during the week?
Why do you think most books were sold on Wednesday?
How many books were sold between Tuesday and Thursday?



This bar graph shows pupils' favourite fruit in Year 5 in a school.
How many children favoured blueberries?
How many children favoured grapes?
Explain why it is good to set out information in this way.
Create your own bar graph of the favourite fruit of children in your class.

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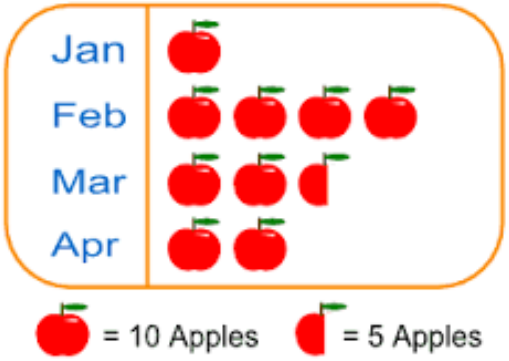
Summer 2: Week 5: Mastering this Objective – Deeper Understanding

Statistics: Solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs

Teaching Sequence

- Solve problems using pictograms
- Solve problems using bar charts
- Solve problems using graphs
- Solve 1-step problems using pictograms, scaled bar charts and other graphs
- Solve 2-step problems using pictograms, scaled bar charts and other graphs
- Solve problems which ask, 'How many more…?'
- Solve problems which ask, 'How many fewer…?'

If pupils have mastered this objective they will be able to complete these activities independently:



This pictogram shows the average number of apples eaten by a family during the first four months of the year.

On average, how many apples were eaten in March?
On average, how many more apples were eaten in February compared with January?

Create four questions you could ask about this pictogram.

This bar chart shows how many books pupils read during the summer term.
How many pupils read between 11 and 15 books during the summer term?
How many more pupils read between 6 to 10 books than read between 0 to 5 books during the summer term?

Think of at least 5 more questions you could set for your friend in relation to this bar chart.

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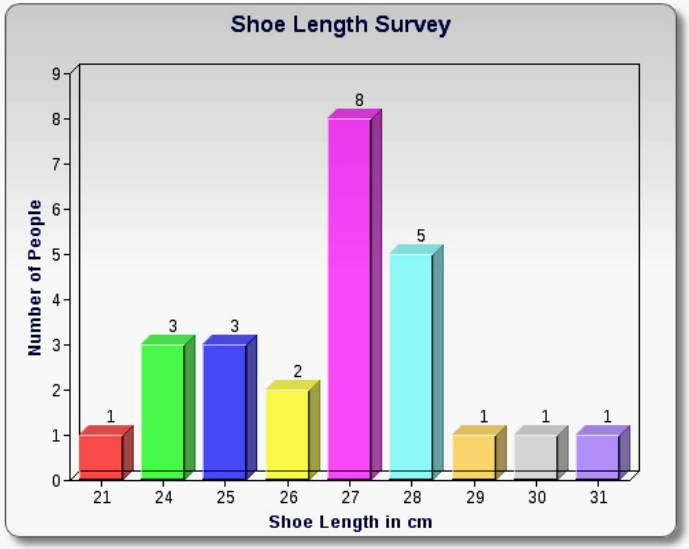
Summer 2: Week 5: Working at greater depth

Statistics: Solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs

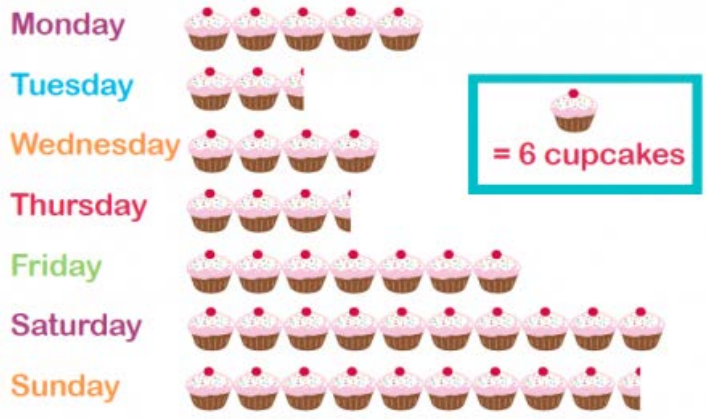
Teaching Sequence

- Solve problems using pictograms
- Solve problems using bar charts
- Solve problems using graphs
- Solve 1-step problems using pictograms, scaled bar charts and other graphs
- Solve 2-step problems using pictograms, scaled bar charts and other graphs
- Solve problems which ask, 'How many more...?'
- Solve problems which ask, 'How many fewer...?'

Activities for pupils working at greater depth:



This bar chart shows how many people have shoes of a certain length between 21 and 31 cm.
Is it true that people with shoe length of 27 or 28 cm outnumber all the others in the survey?
How would the bar graph be different if they had a category of 24cm or less and another category of 29cm or more?
Think of 4 suitable questions to ask about this graph.



This pictogram shows how many cupcakes were sold from the local bakery in the local village during a given week.

Why do you think most were sold on Saturday and Sunday?
How many more were sold on Saturday and Sunday than on Monday and Tuesday?
How many more cupcakes were sold on the most popular day compared with the least popular day?
How else could you present this information?
Think of at least 5 questions to ask your friend about this pictogram.

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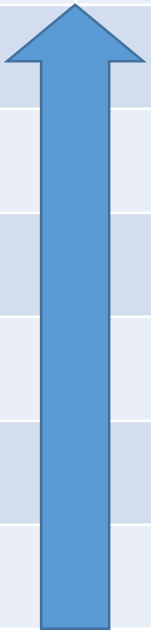
Summer 2: Week 5: Assessment

The grid below helps to identify the journey pupils make towards mastering this objective. It can be used by the teacher to keep an on-going check on progress or more likely placed in the pupils' books so that they can keep their own checks.

Statistics: Solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs	Me	My Teacher
Can you solve 'How many more' or 'How many fewer' type questions in relation to a bar chart or a pictogram?		
When given a bar chart are you able to create your own questions in relation to the information on it?		
Can you read information from a bar chart, even when it is scaled?		
Do you know the difference between a bar chart and a pictogram?		
Can you read information from a pictogram even when it is scaled?		
Do you understand how a pictogram works?		



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Year 3: Summer 2

Week 6:

Consolidate and Assess: Year 3 Learning

- Start this week by using the warm ups outlined on the next page so as to ensure pupils are fluent and secure with their basic skills.

- Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in Year 3.

- Analyse the results and use information to help focus the intervention sessions, as needed. Provide the next teacher with as much information as you can related to their strengths and areas for concern.

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Year 3: Summer 2: Week 6

The focus of the consolidation should be the following aspects:

- Count on/back in steps of 2s,5s, 10s, 3s to 100 and beyond, from 0 and any given number
- Count on/back in multiples of 4 and 8 from 0
- Count on/back in 50s, 100s from 0 to 1000
- Find 10/100 more or less than a given number up to 1000 and more
- Read and write all numbers to 1000 in numerals and write all numbers in words to at least 1000
- Order a set of numbers (4 and/or 5) to 1000 and beyond in increasing and decreasing value
- Compare numbers up to 1000 and beyond using =, <, > symbols
- Round numbers to the nearest 10 to 1000 and beyond and to the nearest 100 to 1000 and beyond
- Begin to partition 4 digit numbers (thousands, hundreds, tens and ones)
- Count in tenths, read and write numbers with 1 decimal place and compare numbers with one decimal place
- Add/subtract: 3-digit and 1-digit numbers, a 3-digit number and tens and a 3-digit number and hundreds
- Count on/back in ½s , ¼s , $^{1}/_{3}$s and $^{1}/_{10}$s including on a number line
- Find complements to 100 and recall addition and subtraction facts for 100 (e.g. 37 + 63 = 100, 63 + 37 = 100, 100 – 37 = 63, 100 – 63 = 37)
- Recall the 2, 3, 4, 5, 8 and 10 times tables and the derived division facts
- Double any number up to 100; double any multiple of 50 up to 500 and halve any number up to 200

- Although practise and consolidation should be on-going through each half term, during Week 6 there should be greater opportunity taken to check pupils' learning and understanding.
- Summative and Formative assessment procedures should help teachers gain a clear picture as to which pupils are at different stages, including mastery and greater depth.

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