



Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
- Cui						
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
	Place value and rounding	Place value and rounding	Place value and rounding	Place value and rounding	Place value and rounding	Place value and rounding
	Count to 100, forwards	Count to 100, forwards	Count to and across 100,	Count to and across 100,	Count to and across 100,	Count to and across 100,
	and backwards,	and backwards,	forwards and backwards,	forwards and backwards,	forwards and backwards,	forwards and backwards,
	beginning with 0 or 1, or	beginning with 0 or 1, or	beginning with 0 or 1, or	beginning with 0 or 1, or	beginning with 0 or 1, or	beginning with 0 or 1, or
	from any given number	from any given number	from any given number	from any given number	from any given number	from any given number
	e.g. 19, 18, 17, 16,	e.g. 19, 18, 17, 16,			e.g. 103, 102, 101, 100,	e.g. 103, 102, 101, 100,
			Given a number, identify	Given a number, identify	99, 98,	99, 98,
	Count, read and write	Count, read and write	one more and one less	one more and one less		
	numbers to 100 in	numbers to 100 in			Count, read and write	Count, read and write
	numerals, count in	numerals, count in	Identify and represent	Identify and represent	numbers to 100 in	numbers to 100 in
	multiples of twos and	multiples of twos, fives	numbers using objects	numbers using objects	numerals, count in	numerals, count in
	tens e.g. 2, 4, 6, 8, 10, 12,	and tens e.g. 22, 24, 26,	and pictorial	and pictorial	multiples of twos, fives	multiples of twos, fives
		28, 30, or 90, 80, 70,	representations including	representations including	and tens e.g. 5, 10, 15,	and tens e.g. 5, 10, 15,
		60,	the number line, and use	the number line, and use	20, 25,	20, 25,
	Given a number, identify		the language of: equal to,	the language of: equal to,	6	6
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	one more and one less	Identify and represent	more than, less than	more than, less than	Given a number, identify	Given a number, identify
Year 1	Ideal's and accessed	numbers using objects	(fewer), most, least	(fewer), most, least	one more and one less	one more and one less
	Identify and represent	and pictorial	Bardand Standard	Bardand Standard	Identify and represent	Identify and represent
	numbers using objects	representations including	Read and write numbers	Read and write numbers	numbers using objects	numbers using objects
	and pictorial representations including	the number line, and use the language of: equal to,	from 1 to 20 in numerals and words.	from 1 to 20 in numerals and words.	and pictorial representations including	and pictorial representations including
	the number line, and use	more than, less than	and words.	and words.	the number line, and use	the number line, and use
	the language of: equal to,	(fewer), most, least	Use language of ordering	Use language of ordering	the language of: equal to,	the language of: equal to,
	more than, less than	(lewer), illost, least	e.g. first, second, third	e.g. first, second, third	more than, less than	more than, less than
	(fewer), most, least	Read and write numbers	c.g. mst, second, tima	c.g. mst, second, tima	(fewer), most, least	(fewer), most, least
	(Tewery, most, reast	from 1 to 20 in numerals	Begin to recognise place	Begin to recognise place	(rewery, most, reast	(rewery, mose, rease
	Read and write numbers	nom 1 to 20 mmameras	value in numbers beyond	value in numbers beyond	Read and write numbers	Read and write numbers
	from 1 to 20 in numerals	Use language of ordering	20 by reading, writing,	20 by reading, writing,	from 1 to 20 in numerals	from 1 to 20 in numerals
		e.g. first, second, third	counting and comparing	counting and comparing	and words.	and words.
	Begin to recognise place	5 , ,	numbers up to 100	numbers up to 100		
	value in numbers beyond	Addition and subtraction	supported by objects and	supported by objects and	Use language of ordering	Use language of ordering
	20 by reading, writing,	Solve simple one-step	pictorial representations	pictorial representations	e.g. first, second, third	e.g. first, second, third
	counting and comparing	problems (in familiar		·	_	



Maths Overview

numbers up to 100 supported by objects and pictorial representations

Addition and subtraction Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs

Represent, memorise and use number bonds and related subtraction facts within 10, in several forms e.g. 3 + 4 = 7; 4 = 7- 3;

Add and subtract onedigit and two-digit numbers to 20 (9 + 9, 18 9), including zero

Solve simple one-step problems (in familiar practical contexts, including using quantities) that involve addition and subtraction. using concrete objects and pictorial representations, and missing number problems e.g. 3 + = 7

Problems should include vocabulary such as: put

practical contexts, including using quantities) that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems e.g. 3 + = 7

Represent, memorise and use number bonds and related subtraction facts within 10, in several forms e.g. 3 + 4 = 7; 4 = 7- 3; and begin to know doubles to 20 e.g. 8 + 8 =16 complements to 20 e.g. 8 + 12 = 20

Multiplication and division

Double and halve numbers to 20 e.g. double 6 is 12, half of 10 is 5

Fractions

Recognise, find and name a half as one of two equal parts of an object, shape, length or quantity e.g. Find half of a length of string, by folding;

MEASUREMENT Measurement

Addition and subtraction Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs

Add and subtract onedigit and two-digit numbers to 20 (9 + 9, 18 -9), including zero

Solve simple one-step problems (in familiar practical contexts, including using quantities) that involve addition and subtraction. using concrete objects and pictorial representations, and missing number problems

Problems should include vocabulary such as: put together, add, altogether, total, take away, distance between, more than, less than...

Multiplication and division

Double and halve numbers to 20 e.g. double 8 is 16, half of 20 is 10

Begin to order numbers to 100 (different tens) e.g. order 36, 29, 63, 51

Addition and subtraction Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs

Add and subtract onedigit and two-digit numbers to 20 (9 + 9, 18 -9), including zero

Solve simple one-step problems (in familiar practical contexts, including using quantities) that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems

Problems should include vocabulary such as: put together, add, altogether, total, take away, distance between, more than, less than...

Fractions

Begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100 supported by objects and pictorial representations

to 100 (different tens)

numbers

involving addition (+), (=) signs Represent, memorise and

Recognise, find and name

Begin to order numbers

Recognise odd and even

Addition and subtraction Read, write and interpret mathematical statements subtraction (-) and equals

use number bonds and related subtraction facts within 20, in several forms e.g. 9 + 7 = 16; 16 - 7 = 9; 7 = 16 - 9

Add and subtract onedigit and two-digit numbers to 20 (9 + 9, 18 -9), including zero Solve simple one-step problems (in familiar practical contexts, including using quantities) that involve

Begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100 supported by objects and pictorial representations

Begin to order numbers to 100 (different tens)

Recognise odd and even numbers

Addition and subtraction Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs

Represent, memorise and use number bonds and related subtraction facts within 20, in several forms e.g. 9 + 7 = 16; 16 - 7 = 9; 7 = 16 - 9

Add and subtract onedigit and two-digit numbers to 20 (9 + 9, 18 -9), including zero Solve simple one-step problems (in familiar practical contexts, including using quantities) that involve



together, add, altogether, total, take away, more than, less

than...

GEOMETRY Position and direction

Describe positions, directions and movements using language such as left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside...

Compare, describe and solve practical problems for:

- lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
- mass or weight (e.g. heavy/light, heavier than, lighter than)
- capacity/volume (full/empty, more than, less than)
 time (quicker,

slower, earlier,

Use non-standard measures to measure and begin to record the following:

later)

- lengths and heights
- mass/weight
- capacity and volume

Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening

Fractions

Recognise, find and name a half as one of two equal parts of an object, shape, length or quantity e.g. What is half of 12 counters?

Maths Overview

MEASUREMENT Measurement

Compare, describe and solve practical problems for:

- lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
- mass or weight
 (e.g. heavy/light,
 heavier than,
 lighter than)
- capacity/volume (full/empty, more than, less than, quarter)
- time (quicker, slower, earlier, later)

Begin to use measuring tools (ruler, weighing scales, containers) to measure and begin to record the following:

a half as one of two equal parts of an object, shape, length or quantity e.g. What is half of 12 counters?

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity e.g. find a quarter of a shape, by folding in half and half again.

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity e.g. find ¼ of 12 beads, practically

MEASUREMENT Measurement

Compare, describe and solve practical problems for:

- lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
- mass or weight (e.g. heavy/light, heavier than, lighter than)

 capacity/volume (full/empty, more addition and subtraction, using concrete objects and pictorial representations, and missing number problems e.g. 7 = -9

Problems should include vocabulary such as: put together, add, altogether, total, take away, distance between, more than, less than...

Multiplication and division
Double and halve numbers to 20

Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher e.g. share 8 sweets between 2 children

Fractions
Recognise, find and name
a half as one of two equal
parts of an object, shape,
length or quantity

Recognise, find and name

addition and subtraction, using concrete objects and pictorial representations, and missing number problems e.g. 7 = -9

Problems should include vocabulary such as: put together, add, altogether, total, take away, distance between, more than, less than...

Fractions
Recognise, find and name
a half as one of two equal
parts of an object, shape,
length or quantity

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity e.g. find ¼ of 12 beads, practically

MEASUREMENT Measurement Compare, describe and solve practical problems for:

> lengths and heights (e.g. long/short, longer/shorter, tall/short,



Lowbrook Academy Maths Overview

Recognise and use language relating to dates, including days of the week, weeks, months and years

GEOMETRY

Position and direction

Describe positions, directions and movements using language such as left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside...

- lengths and heights
- mass/weight
- capacity and volume
- time (hours, minutes)

Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening

Recognise and use language relating to dates, including days of the week, weeks, months and years

GEOMETRY Properties of shapes

Recognise and name common 2-D and 3-D

shapes, including:

- 2-D shapes (e.g. rectangles (including squares), circles and triangles)
- 3-D shapes (e.g. cuboids, including cubes, pyramids and spheres).

quarter)time (quicker, slower, earlier,

later)

than, less than,

Begin to use measuring tools (ruler, weighing scales, containers) to measure and begin to record the following:

- lengths and heights
- mass/weight
- capacity and volume
- time (hours, minutes)

Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening

Recognise and use language relating to dates, including days of the week, weeks, months and years

GEOMETRY Position and direction

Describe positions, directions and

a quarter as one of four equal parts of an object, shape or quantity e.g. find ¼ of 12 beads, practically

MEASUREMENT Measurement Compare, describe and solve practical problems for:

- lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
- mass or weight (e.g. heavy/light, heavier than, lighter than)
- capacity/volume (full/empty, more than, less than, quarter)
- time (quicker, slower, earlier, later)

Begin to use standard measures (metres, cms, grams/kg, litres) to measure and begin to record the following:

- lengths and heights
- mass/weight

- double/half)
- mass or weight (e.g. heavy/light, heavier than, lighter than)
- capacity/volume (full/empty, more than, less than, quarter)
- time (quicker, slower, earlier, later)

Begin to use standard measures (metres, cms, grams/kg, litres) to measure and begin to record the following:

- lengths and heights
- mass/weight
- capacity and volume
- time (hours, minutes, seconds)

Recognise and know the value of different denominations of coins and notes

Sequence events in chronological order using language such as: before and after, next, first, today, yesterday,



orientations and sizes,

directions and

١o	owbrook Academy		Maths Overvi	iow		Lowbrook Academy
LO	WDIOOK Academy		Matris Overvi	movements using		tomorrow, morning,
			GEOMETRY	language such as left and	 capacity and volume 	afternoon and evening
			Position and direction			arternoon and evening
				right, top, middle and	• time (hours,	Dana susiana anada san
			Describe positions,	bottom, on top of, in	minutes,	Recognise and use
			directions and	front of, above, between,	seconds)	language relating to
			movements using	around, near, close and		dates, including days of
			language such as left and	far, up and down,	Recognise and know the	the week, weeks, months
			right, top, middle and	forwards and backwards,	value of different	and years
			bottom, on top of, in	inside and outside	denominations of coins	
			front of, above, between,		and notes	Tell the time to the hour
			around, near, close and			and half past the hour
			far, up and down,		Sequence events in	and draw the hands on a
			forwards and backwards,		chronological order using	clock face to show these
		i	inside and outside		language such as: before	times.
					and after, next, first,	
					today, yesterday,	GEOMETRY
			Maths Week		tomorrow, morning,	Properties of shapes
			Create and interpret		afternoon and evening	Recognise and name
			Venn Diagrams			common 2-D and 3-D
			(PS)		Recognise and use	shapes, in different
					language relating to	orientations and sizes,
			Financial Literacy		dates, including days of	including:
			Profit and Loss (R)		the week, weeks, months	2-D shapes (e.g.
					and years	rectangles (including
						squares), circles and
					Tell the time to the hour	triangles)
					and half past the hour	3-D shapes (e.g. cuboids
					and draw the hands on a	(including cubes),
					clock face to show these	pyramids and spheres).
					times.	know that rectangles,
						triangles, cuboids and
					GEOMETRY	pyramids can be different
					Properties of shapes	shapes
					Recognise and name	
					common 2-D and 3-D	Position and direction
					shapes, in different	Describe positions,
						directions and



	Lowbrook Academy		Maths Overvi	ew		Lowbrook Academy
	Lowbrook Academy		Maths Overvi	ew	including: 2-D shapes (e.g. rectangles (including squares), circles and triangles) 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres). know that rectangles, triangles, cuboids and pyramids can be different shapes Position and direction Describe positions, directions and movements using language such as left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside Describe position, directions and movements, including half, quarter and three- quarter turns, in a clockwise direction	
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
Voc: 3	Number and Place Value	Number and Place Value	Number and Place Value	Number and Place Value	Number and Place Value	Number and Place Value
Year 2	Count in steps of 2 and 5	identify, represent and	count in steps of 2, 3, and	identify, represent and	count in steps of 2, 3, and	identify, represent and



Lowbrook Academy Maths Overview

Lowbrook Academy		Maths Overvi	iew		Academy
from 0, and tens from	estimate numbers using	5 from 0, and tens from	estimate numbers using	5 from 0, and tens from	estimate numbers using
any number, forward or	different representations,	any number, forward or	different representations,	any number, forward or	different representations,
backward e.g. 93, 83, 73,	including the number line	backward	including the number line	backward	including the number line
63,					
	use place value and	recognise the place value	compare and order	recognise the place value	compare and order
recognise the place value	number facts to solve	of each digit in a two-	numbers from 0 up to	of each digit in a two-	numbers from 0 up to
of each digit in a two-	problems	digit number (tens, ones)	100; use <, > and = signs	digit number (tens, ones)	100; use <, > and = signs
digit number (tens, ones)					
	Addition and Subtraction	read and write numbers	use place value and	read and write numbers	use place value and
read and begin to write	solve problems with	to at least 100 in	number facts to solve	to at least 100 in	number facts to solve
numbers to at least 100	addition and subtraction:	numerals and in words	problems.	numerals and in words	problems.
in numerals and in words	 using concrete 	e.g. forty-five		e.g. forty-five	
e.g. forty	objects and		partition numbers in		partition numbers in
	pictorial	Addition and Subtraction	different ways e.g. 23 =	Addition and Subtraction	different ways e.g. 23 =
compare and order	representations,	add and subtract	20 + 3 = 10 + 13	add and subtract	20 + 3 = 10 + 13
numbers from 0 up to	including those	numbers using concrete		numbers using concrete	
100	involving	objects, pictorial	Addition and Subtraction	objects, pictorial	Addition and Subtraction
	numbers,	representations, and	solve problems with	representations, and	solve problems with
Addition and Subtraction	quantities and	mentally, including:	addition and subtraction:	mentally, including:	addition and subtraction:
Add and subtract	measures	a two-digit number and	using concrete objects	a two-digit number and	using concrete objects
numbers using concrete	 applying their 	ones	and pictorial	ones	and pictorial
objects, pictorial	increasing		representations,		representations,
representations, and	knowledge of	a two-digit number and	including those involving	a two-digit number and	including those involving
mentally, including:	mental and	tens	numbers, quantities and	tens	numbers, quantities and
o a two-digit	written methods	two two-digit numbers	measures	two two-digit numbers	measures
number and ones		e.g. 34+29 adding three	applying their increasing	e.g. 34+29 adding three	applying their increasing
o a two-digit	Recognise and use the	one-digit numbers e.g. 6	knowledge of mental and	one-digit numbers e.g. 6	knowledge of mental and
number and tens e.g. 87	inverse relationship	+ 5 + 4	written methods	+ 5 + 4	written methods
− 30 = 57	between addition and				
	subtraction and use this	recall and use addition	Recognise and use the	recall and use addition	Recognise and use the
Begin to recall and use	to check calculations and	and subtraction facts to	inverse relationship	and subtraction facts to	inverse relationship
addition and subtraction	missing number	20 fluently, and derive	between addition and	20 fluently, and derive	between addition and
facts to 20, e.g. 19 – 7 =	problems.	and use related facts up	subtraction and use this	and use related facts up	subtraction and use this
12 and derive and use		to 100	to check calculations and	to 100	to check calculations and
related facts up to 100	Show that addition of		missing number		missing number
e.g. 30 = 90 – 60	two numbers can be		problems.		problems.
	done in any order	Multiplication and		Multiplication and	



Multiplication and Division

show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

MEASUREMENT Measurement

choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers

compare and sequence intervals of time

tell and write the time quarter past/to the hour and draw the hands on a clock face to show these times e.g. draw the hands on a clock face to show 1/4 to 6, making sure the hour hand is located correctly

GEOMETRY Properties of Shapes

identify and describe the properties of 2-D shapes, including the number of

(commutative) and subtraction of one number from another cannot

Multiplication and **Division**

begin to recall and use

multiplication and division facts for the 2, and 10 multiplication tables, including recognising odd and even numbers $e.g. 22 \div 2 = 11$

calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs

recognise and use the inverse relationship between multiplication and division in calculations

relate multiplication and division to grouping and sharing discrete(e.g. counters and continuous quantities e.g. water

Division

Maths Overview

show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

> recognise and use the inverse relationship between multiplication and division in calculations

solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

Measurement

recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value

find different combinations of coins to equal the same amounts of money

use the language 'sum' and 'difference' e.g. find two numbers with a difference of 6 (3 and 9, 10 and 16..).

Multiplication and Division

recall and use multiplication and division facts for the 2.5 and 10 multiplication tables, including recognising odd and even numbers

calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs

relate multiplication and division to grouping and sharing discrete e.g. counters and continuous quantities e.g. water, and relating these to fractions and measures e.g. 40cm ÷ 2 = 20cm; 20cm is ½ of 40cm

solve problems involving

Division

show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

> recognise and use the inverse relationship between multiplication and division in calculations

solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

Measurement

recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value

find different combinations of coins to equal the same amounts of money

use the language 'sum' and 'difference' e.g. find two numbers with a difference of 6 (3 and 9, 10 and 16..).

Multiplication and Division

recall and use multiplication and division facts for the 2.5 and 10 multiplication tables, including recognising odd and even numbers

calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x). division (÷) and equals (=) signs

relate multiplication and division to grouping and sharing discrete e.g. counters and continuous quantities e.g. water, and relating these to fractions and measures e.g. 40cm \div 2 = 20cm; 20cm is ½ of 40cm

solve problems involving





sides and symmetry in a vertical line

draw lines and shapes using a straight edge

Position and Direction

order and arrange combinations of mathematical objects in patterns, including those in different orientations e.g. a turning shape, draw the next shape in the pattern



STATISTICS

Use and interpret data interpret and begin to construct simple pictograms, tally charts, block diagrams and

simple tables

answer simple questions by counting the number of objects in each category and sorting the categories by quantity

Answer questions about totalling and comparing categorical data.

solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts e.g. share 18 counters between 3 children

Fractions

recognise, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a shape

MEASUREMENT Measurement

compare and order lengths and record the results using >, < and =

recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value

find different combinations of coins to equal the same amounts of money e.g. find different ways to make 25p

solve simple problems in

solve simple problems in a practical context involving addition and subtraction of money of the same unit including giving change e.g. I buy 2 bags of sweets for 20p each, how much change will I get from 50p?

GEOMETRY Properties of Shapes

identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line

draw lines and shapes using a straight edge

identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

STATISTICS

Use and interpret data interpret and construct

simple pictograms e.g.
where the symbol
represents 2, 5 or 10
units, tally charts, block
diagrams and simple
tables

answer simple questions

multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Fractions

recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity e.g. how long is ¹/₃ of a ribbon which is 60 cm long?

write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of two quarters and one half.

count in fractions e.g. 0, ½, 1, 1½, 2, 2½, ...

Measurement

compare and order lengths, masses and record the results using >, < and =

choose and use appropriate standard units to estimate and measure length/height in solve simple problems in a practical context involving addition and subtraction of money of the same unit including giving change e.g. I buy 2 bags of sweets for 20p each, how much change will I get from 50p?

GEOMETRY Properties of Shapes

identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line

draw lines and shapes using a straight edge

identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

STATISTICS Use and interpret data

interpret and construct simple pictograms e.g. where the symbol represents 2, 5 or 10 units, tally charts, block diagrams and simple tables

answer simple questions

multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Fractions

recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity e.g. how long is 1/3 of a ribbon which is 60 cm long?

write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of two quarters and one half.

count in fractions e.g. 0, %, 1, 1%, 2, 2%, ...

Measurement

compare and order lengths, masses and record the results using >, < and =

choose and use appropriate standard units to estimate and measure length/height in



Lowbrook Academy	Maths Overview
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Lowbrook Academy		Maths Overvi	ew		Academy
	a practical context	by counting the number	any direction (m/cm);	by counting the number	any direction (m/cm);
	involving addition and	of objects in each	mass (kg/g) to the	of objects in each	mass (kg/g) to the
	subtraction of money of	category and sorting the	nearest appropriate unit,	category and sorting the	nearest appropriate unit,
	the same unit including	categories by quantity	using rulers, scales	categories by quantity	using rulers, scales
	giving change e.g. <i>I buy a</i>				
	toy for £14; how much		compare and sequence		compare and sequence
	change do I get from	Maths Week	intervals of time		intervals of time
	£20?	Collecting, recording and			
		representing data in	tell and write the time to		tell and write the time to
	tell and write the time	block graphs and	five minutes, including		five minutes, including
	quarter past/to the hour	pictograms to show	quarter past/to the hour		quarter past/to the hour
	and draw the hands on a	results. (R)	and draw the hands on a		and draw the hands on a
	clock face to show these	(Maths Week)	clock face to show these		clock face to show these
	times e.g. draw the		times.		times.
	hands on a clock face to	Financial Literacy			
	show ¼ to 6, making sure	Profit and Loss	GEOMETRY		GEOMETRY
	the hour hand is located	(R)	Properties of Shapes		Properties of Shapes
	correctly		compare and sort		compare and sort
		Times Tables expected to	common 2-D and 3-D		common 2-D and 3-D
	GEOMETRY	be achieved by end of	shapes and everyday		shapes and everyday
	Properties of Shapes	Т3:	objects <i>e.g. sort 3-D</i>		objects <i>e.g. sort 3-D</i>
	identify and describe the	2s, 5s, 10s.	shapes in different ways		shapes in different ways
	properties of 3-D shapes,		such as whether they are		such as whether they are
	including the number of		prisms, whether they		prisms, whether they
	vertices and faces		have more than 8 edges		have more than 8 edges
	compare and sort		recognise and name		recognise and name
	common 2-D and 3-D		quadrilaterals, polygons		quadrilaterals, polygons
	shapes and everyday		e.g. pentagon, hexagon,		e.g. pentagon, hexagon,
	objects		octagon, prisms and		octagon, prisms and
	e.g. sort 3-D shapes in		cones		cones
	different ways such as				
	whether they have		identify 2-D shapes on		identify 2-D shapes on
	triangular faces, all		the surface of 3-D		the surface of 3-D
	straight edges		shapes, for example a		shapes, for example a
			circle on a cylinder and a		circle on a cylinder and a
	recognise and name,		triangle on a pyramid		triangle on a pyramid



Lowbrook Academy	Maths Overview
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LOWDIOOK Academy		IVIALIIS OVEI VIEW	 /
	polygons e.g. pentagon,		
	hexagon, octagon and	GEOMETRY	GEOMETRY
	cones	Position and Direction	Position and Direction
		order and arrange	order and arrange
		combinations of	combinations of
		mathematical objects in	mathematical objects in
		patterns, including those	patterns, including those
		in different orientations	in different orientations
		use mathematical	use mathematical
		vocabulary to describe	vocabulary to describe
		position, direction and	position, direction and
		movement, including	movement, including
		distinguishing between	distinguishing between
		rotation as a turn and in	rotation as a turn and in
		terms of right angles for	terms of right angles for
		quarter, half and three-	quarter, half and three-
		quarter turns (clockwise	quarter turns (clockwise
		and anti-clockwise), and	and anti-clockwise), and
		movement in a straight	movement in a straight
		line.	line.
		Use the concept and	Use the concept and
		language of angles to	language of angles to
		describe 'turn' by	describe 'turn' by
		applying rotations,	applying rotations,
		including in practical	including in practical
		contexts (e.g. pupils	contexts (e.g. pupils
		themselves moving in	themselves moving in
		turns, giving instructions	turns, giving instructions
		to other pupils to do so,	to other pupils to do so,
		and programming robots	and programming robots
		using instructions given in	using instructions given in
		right angles)	right angles)
		STATISTICS	STATISTICS
		Use and interpret data	Use and interpret data



	Lowbrook Academy		Maths Overvi	iew		Lowbrook Academy
				answer questions about		answer questions about
				totalling and comparing		totalling and comparing
				categorical data.		categorical data.
				S		S
						Sports Week:
						Creating bar charts using
						data collected using
						tallies from the class'
						favourite sports
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
	Number and Place Value	Number and Place Value	Number and Place Value	Addition and Subtraction	Number and Place Value	Addition and Subtraction
	Count from 0 in multiples	Apply partitioning related	Count from 0 in multiples	Add and subtract	Count from 0 in multiples	Add and subtract
	of 4, 50 and 100; find 10	to place value using	of 4, 8, 50 and 100; find	numbers mentally,	of 4, 8, 50 and 100; find	numbers with up to three
	or 100 more or less than	varied and increasingly	10 or 100 more or less	including:	10 or 100 more or less	digits, using the efficient
	a given number e.g. 10	complex problems e.g.	than a given number	a three-digit number and	than a given number	written methods of
	more than 395	146 = 100 and 40 and 6,		ones		columnar addition and
		146 = 130 and 16	Recognise the place value	a three-digit number and	Recognise the place value	subtraction
	Recognise the place value		of each digit in a three-	tens e.g. 476 + 50	of each digit in a three-	
	of each digit in a three-	Solve number problems	digit number (hundreds,	a three-digit number and	digit number (hundreds,	MEASUREMENT
	digit number (hundreds,	and practical problems	tens, ones)	hundreds.	tens, ones)	Measurement
	tens, ones)	involving place value and		two-digit numbers where		measure, compare, add
		rounding.	Identify, represent and	the answer could exceed	Identify, represent and	and subtract: length
Year 3	Identify, represent and		estimate numbers using	100	estimate numbers using	(m/cm/mm); mass (kg/g);
	estimate numbers using	Addition and Subtraction	different representations		different representations	volume/capacity (I/ml)
	different representations	Add and subtract	including those related to	Add and subtract	including those related to	e.g. Read 300ml on a
	including those related to	numbers with up to three	measure	numbers with up to three	measure	scale labelled every
	measure e.g. using place	digits		digits, using formal		200ml. Order a set of
	value cards to show 985	Estimate the second set	Apply partitioning related	written methods of	Apply partitioning related	containers by capacity,
	= 900 + 80 + 5; tally	Estimate the answer to a	to place value using	columnar addition	to place value using	using a measuring jug
	marks; base 10	calculation and use	varied and increasingly	Fatimata the amount of	varied and increasingly	and water to check.
	apparatus.	inverse operations to	complex problems	Estimate the answer to a	complex problems	Know the approximate
	Dood and write name have	check answers e.g. 702 –	Dood and write awarbare	calculation and use	Dood and write name have	capacity of a cup, a jug, a
	Read and write numbers	249 is approximately 700 – 250 = 450; check 453 +	Read and write numbers	inverse operations to	Read and write numbers	bucket
	to at least 1000 in	- 250 = 450; check 453 + 249 = 702	to at least 1000 in numerals and in words	check answers	to at least 1000 in numerals and in words	add and subtract
	numerals	249 - 102		Solve problems, including	numerals and in words	
	Compare and order	Solve problems, including	e.g. three hundred and	missing number	Compare and order	amounts of money to give change, using both £
	Compare and order	Solve problems, including	forty-six	ווווסטוווא וועווושפו	Compare and order	give change, using both £



numbers up to 1000

Addition and Subtraction

Add and subtraction and subtraction and subtraction numbers mentally, including:

o a three-digit number and ones
o a three-digit number and tens
o a three-digit number and hundreds
e.g. 858 – 300
o two-digit numbers where the answer could exceed 100
e.g. 99+1

Fractions

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 e.g. 3 cakes shared between 10 children gives 3/10 each.

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators e.g. find 1/3 of 9 beads, then 2/3 of 9 beads

missing number
problems, using number
facts, place value, and
more complex addition
and subtraction e.g.
investigate the numbers
which could go in the
boxes when $2 \times = 7 +$

Multiplication and Division

Recall and use multiplication and division facts for the 3 and 4 multiplication tables

Develop efficient mental methods, for example, using commutativity e.g. $2 \times 7 \times 5 = 2 \times 5 \times 7 = 10 \times 7 = 70$ and multiplication and division facts to derive related facts e.g. using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$ to derive $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know including for two-digit numbers times

Compare and order numbers up to 1000

Maths Overview

Solve number problems and practical problems involving place value and rounding

Multiplication and Division

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

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods e.g. 34×5 or 64÷4

Fractions

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing oneproblems, using number facts, place value, and more complex addition and subtraction e.g.

There are 46 boys and 58 girls in Year 3, but 12 children are away; how many Year 3 children are at school?

Multiplication and Division

Develop efficient mental methods, for example, using commutativity and multiplication and division facts to derive related facts

Solve problems, including missing number problems, involving multiplication and division e.g. 240 = ×4

MEASUREMENT Measurement

Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour digital clocks

Estimate and read time with increasing accuracy to the nearest minute; record and compare time

numbers up to 1000

Solve number problems and practical problems involving place value and rounding

Addition and Subtraction Add and subtract

numbers mentally,
including:
a three-digit number and
ones
a three-digit number and
tens e.g. 824 – 30
a three-digit number and
hundreds
two-digit numbers where
the answer could exceed
100 e.g. 68+47

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

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction e.g. investigate the numbers which could go in the boxes

Multiplication and

and p in practical contexts e.g. Ali is saving 80p each week, to buy a toy costing £5; how many weeks will it take him?

add and subtract amounts of money to give change, using both £ and p in practical contexts e.g. Ali is saving 80p each week, to buy a toy costing £5; how many weeks will it take him?

tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour digital clocks

estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight

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





understand the relation between unit fractions as operators (fractions of), and division by integers e.g. to find 1/3, you divide by 3; to find 1/5, you divide by 5

Recognise and use fractions as numbers on the number line: unit fractions and non-unit fractions with small denominators

Recognise and show, using diagrams, equivalent fractions with small denominators e.g.



Solve problems that involve fractions e.g. Amy ate ¼ of her 12 sweets and Ben ate ½ of his 8 sweets, who ate more sweets?

GEOMETRY Properties of Shape

Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them e.g. one-digit numbers, using mental methods e.g. 22×3

Solve problems, including missing number problems, involving multiplication and division e.g. 90 = 3 ×

MEASUREMENT Measurement

Measure, compare, add and subtract: length (m/cm/mm) e.g. how much ribbon is left when 36cm is cut from 1m? Which is longer: 6½cm or 62mm? 5m or 450cm? Measure and draw lines to the nearest ½ cm. Know the approximate length of a book, a room, a handspan...

Add and subtract amounts of money to give change, using both £ and p in practical contexts e.g. I buy2 packs of sweets for 75p each; how much change will I get from £2?

Tell and write the time from an analogue clock e.g. draw hands on a digit numbers or quantities by 10

Connect tenths to place value, decimal measures and to division by 10 e.g. 7/10 = 0.7

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators e.g. there are 8 marbles and three of them are red; what fraction of the marbles are red?

Understand the relation between unit fractions as operators (fractions of), and division by integers e.g. to find 1/3, you divide by 3; to find 1/5, you divide by 5

Recognise and use fractions as numbers on the number line: unit fractions and non-unit fractions with small denominators

Recognise and show, using diagrams, equivalent fractions with small denominators in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight

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

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

STATISTICS Use and Interpret Data

Interpret and present data using bar charts, pictograms and tables, understanding and using simple scales e.g. 2, 5, 10 units per cm with increasing accuracy.

Solve one-step and twostep questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.

Division

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

Develop efficient mental methods, for example, using commutativity e.g. $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$ and multiplication and division facts to derive related facts

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods e.g. 46×8 or 81÷3

Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems (e.g. change a recipe for 2 people to make enough

tasks.

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

GEOMETRY Properties of Shapes

Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them

Recognise that angles are a property of shape or a description of turn

Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle

Describe the properties of shapes using accurate language, including symmetrical/not symmetrical, lengths of lines, and acute and



Maths Overview

number of faces, edges and vertices (singular: vertex), e.g. guess my shape: it has a square face and four triangular faces (square-based pyramid)

Competency: Time Facts

clock face to show 'ten to four', making sure the hour hand is located correctly

Record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight

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

STATISTICS Use and Interpret Data

Interpret and present data using bar charts, pictograms and tables, understanding and using simple scales e.g. 2, 5, 10 units per cm with increasing accuracy.

Solve one-step and twostep questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables. Compare and order unit fractions, and fractions with the same denominators e.g. put in order 3/8, 1/8, 7/8, 5/8

Solve problems that involve fractions

MEASUREMENT Measurement

Measure, compare, add and subtract: length (m/cm/mm) mass (kg/g) e.g. find 3 vegetables which weigh between 100g and 300g. Read 250g on a scale labelled every 100g. Which is heavier: 1kg 300g or 1½kg? Know the approximate mass of a book, an apple, a baby, a man...

Add and subtract amounts of money to give change, using both £ and p in practical contexts e.g. I have a £2 coin, two £1 coins, three 50p coins, a 20p and seven 5p coins; how much more do I need to make £10?

Interpret data presented in many contexts

GEOMETRY Properties of Shapes

Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them

Recognise that angles are a property of shape or a description of turn

Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle

Describe the properties of shapes using accurate language, including symmetrical/not symmetrical, lengths of lines, and acute and obtuse angles e.g. sort triangles into those with an obtuse angle and those without

for 6 people) and correspondence problems in which n objects are connected to m objects. e.g. 3 hats and 4 coats, how many different outfits? Or Share 6 cakes equally between 4 children.

Fractions

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

connect tenths to place value and decimal measures (not restricted to decimals between 0 and 1) and to division by 10 e.g. 13/10 = 1.3

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators e.g. find 4/5 of 30

Understand the relation between unit fractions as operators (fractions of), and division by integers obtuse angles

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

STATISTICS

Use and Interpret Data
Interpret and present
data using bar charts,
pictograms and tables,
understanding and using
simple scales e.g. 2, 5, 10
units per cm with
increasing accuracy.

Solve one-step and twostep questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.

Interpret data presented in many contexts

Sports Week:
Creating line graphs with
own data i.e. distances
recorded from javelin
throws.

Competency: Roman Numerals



Lowbrook Academy Maths Overview

 LOWDIOOK Academy		IVIALIIS OVEI VI	CVV		/ (cadcing
	Interpret data presented			e.g. to find 1/3, you	
	in many contexts			divide by 3; to find 1/5,	
		Maths Week		you divide by 5	
	Competency: 2D Shapes	Create a line graph (R)	Competency: Fractions		
		Financial Literacy	of Amounts	Recognise and use	
		Profit and Loss		fractions as numbers on	
		-		the number line: unit	
				fractions and non-unit	
				fractions with small	
		Competency: 3D Shapes		denominators	
				Recognise and show,	
				using diagrams,	
				equivalent fractions with	
				small denominators	
				Add and subtract	
				fractions with the same	
				denominator within one	
				whole e.g. If 1/3 of a cake	
				is eaten then 2/3 remains	
				or 5/7 + 1/7 = 6/7	
				Compare and order unit	
				fractions, and fractions	
				with the same	
				denominators e.g. put in	
				order 1/2, 1/8, 1/4, 1/6	
				Solve problems that	
				involve fractions e.g. Ali,	
				Ben and Cara have 24	
				fish. 2/3 of them belong	
				to Ali, ¼ belong to Ben	
				and the rest belong to	
				Cara; how many fish	
				belong to Cara?	



Lowbrook Adductiny mains overview	Lowbrook Academy M	aths Overview
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	Lowbrook Academy		waths Overvi	CAA		Academy
					MEASUREMENT Measurement measure the perimeter of simple 2-D shapes e.g. measure accurately the sides of a triangle in cm or mm, in order to find the perimeter	
					Competency: Equivalent	
					Fractions	
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
	Number and Place Value	Number and Place Value	Number and Place Value	Multiplication and	Number and Place Value	Multiplication and
	Find 1000 more or less	Count in multiples of 6, 9,	Count in multiples of 6, 7,	Division	Count in multiples of 6, 7,	Division
	than a given number e.g.	25 and 1000 e.g. 625,	9, 25 and 1000	Recall multiplication and	9, 25 and 1000	Recall multiplication and
	45 + 1000, 8904 – 1000	600, 575, 550, 525, 500		division facts for		division facts for
			Find 1000 more or less	multiplication tables up	Find 1000 more or less	multiplication tables up
	Recognise the place value	Round any number to the	than a given number	to 12x12	than a given number	to 12 × 12
	of each digit in a four-	nearest 10 or 100	Carret haaluraada thusarah	Functions (to shorting	Count les alous and a thousands	For attack the about to a
	digit number (thousands, hundreds, tens, and	Solve number and	Count backwards through zero to include negative	Fractions (Including decimals)	Count backwards through zero to include negative	Fractions (including decimals)
	ones)	practical problems that	numbers e.g. 8, 6, 4, 2, 0,	Know that decimals and	numbers	Know that decimals and
Year 4	ones)	involve place value and	-2, -4, -6,	fractions are different	Humbers	fractions are different
	Order and compare	rounding and with	2, 1, 3,	ways of expressing	Recognise the place value	ways of expressing
	numbers beyond 1000	increasingly large positive	Recognise the place value	proportions	of each digit in a four-	proportions
	,	numbers	of each digit in a four-	' '	digit number (thousands,	' '
	Learn Roman Numerals		digit number (thousands,	Recognise and show,	hundreds, tens, and	Recognise and show,
	to 30	Addition and Subtraction	hundreds, tens, and	using diagrams, families	ones)	using diagrams, families
		Use both mental and	ones)	of common equivalent		of common equivalent
	Multiplication and	written methods with		fractions	Order and compare	fractions
	Division	increasingly large	Order and compare		numbers beyond 1000	
	Recall multiplication and	numbers to aid fluency	numbers beyond 1000	Count using simple		Count using simple
	division facts for	e.g. mentally calculate	B	fractions and decimal	Identify, represent and	fractions and decimal
	multiplication tables up	540 + 400 or 900 – 360	Round any number to the	fractions, both forwards	estimate numbers using	fractions, both forwards



to 10×10

Fractions (including decimals)

Know that decimals and fractions are different ways of expressing proportions

Recognise and show, using diagrams, families of common equivalent fractions

Count using simple fractions and decimal fractions, both forwards and backwards e.g. 41/3,4 2/3,5, 5 1/3, 5 2/3,6, 6 1/3; 3.2, 3.1, 3, 2.9, 2.8, ... and represent fractions and decimals on a number line

Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten e.g. 3/10 = 30/100 = 0.30 = 0.3

Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why e.g. It costs £3.50 for Ben to go swimming and £5:70 for his mum; how much change is there from £10?

Multiplication and Division

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers e.g. 600 ÷ 3 = 200; 4 × 6 × 2

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout nearest 10 or 100

Maths Overview

Solve number and practical problems that involve place value and rounding and with increasingly large positive numbers

Addition and Subtraction

Use both mental and written methods with increasingly large numbers to aid fluency

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

Estimate and use inverse operations to check answers to a calculation

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why e.g. investigate which amounts of money cannot be made using exactly three coins.

and backwards and represent fractions and decimals on a number line

Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten

Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths

Solve problems to calculate quantities, and fractions to divide quantities, including nonunit fractions where the answer is a whole number e.g. What fraction of a day is 3 hours?

Recognise and write decimal equivalents of any number of tenths or hundredths

Recognise and write decimal equivalents to 1/4; 1/2; 3/4

Find the effect of dividing

different representations including measures and measuring instruments

Round any number to the nearest 10, 100 or 1000

Solve number and practical problems that involve place value and rounding and with increasingly large positive numbers

Addition and Subtraction

Use both mental and written methods with increasingly large numbers to aid fluency e.g. mentally calculate 540 + 270 or 900 – 365

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

Estimate and use inverse operations to check answers to a calculation

Solve addition and subtraction two-step problems in contexts,

and backwards and represent fractions and decimals on a number line

Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten

Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths

Add and subtract fractions with the same denominator e.g. 2/5 + 4/5 = 6/5

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number e.g. 1/5 of **X** is 9

Recognise and write decimal equivalents of any number of tenths or hundredths



Lowbrook Academy e.g. 6/9 = 2/3

Maths Overview

Solve problems to
calculate quantities, and
fractions to divide
quantities, including non-
unit fractions where the
answer is a whole
number e.g. find 4/9 of

quai

Recognise and write decimal equivalents of any number of tenths or hundredths e.g. 9/10 = 0.9; 9/100 = 0.09

18 counters

Recognise and write decimal equivalents to 1/4; 1/2; 3/4

Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths

GEOMETRY Position and Direction

Describe positions on a 2-D grid as coordinates in the first quadrant

Plot specified points and draw sides to complete a (see appendix)

solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit $e.g.34 \times 6 = (30 \times 6) + (4 \times 6)$ 6), integer scaling problems and harder correspondence problems such as n objects are connected to m objects e.g. 3 skirts and 4 tops, how many different outfits?

MEASUREMENT Measurement

Convert between different units of measure (e.g. kilometre to metre; hour to minute) e.g. 41/2kg = 4500g;

Estimate, compare and calculate different measures, including money in pounds and pence e.g. put in order: £1.20, 98p, £0.89, £1.08

Telling the time 'am' and 'pm' to the nearest minute in both analogue

Multiplication and Division

Recall multiplication and division facts for multiplication tables up to 12 × 12

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers e.g. $420 = 70 \times 6$; $5 \times 4 \times$

Recognise and use factor pairs and commutativity in mental calculations e.g. factor pairs of 20 are 1 and 20, 2 and 10, 4 and 5; addition and multiplication are commutative e.g. $2 \times 6 \times 5 = 2 \times 5 \times 6 = 10 \times 6$

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout

Use the formal written method for short division with exact answers when dividing by a one-digit

a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths

Round decimals with one decimal place to the nearest whole number e.g. 32.5 rounds to 33; 49.7 rounds to 50

Compare numbers with the same number of decimal places up to two decimal places e.g. put in order: 2.56, 26.52, 2.65, 25.62, 2.62

Solve simple measure and money problems involving fractions and decimals to two decimal places. e.g. two parcels weigh 5.5kg altogether, one weighs 3.8kg, what is the mass of the other?

MEASUREMENT Measurement

Convert between different units of measure (e.g. kilometre to metre; hour to minute) e.g. 90 minutes = 1½ hours

deciding which operations and methods to use and why e.g. Mr Smith sets out on a 619 mile journey; he drives 320 miles before lunch and 185 miles after lunch; how much farther does he need to drive?

Multiplication and Division

recall multiplication and division facts for multiplication tables up to 12 × 12

use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers e.g. $640 \div 8 = 80$; $4 \times 6 \times$ 20

recognise and use factor pairs and commutativity in mental calculations

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout

Use the formal written

Recognise and write decimal equivalents to 1/4; 1/2; 3/4

Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths

Round decimals with one decimal place to the nearest whole number

Compare numbers with the same number of decimal places up to two decimal places

Solve simple measure and money problems involving fractions and decimals to two decimal places e.g. Ben buys a toy costing £4.55 and ¼ kg of sweets costing £3.20 per kilo; how much change does he receive from £10?

MEASUREMENT Measurement

Convert between different units of measure (e.g. kilometre



given polygon. e.g. find the coordinates of the missing vertex of a shape

Competencies

Roman Numerals 2D shapes (F)

and clocks

Use 'am' and 'pm' appropriately.

Calculate time intervals crossing the hour using analogue and digital.

GEOMETRY Properties of Shapes

Compare and classify geometric shapes, including quadrilaterals (e.g. parallelogram, rhombus, trapezium) and triangles (e.g. isosceles, equilateral, scalene), based on their properties and sizes e.g. sort triangles to find those that are isosceles and/or have a right angle 2

Complete a simple symmetric figure with respect to a specific line of symmetry

STATISTICS Use and Interpret Data

Interpret and present discrete data using appropriate graphical methods, including bar charts, using a greater range of scales

number e.g. 456 ÷ 3

Maths Overview

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit $e.g.34 \times 6 = (30 \times 6) + (4 \times 6)$ 6), integer scaling problems and harder correspondence problems such as 'n' objects are connected to 'm' objects e.g. the number of different choices on a menu

MEASUREMENT Measurement

Read, write and convert time between analogue and digital 12 and 24hour clocks e.g. ¼ to 8 in the evening can be written as 19:45

Solve problems involving converting from hours to minutes: minutes to seconds; years to months; weeks to days. e.g. which of these children are 3 years old: Isabel 39 months Ben 32 months Cara 50 months

Estimate, compare and calculate different measures, including money in pounds and pence

GEOMETRY

Properties of Shapes Compare and classify geometric shapes, including quadrilaterals (e.g. parallelogram, rhombus, trapezium) and triangles (e.g. isosceles, equilateral, scalene), based on their properties and sizes e.g. sort quadrilaterals to find those with line symmetry or parallel edges

Complete a simple symmetric figure with respect to a specific line of symmetry

STATISTICS

Use and Interpret Data Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs, using a greater range of scales e.g. height of a sunflower method for short division with exact answers when dividing by a one-digit number e.g. 736 ÷ 8

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit $e.g.34 \times 6 = (30 \times 6) + (4 \times 6)$ 6), integer scaling problems and harder correspondence problems such as n objects are connected to m objects e.g. 3 cakes shared equally between 10 children

MEASUREMENT Measurement

Read, write and convert time between analogue and digital 12 and 24hour clocks

Solve problems involving converting from hours to minutes: minutes to seconds; years to months; weeks to days.

Measure and calculate the perimeter of a rectilinear figure

to metre; hour to minute)

Estimate, compare and calculate different measures, including money in pounds and pence e.g. put in order: 4.2kg, 4700g, 4½kg, 490g

GEOMETRY Properties of Shape

Compare and classify geometric shapes, including quadrilaterals (e.g. parallelogram, rhombus, trapezium) and triangles (e.g. isosceles, equilateral, scalene), based on their properties and sizes

Complete a simple symmetric figure with respect to a specific line of symmetry.

Identify acute and obtuse angles and compare and order angles up to two right angles by size, without using a protractor

Compare lengths and angles to decide if a polygon is regular or



Lowbrook Academy	Maths Overview

 Lowbrook Academy		Maths Overvi	iew		Academy
		Dylan 42 months	plant, measured daily for	(including squares) in	irregular. e.g. regular
	Solve comparison, sum		2 weeks	centimetres and metres	polygons have edges with
	and difference problems	GEOMETRY		e.g. find the perimeter of	the same lengths and
	using information	Properties of Shapes	Solve comparison, sum	an L-shape where the	angles all the same size
	presented in bar charts,	Identify acute and obtuse	and difference problems	lengths are given or can	e.g. a square is the only
	pictograms, tables and	angles and compare and	using information	be measured	regular quadrilateral
	other graphs	order angles up to two	presented in bar charts,		
		right angles by size,	pictograms, tables and	Find the area of	STATISTICS
		without using a	other graphs	rectilinear shapes by	Use and Interpret Data
	Competencies	protractor		counting squares e.g. find	Interpret and present
	Roman Numerals		Times Table test	the area of an L-shape	discrete and continuous
	2D & 3D shapes (F)	Position and Direction	Time facts	drawn on squared paper	data using appropriate
		Describe positions on a 2-			graphical methods,
		D grid as coordinates in		Position and Direction	including bar charts and
		the first quadrant		describe positions on a 2-	time graphs, using a
				D grid as coordinates in	greater range of scales
		Plot specified points and		the first quadrant	
		draw sides to complete a			Solve comparison, sum
		given polygon.		Plot specified points and	and difference problems
				draw sides to complete a	using information
		Describe movements		given polygon.	presented in bar charts,
		between positions as			pictograms, tables and
		translations of a given		Describe movements	other graphs
		unit to the left/right and		between positions as	
		up/down		translations of a given	Identify lines of
				unit to the left/right and	symmetry in 2-D shapes
				up/down	presented in different
		(Maths Week)			orientations
		Introduction to excel		Competencies	
		spreadsheets and		Equivalent fractions	
		financial planning.		3D shapes (F)	Sports Week – Recording
		Exploring formatting of			times and distances and
		cells and familiarisation			comparing to famous
		of program. Creating			athletes
		pictograms using scale			(PS) (R)
		on Purple Mash.			
		(Computing)			Revise Place Value –



	Lowbrook Academy		Maths Overvi	iew		Academy
			(R)			compare and order
						numbers up to 1000
			Financial Literacy			
			Profit and Loss			Revise times table
						knowledge up to 12
			Competencies			
			Angles			Revise and problem solve
			Measurement			using fractions
			conversions (F)			
						Revise the 4 operations –
						mental and written
						methods
						Competencies
						Revise Roman numerals
						up to 20 (F)
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
	Number and Place Value	Multiplication and	Number and Place Value	Addition and Subtraction	Number and Place Value	Number and Place Value
	Read, write, order and	Division	Read, write, order and	Add and subtract whole	Read, write, order and	Read Roman numerals to
	compare numbers to at	Identify multiples and	compare numbers to at	numbers with more than	compare numbers to at	1000 (M) and recognise
	least 1 000 000 and	factors, including finding	least 1 000 000 and	4 digits, including using	least 1 000 000 and	years written in Roman
	determine the value of	all factor pairs of a	determine the value of	formal written methods	determine the value of	numerals. e.g. MCMXIV
	each digit e.g. order a set	number and common	each digit e.g. what is the	(columnar addition and	each digit e.g. What must	(1914)
	of multi-digit numbers	factors of two numbers	smallest integer you can	subtraction)	be added to 37 500 to	
	from smallest to largest -		make using all of these	Add and subtract	change it to 67 500?	Multiplication and
Year 5	37 700, 737 570, 737 507,	Multiply numbers up to 4	digits: 8, 1, 0, 5, 6?	numbers mentally with		Division
	37 570	digits by a one- or two-		increasingly large	Count forwards or	Solve problems involving
		digit number using a	Count forwards or	numbers	backwards in steps of	multiplication and
	Count forwards or	formal written method,	backwards in steps of		powers of 10 from any	division where larger
	backwards in steps of	including long	powers of 10 from any	Use rounding to check	given number up to 1 000	numbers are used by
	powers of 10 from any	multiplication for two-	given number up to	answers to calculations	000	decomposing them into
	given number up to 1 000	digit numbers	1,000,000	and determine, in the		their factors e.g. 828÷36
	000 e.g. 197 000, 198			context of a problem,	Interpret negative	= (828÷4)÷9 = 207÷9 = 23
	000, 199 000, 200 000,	Multiply and divide	Interpret negative	levels of accuracy	numbers in context,	English Lot
	201 000	numbers mentally	numbers in context,	Color days	count forwards and	Establish whether a
		drawing upon known	count forwards and	Solve addition and	backwards with positive	number up to 100 is



Maths Overview

Round any number up to 1 000 000 to the nearest 10, 100 and 1000 e.g. 265 946 to the nearest 1000 (266 000)

Solve number problems and practical problems that involve number, place value and rounding e.g. What number is halfway between 560 500 and 560 600?

Revise Roman Numerals to 1000 and be able to calculate time using a Roman Numeral clock

Addition and Subtraction

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)

Add and subtract numbers mentally with increasingly large numbers e.g. 15 400 – 2000 = 13 400

Use rounding to check answers to calculations and determine, in the context of a problem,

facts e.g. 60×9

Fractions (including decimals and percentages)

Know that percentages, decimals and fractions are different ways of expressing proportions

Count forwards and backwards in fractions and decimals bridging zero

Compare and order fractions whose denominators are all multiples of the same number e.g. put these fractions in order from the smallest: $\frac{5}{12}$, $\frac{5}{6}$, $\frac{11}{12}$, $\frac{2}{3}$

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths making links to decimals and measures e.g. ³⁷/₁₀₀ metre = 0.37m

Recognise the per cent symbol (%) and understand that per cent backwards with positive and negative whole numbers through zero e.g. count back in threes: 8, 5, 2, -1, -4, -7...

Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

Solve number problems and practical problems that involve number, place value and rounding e.g. What is the largest 4-digit number whose digits sum to 20? (9920).

Recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule e.g. find the rule and complete the sequence: ____, 16, 8, 4, ____, 1, 0.5, ____ (rule is: halve previous number)

Multiplication and Division

Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers subtraction multi-step problems in contexts, deciding which operations and methods to use and why e.g. I bought some stickers on Monday; on Tuesday I bought 20 more than I bought on Monday; now I have 70; how many stickers did I buy on Monday?

Multiplication and Division

Continue to practise and apply multiplication tables and related division facts, committing them to memory and using them confidently to make larger calculations

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

Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

Multiply and divide

and negative whole numbers through zero

Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

Solve number problems and practical problems that involve number, place value and rounding. e.g. The distance to the bus stop is 1km to the nearest 100m; what is the shortest distance it could be?

Recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule e.g. find the rule and complete the sequence: ____, 16, 8, 4, ____, 1, 0.5, ___

Addition and Subtraction
Add and subtract whole
numbers with more than
4 digits, including using
formal written methods
(columnar addition and
subtraction)

prime and recall prime numbers up to 19

Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

Multiply and divide numbers mentally drawing upon known facts e.g. 840÷12

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Divide numbers up to 4
digits by a one-digit
number using the formal
written method of short
division and interpret
remainders appropriately
for the context

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.eg a toymaker can make 8 toys in 2 hours; how



Maths Overview

levels of accuracy

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why e.g. I have read 124 of the 526 pages of my book; how many more pages must I read to reach the middle?

Multiplication and Division

Continue to practise and apply multiplication tables and related division facts, committing them to memory and using them confidently to make larger calculations

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

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

Multiply and divide whole numbers and those involving decimals

relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction e.g. $43\% = \frac{43}{100} = 0.43$

Recognise that percentages are proportions of quantities e.g. 40% of the class are boys; what percentage are girls? As well as operators on quantities e.g. find 40% of 30 children.

MEASUREMENT Measurement

Convert between
different units of
measure (e.g. kilometre
and metre; centimetre
and metre; centimetre
and millimetre; gram and
kilogram; litre and
millilitre) e.g. 15.7cm =
157mm

Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres e.g. find the perimeter of an L shape where one or two side Establish whether a number up to 100 is prime and recall prime numbers up to 19

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)

Solve problems involving addition, subtraction, multiplication and division and a combination of these. including understanding the meaning of the equals sign e.g. There are 6 shelves of books; 3 shelves hold 35 books each, one shelf holds 45 books and the top two shelves have the same number of books on each; there are 200 books altogether; how many books are on the very top shelf?

Fractions (including

numbers mentally drawing upon known facts e.g. 630÷9

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context e.g. $98 \div 4$ = $24 \text{ r } 2 = 24 \frac{1}{2} = 24.5 \approx 25$

Fractions (including decimals and percentages)

Mentally add and subtract:

- o tenths e.g. 0.8 + 0.9
- one-digit whole numbers and tenths e.g. 3.1 – 2.9
- o complements of 1 e.g. 0.83 + 0.17 = 1

Add and subtract decimals with a different number of decimal places e.g. 102.3 + 97.82

Round decimals with two decimal places to the nearest whole number and to one decimal place

Add and subtract numbers mentally with increasingly large numbers e.g. 12 462 – 2 300 = 10 162

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why e.g. Write a number story for this number sentence: 3709=4562+234-1087

Multiplication and Division

Continue to practise and apply multiplication tables and related division facts, committing them to memory and using them confidently to make larger calculations

Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers

many toys can he make in 5 hours?

Fractions (including decimals and percentages)

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths and extending to thousandths, making links to decimals and measures e.g. 755/1000 kg = 0.755kg

Connect fractions >1 to division with remainders e.g. 37/5 = 37÷5=72/5

Connect multiplication by a fraction to using fractions as operators e.g. 8/5 of $40 = 40 \times 8/5$

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. e.g. use egg boxes to represent 2 $5/6 \times 3 = 615/6 = 83/6 =$ $8\frac{1}{2}$

Read and write decimal



Maths Overview

by 10, 100 and 1000 e.g. 456÷100=4.56

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign e.g. 40×8=500 -

Fractions (including decimals and percentages)

Mentally add and subtract:

o tenths e.g. 0.8 - 0.3

o one-digit whole numbers and tenths e.g.

3.4 + 2.6

o complements of 1

e.g. 0.85 + 0.15 = 1

MEASUREMENT Measurement

Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling

GEOMETRY Properties of Shapes

lengths are not given

Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes

GEOMETRY Properties of Shapes

Identify 3-D shapes, including tetrahedrons, cubes and other cuboids, from 2-D representations e.g. using isometric paper

Position and Direction

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

STATISTICS Use and Interpret Data

Complete, read and interpret information in tables, including timetables and pictograms

decimals and percentages)

Know that percentages, decimals and fractions are different ways of expressing proportions

Count forwards and backwards in fractions and decimals bridging zero

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

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths making links to decimals and measures

Connect fractions >1 to division with remainders e.g. ${}^{5}/_{4} = 5 \div 4 = 1^{1}/_{4}$

Recognise mixed numbers and improper fractions and convert from one form to the other e.g. $5^{2}/_{3} = {}^{17}/_{3}$ and write mathematical

e.g. 27.59=27.6 (1d.p.)

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents e.g. 650/1000 = 65/100 = 0.65;

Read, write, order and compare numbers with up to three decimal places e.g. put these decimals in order starting from the smallest: 0.457, 0.42, 0.46, 0.426

Solve problems and puzzles involving number up to three decimal places, checking the reasonableness of answers

MEASUREMENT Measurement

Estimate volume e.g. using 1cm3 blocks to build cubes and cuboids and capacity e.g. using water

Solve problems involving converting between units of time e.g. write these lengths of time in order,

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers e.g. prime factors of 60=2×2×3×5

Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

Fractions (including decimals and percentages)

Know that percentages, decimals and fractions are different ways of expressing proportions

Count forwards and backwards in fractions and decimals bridging zero

numbers as fractions e.g. 0.8=4/5

Mentally add and subtract: tenths e.g. 0.8 +

0.9 – 0.2 o one-digit whole numbers and tenths e.g.

7.4 - 6.6

o complements of 1 e.g. 0.83 + 0.17 = 1

Add and subtract decimals with a different number of decimal places e.g. 98.4 – 9.7

Round decimals with two decimal places to the nearest whole number and to one decimal place

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents e.g. 782/1000 = 7/10 + 8/100 + 2/1000

Read, write, order and compare numbers with up to three decimal places e.g. put these decimals in order starting from the smallest: 0.471,



Lowbrook Academy	Maths Overview
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Lowbrook Academy		Maths Overvi	iew		Academy
Draw lines accurately to	Competencies	statements >1 as a mixed	starting with the	Compare and order	0.46, 0.4, 0.465, 0.5
the nearest millimetre	2D Shapes	number e.g. $^{2}/_{5} + ^{4}/_{5} = ^{6}/_{5}$	smallest: 250sec, 90min,	fractions whose	
and use conventional	Time	= 1 ¹ / ₅	½ hour, 4min	denominators are all	Solve problems and
markings for parallel lines				multiples of the same	puzzles involving number
and right angles		Add and subtract	Use all four operations to	number	up to three decimal
		fractions with the same	solve problems involving		places, checking the
Know angles are		denominator and	measure (e.g. length,	Recognise mixed	reasonableness of
measured in degrees:		multiples of the same	mass, volume, money)	numbers and improper	answers
estimate and compare		number e.g. 2/3 + 1/6 =	using decimal notation	fractions and convert	
acute, obtuse and reflex		5/6	including scaling	from one form to the	Recognise the per cent
angles				other e.g. 5 2/3 = 17/3	symbol (%) and
		Find fractions of numbers	GEOMETRY	and write mathematical	understand that per cent
Use the properties of		and quantities e.g. ³ / ₄ of	Properties of Shapes	statements >1 as a mixed	relates to "number of
rectangles to deduce		£14	Identify 3-D shapes,	number	parts per hundred", and
related facts and find			including cubes and other		write percentages as a
missing lengths and		Connect multiplication by	cuboids, from 2-D	Add and subtract	fraction with
angles e.g. all angles are		a fraction to using	representations	fractions with the same	denominator hundred,
right angles, diagonals		fractions as operators		denominator and	and as a decimal fraction
are congruent (same		e.g. $^{2}/_{3}$ of 12 = 12 × $^{2}/_{3}$	Draw lines accurately to	multiples of the same	
length) and bisect each			the nearest millimetre	number e.g. 2/5 + 7/10 =	Recognise that
other (divide into two		Read and write decimal	and use conventional	11/10 = 11/10	percentages are
equal parts), one		numbers as fractions	markings for parallel lines		proportions of quantities
diagonal separates the			and right angles.	Find fractions of numbers	e.g. 30% voted 'yes', 45%
rectangle into two		Recognise the per cent		and quantities e.g. 7/8 of	voted 'no' and the rest
congruent triangles		symbol (%) and	Know angles are	240ml	did not vote; what
		understand that per cent	measured in degrees:		percentage did not vote?
		relates to "number of	estimate and compare	MEASUREMENT	as well as operators on
Competencies		parts per hundred", and	acute, obtuse and reflex	Measurement	quantities e.g. find 45%
Square Numbers		write percentages as a	angles	Convert between	of 160
Roman Numerals (F)		fraction with		different units of	
		denominator hundred,	Draw given angles, and	measure (e.g. kilometre	Solve problems which
		and as a decimal fraction	measure them in degrees	and metre; centimetre	require knowing
			(°)	and metre; centimetre	percentage and decimal
		Recognise that		and millimetre; gram and	equivalents of 1/2, 1/4,
		percentages are	Identify:	kilogram; litre and	1/5, 2/5, 4/5 and those
		proportions of quantities	o angles at a point	millilitre) e.g. 2.2m =	with a denominator of a
		as well as operators on	and one whole turn (total	2200mm	multiple of 10 or 25. e.g.



Lowbrook Academy	Maths Over	view		Lowbrook Academy
	quantities	360°)		John ate ⁴/₅ of a 20cm
		o angles at a point	Measure and calculate	jelly snake; Jane ate 0.7
	Solve problems which	on a straight line and ½ a	the perimeter of	of her 20cm jelly snake;
	require knowing	turn (total 180°)	composite rectilinear	how much more has John
	percentage and decimal	o other multiples	shapes in centimetres	eaten?
	equivalents of 1/2, 1/4,	of 90°	and metres	
	1/5, 2/5, 4/5 and those			GEOMETRY
	with a denominator of a	Use angle sum facts and	Calculate and compare	Properties of Shapes
	multiple of 10 or 25.e.g.	other properties to make	the area of squares and	Identify 3-D shapes,
	$^{12}/_{20} = ^{60}/_{100} = 0.6 = 60\%$	deductions about missing	rectangles including using	including cubes and other
		angles	standard units, square	cuboids, from 2-D
	MEASUREMENT		centimetres (cm2) and	representations
	Measurement	Use the properties of	square metres (m2) and	
	Convert between	rectangles to deduce	estimate the area of	Draw lines accurately to
	different units of	related facts and find	irregular shapes e.g.	the nearest millimetre
	measure (e.g. kilometre	missing lengths and	investigate possible	and use conventional
	and metre; centimetre	angles e.g. all angles are	rectangles with the same	markings for parallel lines
	and metre; centimetre	right angles, diagonals	area as a particular	and right angles.
	and millimetre; gram and	_	square	
	kilogram; litre and	length) and bisect each		Know angles are
	millilitre) e.g. 3.7 litres =	other (divide into two	Estimate volume e.g.	measured in degrees:
	3700ml	equal parts), one	using 1cm3 blocks to	estimate and compare
	Marie and all the	diagonal separates the	build cubes and cuboids	acute, obtuse and reflex
	Measure and calculate	rectangle into two	and capacity e.g. using	angles
	the perimeter of	congruent triangles	water	Duran singular and
	composite rectilinear	Lian tha tawa dia saval	Cabra anablana invahina	Draw given angles, and
	shapes in centimetres	Use the term diagonal	Solve problems involving	measure them in degrees
	and metres e.g. given the		converting between units	(°)
	perimeter and length of a	about the angles formed by diagonals and sides,	of time e.g. three children share a trophy	Identify:
	rectangle, calculate its width,w, expressing it	and other properties of	for 8 weeks and 4 days;	
	•		•	
	algebraically e.g. $20 = (2 \times 7) + 2w$	quadrilaterals, e.g. using dynamic geometry ICT	they each have it for the same length of time; how	and one whole turn (total 360°)
	(2^/) + ZW	tools.	long does each child keep	o angles at a point
	Calculate and compare	tools.	the trophy?	on a straight line and ½ a
	the area of squares and	STATISTICS	the trophly:	turn (total 180°)
	rectangles including using		Use all four operations to	o other multiples
	rectangles including using	ose and interpret Data	ose an rour operations to	o other multiples



Lowbrook Academy	Maths Overview
	standard units, square (
	contimetres (cm²) and int

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entimetres (cm²) and guare metres (m²) and estimate the area of irregular shapes

osition and Direction dentify, describe and present the position of a shape following a flection or translation, using the appropriate nguage, and know that the shape has not

GEOMETRY

(Maths Week) Interpret data from catter and line graphs and draw graphs elating two variables rising from their own enquiry (R).

changed.

Financial Literacy Profit and Loss

Competencies 3D Shapes Angles (F)

Complete, read and interpret information in tables, including timetables.

Solve comparison, sum and difference problems using information presented in a line graph e.g. on a distance-time graph, how long did it take to travel a particular distance?

Connect work on coordinates and scales to their interpretation of time graphs

Competencies Conversion Equivalent Fractions (F)

solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling

Calculate the area of scale drawings using given measurements. e.g. calculate the area of a 5cm × 3cm garden on a scale drawing with a scale 1cm:2m (60m2)

Understand and use equivalences between metric and common imperial units such as inches, pounds and pints e.g. Given that an inch is approximately 2.5cm, calculate the metric equivalent of a foot (12 inches)

Consolidate: Times tables to x12 and extend to x25 x50 and x15. (F)

Competencies Percentage Fraction Decimals (F)

of 90°

Use angle sum facts and other properties to make deductions about missing angles

Use the properties of rectangles to deduce related facts and find missing lengths and angles e.g. all angles are right angles, diagonals are congruent (same length) and bisect each other (divide into two equal parts), one diagonal separates the rectangle into two congruent triangles...

Use the term diagonal and make conjectures about the angles formed by diagonals and sides, and other properties of quadrilaterals, e.g. using dynamic geometry ICT tools.

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles e.g. sort triangles and quadrilaterals into



Lowbrook Academy Maths Overview	Academy
	regular and irregular sets,
	realising that only the
	equilateral triangles and
	the squares are regular
	Position and Direction
	Identify, describe and
	represent the position of
	a shape following a
	reflection or translation,
	using the appropriate
	language, and know that
	the shape has not
	changed.
	STATISTICS
	Use and Interpret Data
	Complete, read and
	interpret information in
	tables, including
	timetables.
	Solve comparison, sum
	and difference problems
	using information
	presented in line graphs
	presented in line graphs
	Connect work on
	coordinates and scales to
	their interpretation of
	time graphs
	Begin to decide which
	representations of data
	are most appropriate and
	why
	,



Lowbrook Academy	Maths Overview	Academy
		Sports Week: Creating
		pie charts using data
		from a school sports
		survey.
		Consolidate:
		Times table to x12 and
		extend to x25 x50 and
		x15. (F)

Maths Overview



NUMBER

Number and Place Value Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit e.g. What must be added to 26 523 to change it to 54 525?

Round any whole number to a required degree of accuracy e.g. round 265 496 to the nearest 10 000 (270 000)

Solve number and practical problems that involve number, place value and rounding e.g. What is the largest 5-digit number whose digits sum to 20? (99200).

Year 6

Addition, subtraction, multiplication and division

Continue to use all the multiplication tables to 12×12 in order to maintain their fluency e.g. 84÷12

Continue to practise the four operations for larger numbers using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

Perform mental calculations, including with mixed

FRACTIONS Fractions (including decimals and percentages)

Use common factors to simplify fractions e.g. as the numerator and denominator have a common factor of 4, 12/16 can be simplified to 3/4; use common multiples to express fractions in the same denomination e.g. as the denominators have a common multiple of 12, 3/4 and 5/6 can both be expressed in twelfths i.e. 9/12 and 10/12 respectively

List equivalent fractions to identify fractions with common denominators

Compare and order fractions, including fractions >1 e.g. put these fractions in order from the smallest: 5/4, 5/8, 3/2, 14/8

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts e.g. order 4/5, 75%, 0.9, 19/20

ALGEBRA

Use symbols and letters to represent variables and unknowns in mathematical situations...

- missing numbers, lengths, coordinates and angles e.g. 3x=24 or the angles in a triangle are 35°, 120° and y°; find y
- mathematics and

NUMBER

Number and Place Value

Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit

Round any whole number to a required degree of accuracy e.g. Give an example of a number which you might round to the nearest 10? Nearest 10 000?

Use negative numbers in context, and calculate intervals across zero e.g. how much warmer is 5°C than -4°C? (9°C)

Solve number and practical problems that involve number. place value and rounding e.g. What is the smallest number which rounds to 35 000, to the nearest 1000? (34 500).

Addition, subtraction, multiplication and division

Continue to use all the multiplication tables to 12 × 12 in order to maintain their fluency

Continue to practise the four operations for larger numbers using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal

FRACTIONS **Ration and Proportion**

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts e.g. adjust a recipe for 4 people, to serve 6 people

Solve problems involving similar shapes where the scale factor is known or can be found e.g. two rectangular picture frames are the same shape, but one is bigger than the other; the smaller one measures 10cm by 15cm; the larger frame has a width of 30cm, what is its length?

Begin to use the notation a: b to record ratio

Solve problems involving the calculation of percentages (e.g. measures) such as 15% of 360 and the use of percentages for comparison

Link percentages of 360° to calculating angles of pie charts

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples e.g. for every egg you need three spoons of flour; how many eggs are needed for 12 spoons of flour?

NUMBER Number and Place Value

Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit

Round any whole number to a required degree of accuracy e.g. What is the smallest number which rounds to 500 000, to the nearest 1000? (499 500).

Use negative numbers in context, and calculate intervals across zero

Solve number and practical problems that involve number, place value and rounding e.g. What is the smallest 4-digit integer whose digits sum to 20? (10199).

Addition, subtraction, multiplication and division

Continue to use all the multiplication tables to 12 × 12 in order to maintain their fluency

Continue to practise the four operations for larger numbers using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long

ALGEBRA

Use symbols and letters to represent variables and unknowns in mathematical situations...

- missing numbers, lengths, coordinates and angles e.g. 68=6t-4 or the angles in a kite are x°, x°, 15° and 53°; find x, or plot points (x, y) where x+y=1
- mathematics and science formulae e.g. A=½(l×h)
 - arithmetic rules
 - generalising number patterns e.g. 6, 11, 16, 21, ... 5n+1
- number puzzles e.g. x+y=10 and 2x+y=13; find x and y

Express missing number problems algebraically e.g. I'm thinking of a number; I double it and subtract 12 from the result: the answer is 60: what was my number? (2x-12=60, so 2x=72, so x=36)

Use simple formulae expressed in words e.g. write a formula for the cost of a taxi journey, C, which is £2.10 plus £1.60 per kilometre, k. (C=2.10+1.60k)

Enumerate all possibilities of combinations of two variables e.g. list all the combinations of boys and girls in a class where there are twice as many boys as girls and between 25 & 35 children in the class altogether.

Generate and describe linear number sequences e.g. 6, 13,

ALGEBRA

Use symbols and letters to represent variables and



operations and large numbers $e.g. (13500 \times 2) \div 9 = 3000$

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why e.g. There are 6534 cars parked in a 3-storey car park; 1398 are on the first floor and 3765 are on the second floor; how many cars are parked on the third floor?

Solve problems involving addition, subtraction, multiplication and division e.g. 396 children and 37 adults went on a school trip; buses seat 57 people; how many buses were needed?

Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. e.g. find the perimeter of a football pitch with side lengths 105.3m and 46.8m (estimate: (105+45)×2=300m; actual: (105.3+46.8)×2=304.2m (same number of decimal places as numbers in the question)

Identify common factors, common multiples and prime numbers e.g. common factors of 12 and 15 are 1 and 3; common multiples of 4 and 6 are 12, 24, 36...; prime numbers are numbers with exactly 2 factors e.g. 2, 3, 5, 7, 11, 13, ...

FRACTIONS Fractions (including decimals

science formulae e.g. A=l×w

arithmetic rules e.g.
 a+b=b+a

Express missing number problems algebraically e.g. 17 = x + 4.5

Use simple formulae expressed in words e.g. write a formula for the number of months, m, in y years. (y=12m)

Enumerate all possibilities of combinations of two variables e.g. investigate how many different ways 2 red eggs can be placed in a 6-space egg carton, by starting with a 3-space carton, 4-space carton etc?

MEAUREMENT

Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places e.g.

4.52kg = 4520g; 1.005km = 1005m

Recognise that shapes with the same areas can have different perimeters and vice versa e.g. investigate rectangles with areas of 24cm2 to find which has the smallest perimeter

Recognise when it is possible to use formulae for area of shapes e.g. find the length of written method of long multiplication

Perform mental calculations, including with mixed operations and large numbers

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why e.g. Three people won £365 496 on the lottery; one received £197 540, another received £40 010; how much did the third person receive?

Solve problems involving addition, subtraction, multiplication and division e.g. I think of a number and subtract 5.6 from it then multiply the result by 6; the answer is 7.2; what was my number?

Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy e.g. A box contains approximately 52 matches; how many boxes can be filled with 10 000 matches?

Identify common factors, common multiples and prime numbers e.g. Find the smallest common multiple of 5, 6 and 8 (120)

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and unknowns in mathematical situations...

- missing numbers, lengths, coordinates and angles e.g.
 5y+1=16 or the angles in an isosceles triangle are 50°, y° and y°; find y
- mathematics and science formulae e.g. P=2(I+w)
- arithmetic rules e.g. a×b=b×a
- generalising number patterns
 e.g. 3, 6, 9, 12, ... 3n
- number puzzles e.g. a+b=8.5 and a×6=15; find a and b

Express missing number problems algebraically e.g. the perimeter of a triangle is 20cm; it has two sides of length 8cm; what is the length of the other side? (20=2×8+x so x=4cm)

Use simple formulae expressed in words e.g. write a formula for the cost of a party, C, which costs £100 plus £2 per person, n. (C=100+2n)

Enumerate all possibilities of combinations of two variables e.g. investigate all possible half-time scores when the full time score of a football match is 4:2

Generate and describe linear number sequences e.g. write the first 5 terms in a 'decrease by 9' sequence starting from 20, or find the nth term of a simple sequence e.g. 4, 8, 12, 16, ... 4n

Find pairs of numbers that satisfy number sentences

multiplication

Perform mental calculations, including with mixed operations and large numbers e.g. $(13 \ 400 + 10 \ 600) \times 4 \div 12$ = 8000

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why e.g. Write a number story for this number sentence: 23.5 = 20.4 + 4.9 - 1.8

Solve problems involving addition, subtraction, multiplication and division e.g. Club A sold 3500 tickets for £9.50 each and Club B sold 8150 tickets for £3.50; how much more money did Club A make than Club B?

Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

Identify common factors, common multiples and prime numbers e.g. Find the highest common factor of 120, 90 and 75 (15) or Find all the prime numbers between 80 and 100.

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context 20, 27, ... 7n-1

Find pairs of numbers that satisfy number sentences involving two unknowns. e.g. a – b = 5, give pairs of values that a and b could have (e.g. 8, 3 or 6.5, 1.5 or ...)

MEASUREMENT

Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places

Recognise that shapes with the same areas can have different perimeters and vice versa e.g. investigate parallelograms with areas of 24cm2 to find which has the smallest perimeter

Recognise when it is possible to use formulae for area and volume of shapes e.g. find the height of cuboid which is 12cm long, 2cm high and has the same volume as a cube with sides of 6cm

Calculate the area of parallelograms and triangles, relating it to the area of rectangles

Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate e.g. A jug holds





and percentages)

Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places $e.g.\ 205.6 \div 100$ =2.056

Multiply one-digit numbers with up to two decimal places by whole numbers *e.g.* 0.6 x 7

Ratio and Proportion

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts e.g. adjust a recipe for 4 people, to serve 20 people

GEOMETRY Properties of Shape

Recognise, describe and build simple 3-D shapes, including making nets e.g. investigate different nets for a cube, recognising when 'nets' will fold to make a cube and when they will not.

Position and Direction

Describe positions on the full coordinate grid (all four quadrants) e.g. (-3, 7)

Draw and translate simple shapes on the coordinate plane and reflect them in the axes.

Predict missing coordinates of quadrilaterals by using the properties of shapes, which may be expressed algebraically rectangle which is 4m wide and has the same area as a square with a side length of 8cm.

Calculate the area of triangles, relating it to the area of rectangles, e.g. compare the 'counting squares' method to using the formula for the area of a triangle

GEOMETRY Properties of shapes

Draw 2-D shapes using given dimensions and angles using measuring tools and conventional markings and labels for lines and angles e.g. same length lines, parallel lines and same size angles:

STATISTICS Use and interpret data

Interpret and construct pie charts and line graphs and use these to solve problems e.g. draw a pie chart to show how Jack spends his £36 birthday money:

- £9 snacks
- £15 toys
- £12 books

Encounter and draw graphs relating two variables, arising from their own enquiry and in other subjects e.g. a scattergraph connecting heights of children and their long-jump distance

Competencies:

-Angles
-Properties of 2D Shape

interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

Use their knowledge of the order of operations to carry out calculations involving the four operations and using brackets; e.g. $2 + 1 \times 3 = 5$ and $(2 + 1) \times 3 = 9$.

FRACTIONS Fractions (including decimals and percentages)

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

List equivalent fractions to identify fractions with common denominators

Compare and order fractions, including fractions >1 e.g. put these fractions in order from the smallest: 5/4, 5/6, 3/2, 4/3

Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. 5/8

Use understanding of relationship between unit fractions and division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity e.g. if ¼ of a length is 36cm, then the whole length is $36 \times 4 = 144$ cm

Add and subtract fractions with

involving two unknowns. e.g. a – b = 5, give pairs of values that a and b could have (e.g. 8, 3 or 6.5, 1.5 or ...) or. p×q=24; if p and q are both positive, even numbers, list all the possible combinations (e.g. 2×12, 4×6,

...)

MEASUREMENT

Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places

Recognise that shapes with the same areas can have different perimeters and vice versa e.g. investigate triangles with areas of 12cm2 to find which has the smallest perimeter

Recognise when it is possible to use formulae for area and volume of shapes e.g. find the length of the side of a cube with a volume of 27cm3

Calculate the area of parallelograms and triangles, relating it to the area of rectangles, e.g. compare the 'counting squares' method to using the formula for the area of a parallelogram

Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where Use their knowledge of the order of operations to carry out calculations involving the four operations and using brackets e.g. $14 \times (29 - 12) + 7$ = 245

FRACTIONS Fractions (including decimals and percentages)

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

List equivalent fractions to identify fractions with common denominators

Compare and order fractions, including fractions >1 e.g. put these fractions in order from the smallest: 5/4, 5/6, 3/5, 4/3

Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. 5/8

Use understanding of relationship between unit fractions and division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity e.g. if 1/5 of a mass is 150g, then the whole mass is 150 × 5 = 750g

Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions 550ml; how may jugs of water are needed to fill a 4.8 litre bucket?

convert between miles and kilometres and other units commonly used e.g. use a conversion line graph or be able to work out that 6 pints of milk is a bit more than 3 litres

calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3) and extending to other units, such as mm3 and km3.

Begin to use compound units for speed e.g. miles per hour

GEOMETRY Properties of shapes

Draw 2-D shapes using given dimensions and angles using measuring tools and conventional markings and labels for lines and angles e.g. construct a triangle or complete a parallelogram with given lengths and angles

Recognise, describe and build simple 3-D shapes, including making nets

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons

Recognise angles where they



Maths Overview

Competencies:

-Fractions, Decimals and Percentages -Equivalent Fractions - Conversions (F). -Properties of 3D Shape -Roman Numerals (F) different denominators and mixed numbers, using the concept of equivalent fractions e.g. 1/2 + 1/8 = 5/8

Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places e.g. × 100 = 140.8

Multiply one-digit numbers with up to two decimal places by whole numbers e.g. 0.06 x 8

Use written division methods in cases where the answer has up to two decimal places e.g. $458 \div 8 = 57.25$

Multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers e.g. 3.15 × 62

Solve problems which require answers to be rounded to specified degrees of accuracy and check the reasonableness of answers.

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. e.g. find a fraction which lies between 0.4 and 0.5

STATISTICS Use and interpret data

Calculate and interpret the mean as an average. e.g. find

appropriate e.g. Ben walked 850m to the bus stop, travelled on a bus for 8.67km and then a train for 120.9km; how far did he travel altogether?

Convert between miles and kilometres and other units commonly used e.g. know that a mile is approximately 1.6km (and 1km is approximately 0.6miles) and use this to make rough calculations

Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3) and extending to other units, such as mm3 and km3.

GEOMETRY

Properties of shapes

Draw 2-D shapes using given dimensions and angles using measuring tools and conventional markings and labels for lines and angles e.g. complete a triangle with given lengths and angles

Recognise, describe and build simple 3-D shapes, including making nets e.g. visualise 3-D shapes drawn on isometric paper and begin to draw 2-D representations of 3-D shapes

Compare and classify geometric shapes based on their properties and sizes (e.g. parallel sides, line symmetry, types of angles etc) and find unknown angles in any e.g. 13/4 - 5/6 = 11/12

Use a variety of images to support understanding of multiplication with fractions

Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{2}$ = $\frac{1}{8}$

Divide proper fractions by whole numbers e.g. $1/3 \div 2 = 1/6$

Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places e.g. ÷

Multiply one-digit numbers with up to two decimal places by whole numbers e.g. 0.04 x

Use written division methods in cases where the answer has up to two decimal places e.g. $693 \div 15 = 14.2$

Multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers e.g. 93.15 ÷ 5

Solve problems which require answers to be rounded to specified degrees of accuracy and check the reasonableness of answers.

Recall and use equivalences

meet at a point, are on a straight line, or are vertically opposite, and find missing angles describing them algebraically e.g. a=180-(b+c)

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius describing it algebraically as d=2×r

Position and Direction

Describe positions on the full coordinate grid (all four quadrants)

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Predict missing coordinates of quadrilaterals by using the properties of shapes, which may be expressed algebraically e.g. translating vertex (a, b) to (a-2, b+3), or find the other vertices of a square, given two of them are (a, b) and (a+d, b+d)

Draw and label a pair of axes in all four quadrants with equal scaling.

STATISTICS

Use and interpret data

Calculate and interpret the mean as an average.

Interpret and construct pie charts and line graphs and use these to solve problems e.g.



Lowbrook Academy	Maths Overview
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Lowbrook Academy	ok Academy Maths Overview			Academy	
	tł	the mean height of these	triangles, quadrilaterals, and	between simple fractions,	connect conversion from
	ch	hildren: 1.2m, 1.07m and	regular polygons	decimals and percentages,	kilometres to miles in measure
		1.12m		including in different contexts	to its graphical representation.
			Recognise angles where they	e.g. find a decimal which lies	
		Competencies:	meet at a point, are on a	between 3/8 and ½	Encounter and draw graphs
		-Square Roots	straight line, or are vertically		relating two variables, arising
		-Time Facts	opposite, and find missing	Ratio and Proportion	from their own enquiry and in
			angles describing them	Solve problems involving the	other subjects.
			algebraically e.g. a=180-(b+c).	relative sizes of two quantities	
				where missing values can be	Sports Week: Creating scatter
			Position and Direction	found by using integer	diagrams and interpreting
			Describe positions on the full	multiplication and division	data from athletic
			coordinate grid (all four	facts e.g. adjust a recipe for 6	performances.
			quadrants)	people, to serve 15 people	
			Draw and translate simple	Solve problems involving	
			shapes on the coordinate	similar shapes where the scale	
			plane, and reflect them in the	factor is known or can be	
			axes.	found e.g. On a map 2cm	
				represents 1km; a road	
			Predict missing coordinates of	measures 7cm on the map,	
			quadrilaterals by using the	how long is it in real life?	
			properties of shapes, which		
			may be expressed algebraically	Use the notation a : b to record	
			e.g. translating vertex (a, b) to	ratio	
			(a-2, b+3), or find the other		
			vertices of a square, given two	Solve problems involving the	
			of them are (a, b) and (a+d,	calculation of percentages (e.g.	
			b+d)	measures) such as 15% of 360	
				and the use of percentages for	
			STATISTICS	comparison	
			Use and interpret data		
			Interpret and construct pie	Link percentages of 360° to	
			charts and line graphs and use	calculating angles of pie charts	
			these to solve problems e.g.		
			create a conversion graph for	Solve problems involving	
			pounds and Euros	unequal sharing and grouping	
				using knowledge of fractions	
			Encounter and draw graphs	and multiples e.g. the ratio of	
			relating two variables, arising	boys to girls in class 6 is 1:2;	
			from their own enquiry and in	there are 8 boys, how many	
			other subjects.	girls are there?.	
			Competencies:	Comment	
			Retest, revise and consolidate	Competencies:	

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Lowbrook Academy	Maths Overv	iew		Academy
			Retest, revise and consolidate	
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Key:

Reasoning (R)
Mastery (M)
Problem solving (PS)
Fluency (F)