

purple mash

Supporting the National Curriculum 2014 with Purple Mash

Mathematics

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Each year group contains examples of how the creative tools can be effectively used to support National Curriculum 2014. Looking at examples from year groups above and below may provide additional ideas. Additional resources are added regularly. See the mathematics categories within Purple Mash for additional content.

The curriculum map also contains references to the 'Ready-to-progress criteria' which are provided in the DfE document: Mathematics Guidance: Key Stages 1 and 2. In this publication, these criteria are identified as the most important points of conceptual knowledge and understanding which children need as they progress from year 1 to year 6.

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Year 1

Number - Number and Place Value

National Curriculum Statement	Purple Mash Resource	Direct link to resource
Pupils should be taught to:	Use of Mathematics printable resources	Printable Number Lines, Number cards,
		Number Squares, Place value, special
Count to and across 100, forwards		numbers resources
and backwards, beginning with 0 or		Printable Place Value worksheets
1, or from any given number.		Printable Number Bonds
Count, read and write numbers to		Printable Times Tables resources
100 in numerals; count in multiples of		Mini Mash Number resources
twos, fives and tens	Ready-made activities in Place Value	Digits and words to 20
Given a number, identify one more	Activities	Digits and words to 100
and one less.		Number sequencing
Identify and represent numbers using		Number Bonds to 10
objects and pictorial representations		Number Bonds to 20 – pairs game
including the number line, and use	Ready-made activities in Place Value	Number Bonds to 20 – spreadsheet activity
the language of: equal to, more than, less than (fewer), most, least.	Activities	<u>1 more than, 1 less than</u>
• Read and write numbers from 1 to 20 in numerals and words.		<u>1 more, 1 less: Mixed questions</u>
		Counting in Twos – Number Sequences
1NPV-1 Count within 100, forwards or		Counting in Fives – Number Sequences
backwards, starting with any number.		Number Chart Patterns
		Number Chart Missing Numbers
		Find the number on the number line

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National Curriculum Statement	Purple Mash Resource	Direct link to resource
1NPV-2 Reason about the location of		Missing numbers on the number line
numbers to 20 within the linear number	Use <u>2Quiz</u> to create your own number	2Quiz Resources
system, including comparing using $< >$	sequencing and cloze quizzes.	
and = <u>1NF-2 Count forwards and backwards</u> in multiples of 2, 5 and 20.	2Race Set up multiplayer games. Choose your track type and question types; pre-set choices include:	 One less/more than Odd/eve Comparison Number bond Addition Subtraction Multiplication Division Times tables
	Use <u>2Investigate</u> example databases to explore the language of: equal to, more than, less than (fewer), most, least. Use <u>2Investigate</u> example database Numbers to investigate numbers that are odd/even, divisible by 5 by using the search options in the database to display them pictorially.	2Investigate Resources 2Investigate Resources



Number - Addition and Subtraction

National Curriculum Statement	Purple Mash Resource	Direct link to resource
Pupils should be taught to:	Use of Mathematics printable resources	Printable Number Lines, Number cards,
		Number Squares, Place value, special
Read, write and interpret mathematical		numbers resources
statements involving addition (+),		Printable Number Bonds
subtraction (-) and equals (=) signs.		Mini Mash Number resources
 Represent and use number bonds and 	Ready-made activities in Addition and	Addition and Subtraction to 20
related subtraction facts within 20.Add and subtract one-digit and two-digit	Subtraction	Addition and Subtraction to 20 cloze
numbers to 20, including zero.		Addition and Subtraction to 20 pairs game
 Solve one-step problems that involve 	Maths Quiz	2Quiz
addition and subtraction, using concrete	Generate your own maths quizzes. Test	
objects and pictorial representations, and	the children on +, - or X of varying	2Quiz Resources
missing number problems such as 7 = \Box –	complexity.	
9.	2Race	One less/more than
	Set up multiplayer games. Choose your	Odd/eve
<u>1NF-1 Develop fluency in addition and</u>	track type and question types; pre-set	Comparison
subtraction facts within 10.	choices include:	Number bond
		Addition
1AS-1 Compose numbers to 10 from 2		Subtraction
parts and partition numbers to 10 into		Multiplication
parts, including recognising odd and even		Division
<u>numbers.</u>		Times tables

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<u>1AS-2 Read, write and interpret equations</u> <u>containing addition (+), subtraction (-) and</u> <u>equals (=) symbols, and relate additive</u> <u>expressions and equations to real-life</u> <u>contexts.</u>	Bond Bubbles Aim the bubble blower by clicking near a target bubble at the top of the screen. If the total of the bubble and the one it hits are the target number the bubbles will fall. Three levels of challenge Up to 20, 200 and finally 400.	Use Bond Bubbles Challenge A. Use the teacher icon at the top of the screen to change the target number
	2Calculate Spreadsheets Includes premade lesson plans and 2 + 9 =? 5 + 7 =? 6 + 5 =? 5 + 9 =? 8 + 4 =? 3 + 5 =? videos to develop number problem-solving skills. Create your own activities to set as 2Dos.	Can be accessed by pupils from within 2Calculate tool. 2Calculate Resources 2Calculate Lessons: Shopping Animals Counting Fish On a Plate 10, 20, 30 Magic 12 1p and 2p Going Shopping Special Offers 2Pattern



A-Fish-metric Use level 1: Basic or level 2:Adding and Subtracting. The levels consolidate addition and subtraction skills via games.	Current:2 Target:5 $3 + 2 = 5$
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Number – Multiplication and Division

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:Solve one-step problems	Use of Mathematics printable resources	Number lines and 100 squares	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources
involving multiplication and division, by calculating the		Times Tables	Printable Times Tables resources
answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Ready-made activities in <u>Multiplication & Division</u> <u>Category</u>	2Go activity – Counting in 2s -Level 1 -Level 2 2Go activity – Counting in 5s -Level 1 -Level 2 2Go activity – Counting in 10s -Level 1 -Level 2	Count in 2s: Level 1 Count in 2s: Level 2Count in 5s: Level 1 Count in 5s: Level 2Count in 10s: Level 1 Count in 10s: Level 1 Count in 10s: Level 2
	<u>Maths Quiz</u> Generate your own maths quizzes. Test the children on +, - or X of varying complexity.	2Quiz	2DIY & 2Quiz Resources

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2Race Set up multiplayer games. Choose yo track type and que types	ur 🗰	 Pre-set choices include: One less/more than Odd/eve Comparison Number bond Addition Subtraction Multiplication Division Times tables
Tabletoons The ch develop their multiplication skills through song. The children create the musical playlist us range of different s Games consolidate skills. Ranging from to 12x	s eir own ing a songs. e these	Watch the help video from within Table Toons to find out how to make full use of this tool.
2Calculate Spread Includes premade plans and videos t develop number problem-solving s	lesson o	2Calculate Resources



Create your own	Can be accessed by pupils from	
activities to set as 2Dos.	within 2Calculate tool.	
2Calculate Lessons:		
10, 20, 30		
Magic 12		
Going Shopping		
Special Offers		



Number – Fractions

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics	Fraction Walls	Printable Fractions Resources
Recognise, find and name a	printable resources	Mini Mash Number resources	Mini Mash Number resources
 Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. 	Fraction Wall Guide the falling fractions as they drop down from the top of the screen. Position the fractions so they contain a whole. Three levels of challenge that increases the complexity of the numbers used and the speed.	Score: 1 Lavel: 1 met + P 4	Use Challenge A, Level 1
	Fractonio's Pizzeria Develop fraction skills with 3 levels of difficulty. Ready-made activities in	Level 1: Pizza Rookie Halves	Level 1: Pizza Rookie asks the children to use simple fractions to create a pizza. Level 2: Pizza Master encourages the children to use mixed fractions and level 3: Pizza King converts fractions into percentages. <u>Y1 fractions halves</u>
	Fractions Category	Quarters	Y1 fractions quarters

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National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Ready Made Activities In Measurement Category	Longer or Shorter	Longer of Shorter
 Compare, describe and solve practical problems for: Lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]. Mass/weight [for example, heavy/light, heavier than, lighter than]. Compare, describe and solve practical problems for: Length and Weight 2Calculate Spreadsheets Create a spreadsheet for to record the lengths and weights of classroom obj Show children how the spreadsheet can sort the automatically and order being the spreadsheet can sort the spreadsheet can spreadsheet	<u>2Calculate Spreadsheets</u> Create a spreadsheet for pupils to record the lengths and weights of classroom objects.	Tallest & Shortest <u>2Calculate Spreadsheets</u>	<u>Tallest & Shortest</u> <u>2Calculate Resources</u>
 example, full/empty, more than, less than, half, half full, quarter]. Time [for example, quicker, slower, earlier, later] Measure and begin to record the following: Lengths and heights mass/weight capacity and volume 	Length and Weight 2Investigate databases Create a database of objects with information including fields; length, weight, capacity, waterproof (y/n), stackable (y/n). You can pose questions like which item would be best for packing your clothes in to go away for a week? or a day? which would be best for bringing water to school in?	<u>2Investigate</u>	<u>2Investigate Resources</u>

Measurement

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National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 time (hours, minutes, seconds) Recognise and know the value of different 	which would be good for packing your toys in? Then show how to search the database.		
denominations of coins and notes.Sequence events in	Time Use of Mathematics printable resources	Clock proformas, days of the week, months of the year resources.	Printable Time Resources
chronological order using language [for example,		Worksheets to accompany ready-made activities	Printable Time Resources
 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. Tell the time to the hour and half past the hour and draw 	<u>Time</u> <u>Ready-made activities in Time</u> <u>Category</u>	Telling the time quizSequencing activity – Racing positionsWhat's the Time Mr. Wolf? –10 progressive cloze activities with accompanying printable worksheetsPaint Projects – Clock 1 Draw the hands on the clock. Then draw a picture to show	Y1 Time Quiz Y1 Time: Racing Positions What's the time Mr Wolf? - worksheets Paint project: Clock (A)
the hands on a clock face to show these times.		what happens at that time. Paint Project – Clock 2 Drag the numbers onto the digital clock face. Then draw a picture to show what happens at that time. Paint Project – Clock 3	Paint project: Clock (D) Paint project: Big Clock



National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
		Shade out the numbers on a digital clock face and draw what happens.	
	<u>Time</u> Create 2Quiz sequencing activities where the children place the days of the week, months, years or events in chronological order using the required language.	<u>2Quiz</u>	2DIY & 2Quiz Resources
	Money Ready-made 2Calculate Spreadsheet – Shopping, Going Shopping and Special offers Using a spreadsheet to price objects and pay for them with coins. Includes lesson plan, premade spreadsheet and video to develop number problem- solving skills. You can also create your own 2Calculate activities to set as 2Dos.	2Calculate Spreadsheets Activity can be accessed by pupils from within 2Calculate tool.	2Calculate Resources
	Money Ready-made activities in Money <u>Category</u>	Money pairs game Money up to 10p	Money pairs game Money up to 10p (A) Money up to 10p (B)



National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
		Money up to 20p	Money up to 20p (A)
			Money up to 20p (B)
		Money up to 50p	Money up to 50p (A)
			Money up to 50p (B)
		Money up to £1	Money up to £1 (A)
			Money up to £1 (B)
			Money up to £1 (C)
			Money up to £1 (D)
	Money Maths City 1: Toyshop videos and money activity Fill the shelves with toys and add prices, add toys to the shopping basket then pay (with 1p coins) Financial Capability activities Aimed at Y1-6 a collection of a variety of activities	Financial Education	Watch the help video within the program for guidance on what children do in the activities. Printable resources are also available <u>Maths City Resources</u> <u>Financial Capability Lesson Ideas</u>
	Capacity	2Calculate Spreadsheets	
	2Calculate Spreadsheets		
	Create a spreadsheet for pupils		
	to record the capacities of		
	classroom objects.		

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National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
	2Quiz – Sequencing and	2Quiz	2DIY & 2Quiz Resources
	<u>labelling</u>		
	Create quizzes where children		
	order and label lengths,		
	weights, capacities or time		
	using full/empty, more than, less		
	than, half, half full, quarter.		



Geometry - Properties of a Shape

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable	2D and 3D shape dominoes,	Printable Shape Resources
	resources	memory games and posters	
 Recognise and name 	Paint Projects		
common 2-D and 3-D	Basic Shapes (2D)	Paint project: Basic Shapes	
shapes, including:	Rectangles	Paint project:	
 2-D shapes [for example, 		Rectangular_things	
rectangles (including	Circles	Paint project: Round Things	
	Squares	Paint project: Square Things	
squares), circles and	Triangles	Paint project: Triangular Things	
triangles]	2D shape pairs game	2D shape pairs game	
\circ 3-D shapes [for example,	Writing Projects	Writing Project: 3D Shapes	Events to the B Compared States and All States and
cuboids (including cubes),	3D Shapes		
pyramids and spheres].	Choose 6 3D shapes and	Writing Project: Polygons	
	describe their properties	Lines Face	
1G-1 Recognise common 2D			
and 3D shapes presented in			
	Polygons		
different orientations, and	Choose 6 polygons and		
know that rectangles,	describe their properties	Writing Project: Triangles	
<u>triangles, cuboids and</u>		A Max Burres A Max Burres Proc Back Describe the properties of a triangle. A	
<u>pyramids are not always</u>			
<u>similar to one another.</u>			
	Triangle Properties		

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1G-2 Compose 2D and 3D	Describe the properties of a		
shapes from smaller shapes to	triangle		
match an example, including	2Quiz	2Quiz	2DIY & 2Quiz Resources
manipulating shapes to place	Create 2Quiz labelling activities where the children label objects		
them in particular orientations.	with their shapes (2D and 3D).		
	2Design and Make Pupils can use the 3D shapes in 2Design and Make to create nets with topic related designs, print them and fold them into the 3D shapes. Pupils could make 3D boxes in different 3D shapes.		2Design & Make Guide

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Geometry - Position and Direction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Describe position, direction and movement, including whole, half, quarter and three quarter 	2Go Use the ready-made templates to guide the bee around, using directional controls. Change the input method in settings to extend children's knowledge of directional control. There are several Challenges for children to try.	1 2 3 4 5 6	2Go User Guide and Lesson Ideas

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Year 2

Number - Number and Place Value

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. 	Use of Mathematics printable resources	Number lines, 100 squares, number cards, place value Times Tables – for identifying number patterns when counting	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resourcesPrintable Place Value worksheetsPrintable Times Tables resources
 Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers using different representations, 	Ready-made activities	in 2s, 3s, 5s and 10s. Includes printable games. Digits and words to 100 Numbers to 100 quiz Number sequencing	Digits and words to 100 Numbers to 100 quiz Number sequencing
 including the numberline. Compare and order numbers from 0 up to 100; use and = signs. Read and write numbers to 		Number Bonds to 20 – pairs game Number Bonds to 20 – spreadsheet activity	Number Bonds to 20 – pairs game Number Bonds to 20 – spreadsheet activity Tage and Open
at least 100 in numerals and in words.		Tens and Ones Order Numbers (<,>,= signs) Counting in 2s, 3s and 5s	Tens and Ones Order Numbers Counting in Steps

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Use place value and number		Place Value Models – Tens &	Tens & Ones
facts to solve problems.		Ones	
		Place Value Models – Up to	Up to hundreds
2NPV-1 Recognise the place		hundreds	op to hundreds
value of each digit in two-digit	Use 2Quiz Sequencing	2Quiz	2DIY & 2Quiz Resources
numbers, and compose and	questions to create		
decompose two-digit numbers	some number		
using standard and non-	sequencing and cloze		
standard partitioning.	quizzes. Can the children		
	continue the sequence in		
2NPV-2 Reason about the	their books?		
location of any two-digit	2Race	2Race	
number in the linear number	Set up multiplayer	(
system, including identifying	games. Choose your		
the previous and next multiple	track type and question		
<u>of 10.</u>	types; pre-set choices	重いた	
	include:		
	 One less/more than Odd/eve Comparison Number bond Addition Subtraction Multiplication Division Times tables 		



	e <u>2Investigate</u>	<u>2Investigate</u>	2Investigate Resources
	ample databases to		
	•		
	plore the language of:		
	ual to, more than, less		
	n (fewer), most, least.		
Use	e <u>2Investigate</u>	<u>2Investigate</u>	2Investigate Resources
exa	ample database		
Nu	mbers to investigate		
nur	mbers that are		
odc	d/even, divisible by 5		
by	using the search		
opt	tions in the database		
to c	display them		
pict	torially.		
2Ca	alculate Place Value	https://www.purplemash.com/si	
Spr	readsheets.	<u>te#app/pup/2calc_place_value_</u>	
Hel	lps children recognise	<u>TU</u>	
the	e place value of each		
digi	it in a two-digit		
nur	mber (tens, ones). Use		
as a	a whiteboard resource		
or f	for individuals to		
cha	allenge and test		
the	emselves.		



Number - Addition and Subtraction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:solve problems with addition and subtraction:	Use of Mathematics printable resources	Number lines, place value and 100 squares	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources Printable Place Value worksheets
 Using concrete objects and pictorial representations, including those involving numbers, quantities and 		Number bonds	Printable Number Bonds
 measures. Applying their increasing knowledge of mental and 	Ready-made activities in Addition & Subtraction Category	Number bonds to 20 pairs game	Number bonds to 20 pairs game
written methods. • Recall and use addition and	Subtraction Category	Number bonds to 100 in 10s pairs game	Number bonds to 100 in 10s pairs game
subtraction facts to 20 fluently, and derive and use related facts up to 100.		Matching Models (+ & -)	Matching Models
 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: A two-digit number and ones. 	2Race Set up multiplayer games. Choose your track type and question types; pre-set choices include:	2Race	2Race
 A two-digit number and tens. 	One less/more thanOdd/eve		

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 Two two-digit numbers. Adding three one-digit numbers Show that addition of two numbers can be done in any order (commutative) and subtraction of one number 	 Comparison Number bond Addition Subtraction Multiplication Division Times tables 		
from another cannot.			
• Recognise and use the inverse	Maths Quiz	2Quiz	2DIY & 2Quiz Resources
relationship between addition	Generate your own		
and subtraction and use this	maths quizzes. Test the		
to check calculations and	children on +, - or X of		
solve missing number	varying complexity.		
problems.	Maths Cloze	<u>2Quiz</u>	2DIY & 2Quiz Resources
	Use 2Quiz to create		
2NF-1 Secure fluency in	some number		
addition and subtraction facts	sequencing and cloze		
within 10, through continued	quizzes.		
practice.	Pairs	2DIY Pairs	2DIY & 2Quiz Resources
	Create your own		
2AS-1 Add and subtract	matching pairs game of		
across 10.	varying complexity.		
	Match number bonds to		
2AS-2 Recognise the	20, maths questions		
subtraction structure of	with their answer.		

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'difference' and answer questions of the form, "How many more?".2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.2AS-4 Add and subtract	Bond Bubbles Aim the bubble blower by clicking near a target bubble at the top of the screen. If the total of the bubble and the one it hits are the target number the bubbles will fall. Three levels of challenge Up to 20, 200 and finally 400.	Score: 0 Lovel: 1 P P P P P P P P P P P P P P P P P P	Use Bond Bubbles Challenge A. Use the teacher icon at the top of the screen to change the target number
2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.	2Calculate Spreadsheets Includes premade lesson plans and videos to develop number problem-solving skills. Create your own activities to set as 2Dos. 2Calculate Lessons: Shopping On a Plate 1p and 2p Going Shopping Special Offers 2Pattern	2 + 9 =? 5 + 7 =? 6 + 5 =? 5 + 9 =? 6 + 5 =? 5 + 9 =? 8 + 4 =? 3 + 5 =? Can be accessed by pupils from within 2Calculate tool. State tool.	2Calculate Resources

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Number – Multiplication and Division

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Number lines and 100 squares	Printable Number Lines, Number cards, Number Squares, Place value, special
 Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. 		Times Tables	numbers resources Printable Times Tables resources
 Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in 	Ready-made activities	2Go activity – Counting in 2s -Level 1 -Level 2 2Go activity – Counting in 5s -Level 1 -Level 2 2Go activity – Counting in 10s -Level 1 -Level 2	Counting in 2s, Level 1 Counting in 2s, Level 2Counting in 5s, Level 1 Counting in 5s, Level 2Counting in 10s, Level 1 Counting in 10s, Level 2
 any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication 		Odd and Even Multiplication Facts for 2,5,10 times tables. Arrays – Division Statements Multiplication Expressions Relating ÷ and x to objects Division by counting equal groups	Odd and EvenMultiplication Facts for 2,5,10 timestables.Arrays – Division StatementsMultiplication ExpressionsRelating Operators to ObjectsDivision by counting equal groups

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and division facts including		Arraya as repeated addition	Arraya as repeated addition Expressions
and division facts, including		Arrays as repeated addition –	Arrays as repeated addition – Expressions
problems in contexts.		Expressions	
		Arrays as repeated addition –	<u>Arrays as repeated addition – matching</u>
2MD-1 Recognise repeated		matching statements to array.	statements to array
addition contexts, representing	Use <u>2Investigate</u>	<u>2Investigate</u>	2Investigate Resources
them with multiplication	example database		
equations and calculating the	Numbers to investigate		
product, within the 2, 5 and 10	numbers that are		
multiplication tables.	odd/even, divisible by 5		
	by using the search		
2MD-2 Relate grouping	options in the database		
problems where the number of	to display them		
groups is unknown to	pictorially.		
multiplication equations with a	Maths Quiz	2Quiz	2DIY & 2Quiz Resources
missing factor, and to division		Sorting numbers in the 2, 3, 5 & 10	
equations (quotitive division).	Generate your own	36 45 10 30 15 4	
	maths quizzes. Test the		
	children on +, - or X of		
	varying complexity.	Sort the numbers initial example division on the Vene diagram.	
	Use Venn diagrams (in	Example at <u>Y3 Venn Multiples</u>	
	grouping) to explore		
	number patterns e.g.		
	numbers in 2x table, in		
	5x table (in both).		
	Children can develop		
	their own.		



Table ToonsThe children developtheir multiplication skillsthrough song. Thechildren create their ownmusical playlist using arange of different songs.Games consolidate theseskills. Ranging from 2xto 12x	Tabletoons © TIMPS TABLO © 10 10 10 10 10 10 10 0K • Games 3	Watch the help video from within Table Toons to find out how to make full use of this tool.
2CalculateSpreadsheetsIncludes premade lessonplans and videos todevelop numberproblem-solving skills.	2Calculate Spreadsheets	<u>2Calculate Resources</u> Create your own activities to set as 2Dos.
2Race Set up multiplayergames. Choose yourtrack type and questiontypes; pre-set choicesinclude:• One less/more than• Odd/eve• Comparison• Number bond• Addition	2Race	2Race

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 Subtraction Multiplication Division Times tables 		
A-Fish-metric Develop basic number skills with 4 levels of difficulty. Levels 1 an cover addition and subtraction, level 3 multiplication and lev advanced multiplicati	nd 2 vel 4	Current 2 Target 8

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Number - Fractions

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Recognise, find, name and write fractions 1/3, 1/4, 2/4, and 3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2. 	Use of Mathematics printable resources	Fraction Walls	Printable Fractions Resources
	Fraction Wall Guide the falling fractions as they drop down from the top of the screen. Position the fractions so they contain a whole. Three levels of challenge that increases the complexity of the numbers used and the speed.	Score: 1 Level: 1 met - 2	Use Challenge A, Levels 2-4
	Fractonio's Pizzeria Develop fraction skills with 3 levels of difficulty.	Level 1: Pizza Rookie	Level 1: Pizza Rookie asks the children to use simple fractions to create a pizza. Level 2: Pizza Master encourages the children to use mixed fractions and level 3: Pizza King converts fractions into percentages.
	Ready-made activities	Halves	Halves
		Quarters	<u>Quarters</u>
		Equivalent Fractions	Equivalent Fractions

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National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Length and Weight	2Calculate Spreadsheets	2Calculate Resources
	2Calculate Spreadsheets		
Choose and use appropriate	Create a spreadsheet for pupils		
standard units to estimate	to record the lengths and		
and measure length/height in	weights of classroom objects.		
any direction (m/cm); mass	Show children how the		
(kg/g); temperature (°C);	spreadsheet can sort them		
capacity (litres/ml) to the	automatically and order by		
nearest appropriate unit,	length or weight.		
using rulers, scales,	Length and Weight	<u>2Investigate</u>	2Investigate Resources
thermometers and	2Investigate databases		
measuring vessels.	Create a database of objects		
 Compare and order lengths, 	with information including		
mass, volume/capacity and	fields; length, weight, capacity,		
record the results using >, <	waterproof (y/n), stackable (y/n).		
and =.	Use the search facilities to		
 Recognise and use symbols 	practice the use of $>$, $<$ and =		
for pounds (£) and pence (p);	symbols.		
combine amounts to make a	Time	Clock proformas, days of the	Printable Time Resources
particular value.	Use of Mathematics printable	week, months of the year	
Find different combinations	resources	resources.	
of coins that equal the same		Worksheets to accompany	Printable Time Resources
amounts of money.		ready-made activities	

Measurement

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Solve simple problems in a	Time	Telling the time quiz	https://www.purplemash.com/#app/p
practical context involving	Ready-made activities in Time	· •	up/maths_activities_Y1_time_quiz
addition and subtraction of	Category	Sequencing activity – Racing	https://www.purplemash.com/#app/p
money of the same unit,		positions	up/maths_activities_Y1_time_racing_
including giving change.		posicions	positions
Compare and sequence		What's the Time Mr. Wolf? –	What's the time Mr Wolf? -
intervals of time.		10 progressive cloze activities	worksheets
 Tell and write the time to five 			worksneets
 Tell and write the time to five minutes, including quarter 		with accompanying printable	
		worksheets	
past/to the hour and draw		Paint Projects – Clock 1	Paint project: Clock (A)
the hands on a clock face to		Draw the hands on the clock.	
show these times.		Then draw a picture to show	
Know the number of minutes		what happens at that time.	
in an hour and the number of		Paint Project – Clock 2	Paint project: Clock (D)
hours in a day.			
		Paint Project – Clock 3	Paint project: Big Clock
		Shade out the numbers on a	
		digital clock face and draw what	
		happens.	
		Writing Project	Time Writing Project
		Choose 6 clocks and write the	
		time and what happens	
	Money	Money pairs game	Money pairs game
	Ready-made activities in		
	Money Category	Shop- Multi-drag game	<u>Shop- Multi-drag game</u>
	,,,,,,	Money up to 10p	Money up to 10p - A
			Money up to 10p - B
		Calculating change from 10p	Calculating change from 10p - A



		Calculating change from 10p - B
	Money up to 20p	Money up to 20p - A
		Money up to 20p - B
	Calculating change from 20p	Calculating change from 20p - A
		Calculating change from 20p - B
	Money up to 50p	Money up to 50p - A
		Money up to 50p - B
	Calculating change from 50p	Calculating change from 50p - A
		Calculating change from 50p - B
	Money up to £1	Money up to £1 - A
		Money up to £1 - B
		Money up to £1 - C
		Money up to £1 - D
	Calculating change from £1	Calculating change from £1 - A
		Calculating change from £1 - B
		Calculating change from £1 - C
		Calculating change from £1 - D
Money	2Calculate Spreadsheets	2Calculate Resources
Ready-made 2Calculate	Activity can be accessed by	
<u>Spreadsheets – Shopping,</u>	pupils from within 2Calculate	
Going Shopping and Special	tool.	
offers		
Using a spreadsheet to price		
objects and pay for them with		
coins. Includes lesson plans,		
premade spreadsheets and		
videos to develop number		
problem-solving skills.		

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You can also create your own		
2Calculate activities to set as		
2Dos.		
Financial Capability activities	Financial Education	Financial Capability Lesson Ideas
Aimed at Y1-6 a collection of a		
variety of activities		
	0	
Practice of >, < and =. Symbols	<u>2Investigate</u>	2Investigate Resources
Use of the <u>2Investigate</u> example		
databases and worksheets to		
search the databases and find		
records meeting specific criteria.		
<u>Capacity</u>	2Calculate Spreadsheets	
2Calculate Spreadsheets		
Create a spreadsheet for pupils		
to record the capacities of		
classroom objects.		
<u>Temperature</u>	2Calculate Spreadsheets	
Combine with science		
experimentation. Use or		
2Calculate to record results.		
Use these tools to create		
2Graph line graphs of the data.		
2Quiz – Sequencing and	2Quiz	2DIY & 2Quiz Resources
labelling		
Create quizzes where children		
order and label lengths,		
weights, capacities or time		



using the vocabulary in the	
curriculum requirements e.g.	
full/empty, more than, less than,	
half, half full, quarter.	

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Geometry - Properties of a Shape

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 National Curriculum Statement Pupils should be taught to: Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. Identify and describe the properties of 3-D shapes, including the number of 	Purple Mash Resource Use of Mathematics printable resources Ready-made activities Writing Projects	Direct link to resource2D and 3D shape dominoes, memory games and postersBasic Shapes (2D)RectanglesCirclesSquaresTriangles2D shape pairs gameWriting Project: 3D Shapes	Link to Planning and ResourcesPrintable Time ResourcesPaint project: Basic ShapesPaint project: Rectangular_thingsPaint project: Round ThingsPaint project: Square ThingsPaint project: Triangular Things2D shape pairs game
 edges, vertices and faces Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Compare and sort common 2-D and 3-D shapes and everyday objects. 	 3D Shapes Choose 6 3D shapes and describe their properties Polygons Choose 6 polygons and describe their properties Triangle Properties Describe the properties of a triangle 	Writing Project: Triangles	

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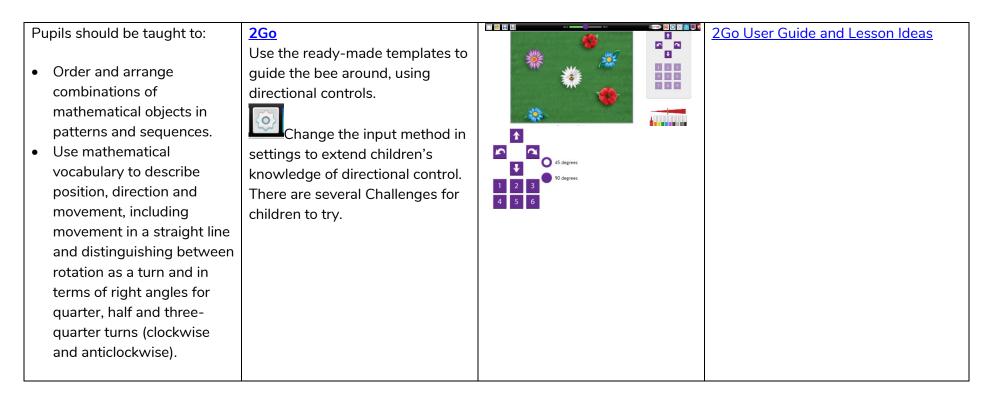
describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.		A texture Constrained Constra	
	<u>2Quiz</u> Create 2Quiz labelling activities where the children label objects with their shapes (2D and 3D).	2Quiz	2DIY & 2Quiz Resources
	2Design and Make Pupils can use the 3D shapes in 2Design and Make to create nets with topic related designs, print them and fold them into the 3D shapes. Pupils could make 3D boxes in different 3D shapes.		2Design & Make Guide

Geometry - Position and Direction

National Curriculum	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Statement			

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Statistics

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Ready-made activities: Statistics	Graph activity	<u>Graph activity</u>
 Interpret and construct simple pictograms, tally charts, block diagrams and 		Venn Diagrams	Venn Diagrams
simple tables.		Tally Tables and Data Tables	Tally Tables and Data Tables
 Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions 	<u>2Count</u> Design and make simple pictograms based around common themes including cars, dice, fruit, eyes, fruit and pets.	2Count Cars OC	2Count Guide
about totalling and comparing categorical data.).	<u>2Graph</u> Create a range of bar, block, line and pie charts to show information gathered from elsewhere.		<u>2Graph Guide</u>
	<u>2Calculate Spreadsheets</u> Includes premade lesson plans and videos to develop number problem-solving skills.	2Calculate Spreadsheets	2Calculate Resources

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Create your own activities to set as 2Dos e.g. create a simple bar chart to show eye colours in the class. <u>Relevant 2Calculate Lessons:</u> Nice Ices	A B C D E 1 1 1 1 1 2 1000 1 1 1 4 10 1 1 1 4 10 1 1 1 4 10 1 1 1 6 10 1 1 1 7 10 1 1 1 6 10 1 1 1 7 10 1 1 1 1 6 10 1 1 1 1 7 10 1 1 1 1 8 2 1 1 1 1 10 10 10 1 1 1
That's my Favourite	Can be accessed by pupils from
Special Offers Block Chart, Bar Chart	within 2Calculate tool.

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Year 3

Number - Number and Place Value

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. 	Use of Mathematics printable resources	Number lines, 100 squares, number cards, place value Times Tables – in 100 squares, memory cards and dominoes.	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resourcesPrintable Place Value worksheetsPrintable Times Tables resources
 Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1000. Identify, represent and estimate numbers using different representations. Read and write numbers up to 1000 in numerals and in 	<u>Ready-made Place Value</u> <u>Activities</u>	Tens and Ones Order Numbers (<,>,= signs) Numbers to 1000 Place value in 3-digit numbers Multiples of 4 Multiples of 8 Numbers to 1000 in words Numbers to 1000 Converting between place value – 10,000	Tens and OnesOrder NumbersNumbers to 1000Place value in 3-digit numbersMultiples of 4Multiples of 8Numbers to 1000 in wordsNumbers to 1000Converting between place value – 10,000
words.		Converting to a number – Up to 10,000	<u>Converting to a number – Up to 10,000</u>

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Solve number problems and	2Calculate Place Value	Tens and Ones	
 Solve humber problems and practical problems involving 	Spreadsheets.	Hundreds, Tens and Ones	
these ideas.	•	Thousands, Hundreds, Tens and	
these ideas.	Helps children recognise		
2NDV 1 Know that 10 tans are	the place value of each	<u>Ones</u>	
<u>3NPV-1 Know that 10 tens are</u>	digit in a three-digit		
equivalent to 1 hundred, and	number (tens, ones). Use		
that 100 is 10 times the size of	as a whiteboard resource		
10; apply this to identify and	or for individuals to		
work out how many 10s there	challenge and test		
are in other three-digit	themselves.		
multiples of 10.	Use 2Quiz Sequencing	<u>2Quiz</u>	2DIY & 2Quiz Resources
	questions to create		
<u>3NPV-2 Recognise the place</u>	some number		
value of each digit in three-	sequencing and cloze		
digit numbers, and compose	quizzes. Can the children		
and decompose three-digit	continue the sequence in		
numbers using standard and	their books?		
non-standard partitioning.	Game Sequence Snake:	Sequence Snake	
	Eat the numbered balls	Score: 0 Level: 1 P 1 2 2 2 2 C	
<u>3NPV-3 Reason about the</u>	to complete the	• • •	
location of any three-digit	sequence. Three levels of		
number in the linear number	challenge that increases		
system, including identifying	the complexity of the	OREN	
the previous and next multiple	numbers used and the		
<u>of 100 and 10.</u>	speed. – use challenge B.		
	Use <u>2Investigate</u>	2Investigate	2Investigate Resources
<u>3NPV-4 Divide 100 into 2, 4, 5</u>	example databases to		
and 10 equal parts, and read	explore the language of:		
	chpiore the language of.		



scales/number lines marked in	equal to, more than, less		
multiples of 100 with 2, 4, 5	than (fewer), most, least.		
and 10 equal parts.	2Race	2Race	2Race
	Set up multiplayer		
	games. Choose your		
	track type and question		
	types; pre-set choices	重いて	
	include:		
	• One less/more than		
	Odd/eve		
	Comparison		
	Number bond		
	Addition		
	Subtraction		
	Multiplication		
	Division		
	Times tables		
	Use <u>2Investigate</u>	<u>2Investigate</u>	2Investigate Resources
	example database		
	Numbers to investigate		
	numbers that are		
	odd/even, divisible by 5		
	by using the search		
	options in the database		
	to display them		
	pictorially.		

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Number - Addition and Subtraction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics	Number lines and 100 squares	Printable Number Lines, Number cards,
	printable resources		Number Squares, Place value, special
 Add and subtract numbers 			numbers resources
mentally, including:		Number bonds	Printable Number Bonds
\circ A three-digit number and		201 (7+7) =10 (7+7) =20	
ones.		Number Bonds to	
 A three-digit number and 			
tens	Ready-made activities	HTO + O	HTO + O
\circ A three-digit number and		HTO + T	HTO + T
hundreds		HTO + H	HTO + H
 Add and subtract numbers 		HTO – O	<u>HTO – O</u>
with up to three digits, using		HTO – T	<u>HTO – T</u>
formal written methods of		HTO – H	HTO-H
columnar addition and		Fact Families	Fact Families
subtraction.		Matching related + & - facts	Matching related + & - facts
 Estimate the answer to a 	Maths Quiz	2Quiz	2DIY & 2Quiz Resources
calculation and use inverse	Generate your own		
operations to check answers	maths quizzes. Test the		
 Solve problems, including 	children on +, - or X of		
missing number problems,	varying complexity. Use		
using number facts, place	for mental maths		
value, and more complex	practice and testing.		
addition and subtraction.	2Race	2Race	2Race

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	1		1
<u>3NF-1 Secure fluency in</u>	Set up multiplayer	(
addition and subtraction facts	games. Choose your	V#######	
<u>that bridge 10, through</u>	track type and question		
continued practice.	types; pre-set choices	重える	
	include:		
3NF–3 Apply place-value			
knowledge to known additive	One less/more than		
and multiplicative number facts	Odd/eve		
(scaling facts by 10).	Comparison		
	Number bond		
3AS–1 Calculate complements to	Addition		
100.	Subtraction		
	Multiplication		
3AS–2 Add and subtract up to three-	Division		
digit numbers using columnar methods.	Times tables		
methods.	Bond Bubbles	score: 0 Level: 10 P Make 120 50 60 60 60 60 60 60	Use Bond Bubbles Challenge B and levels
<u>3AS–3 Manipulate the additive</u>	Aim the bubble blower		8-12.
relationship: Understand the	by clicking near a target	2 60 60 20 70 80 60 60 00 110 2 110	
inverse relationship between	bubble at the top of the	(co (ao (so (so (so (so))))) (70 (ao (so (so (so (so (so (so (so (so (so (s	
addition and subtraction, and	screen. If the total of the		
how both relate to the part-	bubble and the one it	Next Subble	
part-whole structure.	hits are the target		
Understand and use the	number the bubbles will		
commutative property of	fall. Three levels of		
addition, and understand the	challenge Up to 20,		
	200 and finally 400.		

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related property for	Funky Platform	Funky Platform	Three levels of challenge that increases
subtraction.	Make the number on the	Score: 0 Level: 5 👂 🕹 🔮 🗲 🗧 €	the complexity of the numbers used and
	calculator equal the to		the speed.
	the target number by		Use challenge B and levels 4 upwards
	jumping on the SUM		
	platforms. Gain bonus		
	points by doing this in as		
	few moves as possible.		
	2Calculate Random	Addition Spreadsheet	Use 2Calculate random number tool to
	number sums example		create problems for the children to solve.
		4 + 12 = (?) (*) + 9 =? (?) (*) + (*) = (?) (*) + (*) = (?) (*) + (*) =? (*) (*) + (*) =? (*)	Set these as 2Dos.
	<u>2Calculate</u>	2Calculate Spreadsheets	2Calculate Resources
	<u>Spreadsheets</u>		
	Includes premade lesson	Can be accessed by pupils from	
	plans and videos to	within 2Calculate tool.	
	develop number		
	problem-solving skills.		
	2Calculate Lessons:		
	Two Number Test		
	Even Numbers		
	Counting Machine 1 & 2		
	Sequences		



|--|

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Number – Multiplication and Division

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Number lines and 100 squares	Printable Number Lines, Number cards, Number Squares, Place value, special
 Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. 	Ready-made activities	Times Tables Multiplication Facts for 2,5,10	numbers resourcesPrintable Times Tables resourcesMultiplication Facts for 2,5,10 times
• Write and calculate mathematical statements for		times tables. Sorting Multiples	tables. Sorting Multiples
multiplication and division using the multiplication tables that they know,		3 x table pairs 3 x table spreadsheet	3 x table pairs 3 x table spreadsheet
including for two-digit numbers times one-digit		4 x table pairs4 x table spreadsheet8 x table pairs	<u>4 × table pairs</u> <u>4 × table spreadsheet</u> <u>8 × table pairs</u>
 numbers, using mental and progressing to formal written methods. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. 		8 x table spreadsheet Multiplication Facts for 3,4,8	8 x table spreadsheet Multiplication Facts for 3,4,8 times tables.
	Use <u>2Investigate</u> example database Numbers to investigate numbers that are odd/even, divisible by 5 by using the search options in the database to display them pictorially.	times tables. 2Investigate	2Investigate Resources

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2NE 2 Decell multiplication	Matha Quin	20	
<u>3NF-2 Recall multiplication</u>	<u>Maths Quiz</u>	2Quiz	2DIY & 2Quiz Resources
facts, and corresponding	Generate your own		
division facts, in the 10, 5, 2, 4	maths quizzes. Test the		
and 8 multiplication tables, and	children on +, - or X of		
recognise products in these	varying complexity.		
multiplication tables as	2Race	2Race	2Race
multiples of the corresponding	Set up multiplayer	(
<u>number.</u>	games. Choose your		
	track type and question		
<u>3MD–1 Apply known</u>	types; pre-set choices	車をす	
multiplication and division	include:		
facts to solve contextual	One less/more than		
problems with different	Odd/eve		
structures, including quotitive	Comparison		
and partitive division.	Number bond		
	Addition		
	Subtraction		
	Multiplication		
	Division		
	Times tables		
	Table Toons	Tabletoons	
	The children develop		
	their multiplication skills		Watch the help video from within
	through song. The	 9 TIMPS TABLE 	Table Toons to find out how to make full
	children create their own		use of this tool.
	musical playlist using a		
	range of different songs.		
	Games consolidate these		



abilla Danaria a faran 20		
skills. Ranging from 2x		
to 12x		
<u>Dividers</u>	<u>Dividers</u>	Use Challenge A. Remember you can
Divide the numbers	20 8	change the level using the teachers tab at
before they reach the	15 12 2 3 A	the top of the screen
calculator by firing		
factors at them. Three		
levels of challenge that		
increases the complexity		
of the numbers used and		
the speed.		
Factoroids	Factoroids	Use Challenge A. Remember you can
Break down the factors	Score: 0 Lovel: 1 R. 1 @ 普爾爾 @	change the level using the teachers tab at
into equal parts. Three		the top of the screen
levels of challenge that		
increases the complexity		
of the numbers used and		
the speed.		
2Calculate	2Calculate Spreadsheets	2Calculate Resources
<u>Spreadsheets</u>	nan tesso) c an	
Includes premade lesson	Image: Constraint of the second sec	Ask the children to create their own
plans and videos to	A Input Multiplier Output	number machine spreadsheet.
develop number		
problem-solving skills.		Create your own activities to set as 2Dos.
2Calculate Lessons:		
Counting Machine 1 & 2		
Sequences		



A-Fish-metric Develop basic number skills with 4 levels of difficulty. Levels 1 and 2 cover addition and subtraction, level 3 multiplication and level 4 advanced multiplication.	Level 3 multiplication	
Pairs	Create your own matching pairs game of varying complexity. Match times tables questions with their answer.	2DIY & 2Quiz Resources



Number – Fractions

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Fraction Walls	Printable Fractions Resources
 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. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. 	Fraction Wall Guide the falling fractions as they drop down from the top of the screen. Position the fractions so they contain a whole. Three levels of challenge that increases the complexity of the numbers used and the speed.	Score: 1 Level: 1 met. + 2 3 (Use Challenge A, Levels 2-4. You can change the level using the teachers tab at the top of the screen.
 Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise and show, using diagrams, equivalent fractions with small denominators. Add and subtract fractions 	Fractonio's Pizzeria Develop fraction skills with 3 levels of difficulty.	Level 1: Pizza Rookie	Level 1: Pizza Rookie asks the children to use simple fractions to create a pizza. Level 2: Pizza Master encourages the children to use mixed fractions and Level 3: Pizza King converts fractions into percentages.
with the same denominator		Equivalent Fractions	Equivalent Fractions

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within one whole [for	Ready-made fractions	Fraction Quiz	Fraction Quiz
example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$.	<u>activities</u>		
Compare and order unit		Finding Matching Expressions	Finding Matching Expressions
fractions, and fractions with		Fraction Bar	Fraction Bar
the same denominators.		Fraction of Number Lines	Fraction of Number Lines
Solve problems that involve		Unit Fractions on A Number	Unit Fractions on A Number Line 1
all of the above.		Line 1	
3F-1 Interpret and write		Unit Fractions on A Number	Unit Fractions on A Number Line 2
proper fractions to represent 1		Line 2	
or several parts of a whole that			
is divided into equal parts.			
3F–2 Find unit fractions of			
<u>quantities using known</u>			
division facts (multiplication			
tables fluency).			
<u>3F-3 Reason about the</u>			
location of any fraction within			
<u>1 in the linear number system.</u>			
<u>3F-4 Add and subtract</u>			
fractions with the same			
denominator, within 1.			



National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Length and Weight	<u>2Calculate</u>	2Calculate Resources
	2Calculate Spreadsheets		
• Measure, compare, add and	Create a spreadsheet for pupils		
subtract: lengths (m/cm/mm);	to record the lengths and		
mass (kg/g); volume/capacity	weights of classroom objects.		
(l/ml).	Show children how the		
• Measure the perimeter of	spreadsheet can sort them		
simple 2-D shapes.	automatically and order by		
Add and subtract amounts	length or weight.		
of money to give change,	Length and Weight	<u>2Investigate</u>	2Investigate Resources
using both ${\tt f}$ and p in	<u>2Investigate databases</u>		
practical contexts.	Create a database of objects		
• Tell and write the time from	with information including		
an analogue clock, including	fields; length, weight, capacity,		
using Roman numerals from	waterproof (y/n), stackable (y/n).		
I to XII, and 12-hour and 24-	Use the search facilities to		
hour clocks.	practice the use of >, < and =		
• Estimate and read time with	symbols.		
increasing accuracy to the	Time	Clock proformas, days of the	Printable Time Resources
nearest minute; record and	Use of Mathematics printable	week, months of the year	
compare time in terms of	resources	resources.	
seconds, minutes and hours;		Worksheets to accompany	Printable Time Resources
use vocabulary such as		ready-made activities	
o'clock, a.m./p.m., morning,		Roman Numerals	Printable Roman Numerals

Measurement

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 afternoon, noon and midnight. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events [for example to calculate the time taken by particular events or tasks]. 	<u>Time</u> <u>Ready-made activities in Time</u> <u>Category</u>	What's the Time Mr. Wolf? – 10 progressive cloze activities with accompanying printable worksheets Time Conversions Clock faces Telling the time Pairs game Writing Project Units of Time AM or PM	What's the time Mr Wolf? - worksheetsTime ConversionsClock facesTelling the timePairs gameTime Writing ProjectUnits of TimeAM or PM
	Perimeter2Calculate SpreadsheetsCreate a spreadsheet for pupilsto record the lengths andwidths of 2D shapes and createformulae to calculate perimeter(and area).Ready-made activities inMeasurement Category	2Calculate Spreadsheets Image: Convert units of measure Perimeter	2Calculate Resources Convert units of measure Perimeter

2 simple

Money <u>2Calculate Spreadsheets</u> Use of the money images and currency formatting of cells to explore mathematics with money and calculate change. Use images to create a virtual shop and set simulated shopping tasks.	2Calculate Spreadsheets	2DIY & 2Quiz Resources
<u>Money</u>	Shop multi-drag game	Shop multi-drag game
Ready-made activities in <u>Money</u>	Calculating change from 10p	Calculating change from 10p - A
<u>Category</u>		Calculating change from 10p - B
	Calculating change from 20p	Calculating change from 20p - A
		Calculating change from 20p - B
	Calculating change from 50p	Calculating change from 50p - A
		Calculating change from 50p - B
	Calculating change from £1	Calculating change from £1 - A
		Calculating change from £1 - B
		Calculating change from £1 - C
		Calculating change from £1 - D
Financial Capability activities	Financial Education	Financial Capability Lesson Ideas
Aimed at Y1-6 a collection of a		
variety of activities		
<u>Capacity</u>	2Calculate Spreadsheets	
2Calculate Spreadsheets		
Create a spreadsheet for pupils		
to record the capacities of		
classroom objects.		



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Geometry - Properties of a Shape

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable	2D and 3D shape dominoes,	Printable Shape Resources
 Draw 2-D shapes and make 3-D shapes using modelling 	resources	memory games and posters	2D shans noire some
materials; recognise 3-D	Ready-made shape activities	2D shape pairs game	2D shape pairs game
shapes in different		2D shape perimeter 3D shape pairs game	<u>2D shape perimeter</u> <u>3D shape pairs game</u>
orientations and describe		Label 2D and 3D shapes	Label 2D and 3D shapes
them.		Sort into 2D and 3D shapes	Sort into 2D and 3D shapes
Recognise angles as a		Types of lines	Types of lines
property of shape or a		3D shape branching database	<u>3D shape branching database</u>
description of a turn.		Writing Project - 3D Shapes	Writing Project: 3D Shapes
Identify right angles,		Writing Project - Polygons	Writing Project: Polygons
recognise that two right angles make a half-turn,		Writing Project - Triangle Properties	Writing Project: Triangles
three make three quarters of a turn and four a complete		Paint Project - <u>Basic Shapes</u> (2D)	Paint project: Basic Shapes
turn; identify whether angles		Paint Project - <u>Rectangles</u>	Paint project: Rectangular_things
are greater than or less than		Paint Project - <u>Circles</u>	Paint project: Round Things
a right angle.Identify horizontal and		Paint Project - <u>Squares</u>	Paint project: Square Things
vertical lines and pairs of		Paint Project - <u>Triangles</u>	Paint project: Triangular Things
perpendicular and parallel lines.	2Quiz Create 2Quiz labelling activities where the children label objects with their shapes (2D and 3D).	2Quiz	2DIY & 2Quiz Resources

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<u>3G–1 Recognise right angles</u> <u>as a property of shape or a</u> <u>description of a turn, and</u> <u>identify right angles in 2D</u> <u>shapes presented in different</u> <u>orientations.</u> <u>3G–2 Draw polygons by</u>	2Design and Make Pupils can use the 3D shapes in 2Design and Make to create nets with topic related designs, print them and fold them into the 3D shapes. Pupils could make 3D boxes in different 3D shapes.		2Design & Make Guide
joining marked points, and identify parallel and perpendicular sides.	2Go Use the ready-made templates to guide the object around the screen or begin to write a more complicated series of instructions Change the input method in settings to extend children's knowledge of directional control. There are several Challenges for children to try.		2Go User Guide and Lesson Ideas
	Logo Write instructions of developing complexity to control the on screen turtle using simple logo commands	https://www.purplemash.com/# app/tools/2logo	https://www.purplemash.com/site#ap p/guides/2Logo_Guide



Statistics

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Ready-made statistics activities	Graph activity	<u>Graph activity</u>
Interpret and present data		Interpreting Block Graphs	Interpreting Block Graphs
 using bar charts, pictograms and tables. Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and 	<u>2Investigate</u> Create databases and watch the computer move the data cards around the screen to perform meaningful searches and sorts; Perform advanced and / or searches; Make reports on the database;	Interpreting Pictograms	Interpreting Pictograms 2Investigate Resources Use the ready-made databases and accompanying worksheets to practice problem solving using data.
pictograms and tables.	Update data / pictures across a network instantly 2Graph	2Graph	2Graph Guide
	Create a range of bar, block, line and pie charts to show information gathered from elsewhere.	Tras 13	
	2Calculate Spreadsheets Includes premade lesson plans and videos to develop number problem-solving skills.	2Calculate Spreadsheets	2Calculate Resources

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	own activities aled bar charts and	
Relevant 2C	alculate Lessons:	
Frequency T	ables Can be accessed by pu	pils from
	within 2Calculate tool.	

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Year 4

Number - Number and Place Value

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Number lines, 100 squares, number cards, place value	Printable Number Lines, Number cards, Number Squares, Place value, special
 Count in multiples of 6, 7, 9, 25 and 1000. Find 1000 more or less than 		Times Tables – in 100 squares, memory cards and dominoes.	numbers resources Printable Times Tables resources
a given number.Count backwards through		Roman Numerals	Printable Roman Numerals
zero to include negative numbers.Recognise the place value of each digit in a four-digit		Place Value Place Value:	Printable Place Value worksheets
number (thousands, hundreds, tens, and ones).	Ready-made place value activities	Numbers to 1000 Place value in 3-digit numbers	Numbers to 1000 Place value in 3-digit numbers
• Order and compare numbers beyond 1000.	activities	Multiples of 6,7,9,25,1000	Multiples of 6,7,9,25,1000
 Identify, represent and estimate numbers using 		Count in multiples of 6, 7, 9, 25 and 1000 quiz	<u>Count in multiples of 6, 7, 9, 25 and 1000</u> <u>quiz</u>
different representations.		Roman Numerals	Roman Numerals
• Round any number to the nearest 10, 100 or 1000.		Roman Numerals Thousands	Roman Numerals Thousands
		Rounding spreadsheet	Rounding spreadsheet
		Find 1000 less	Find 1000 less

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Solve number and practical		Find 1000 more	Find 1000 more
problems that involve all of		Order and compare numbers	Order and compare numbers beyond 1000
the above and with		beyond 1000	
increasingly large positive		Values of Digits – TTh	<u>Values of Digits – TTh</u>
numbers.		Write numbers in figures -TTh	Write numbers in figures -TTh
Read Roman numerals to		Sort the Numbers -TTh	Sort the Numbers -TTh
100 (I to C) and know that		Number Patterns	Number Patterns
over time, the numeral		Partitioning to Find Unknown	Partitioning to Find Unknown 1
system changed to include		1	
the concept of zero and		Partitioning to Find Unknown	Partitioning to Find Unknown 2
place value.		2	
		2Calculate Place Value	Tens and Ones Spreadsheet
4NPV-1 Know that 10		Spreadsheets.	Hundreds, Tens and Ones Spreadsheet
hundreds are equivalent to 1		Helps children recognise the	Thousands, Hundreds, Tens and Ones
thousand, and that 1,000 is 10		place value of each digit in a	<u>Spreadsheet</u>
times the size of 100; apply		three-digit number (tens,	
this to identify and work out		ones). Use as a whiteboard	
how many 100s there are in		resource or for individuals to	
other four-digit multiples of		challenge and test themselves.	
<u>100.</u>		2-Player place value game	2-Player place value game
		Place value in 4-digits	Place value in 4-digits
<u>4NPV-2 Recognise the place</u>	2Calculate	2Calculate Spreadsheets	2Calculate Resources
value of each digit in <i>four</i> -digit	Explore formatting with	E 0.00 💦 🔊	Number Round to Round
numbers, and compose and	numbers of decimal		status 58000 57900 57870 57874 57874.0 57873.98
decompose four-digit numbers	places; relate to	Format Cell:	457 5000 4600 4570 4568 4567.9 4567.89 4567.89
using standard and non-	rounding.	0.00 £0.00 % 1/2	*** **********************************
standard partitioning.		Set decimal places	M5 50000000 0 100 350 346 345.5 345.50 345.500
		2	2.347650000 0 0 0 2 2.3 2.35 2.348



4NPV-3 Reason about the	Use 2Quiz Sequencing	2Quiz	2DIY & 2Quiz Resources
location of any <i>four</i> -digit	questions to create		
number in the linear number	some number		
system, including identifying	sequencing and cloze		
the previous and next multiple	quizzes. Can the children		
of 1,000 and 100, and	continue the sequence in		
rounding to the nearest of	their books?		
		20	20
each.	2Race	2Race	2Race
	Set up multiplayer	(+1555#1)	
4NPV-4 Divide 1,000 into 2, 4,	games. Choose your	Atteres.	
5 and 10 equal parts, and read	track type and question	1 22	
scales/number lines marked in	types; pre-set choices		
<u>multiples of 1,000 with 2, 4, 5</u>	include:		
and 10 equal parts.	 One less/more than 		
	Odd/eve		
	 Comparison 		
	 Number bond 		
	Addition		
	 Subtraction 		
	Multiplication		
	Division		
	Times tables		
	Use <u>2Go</u> to create an		² 2Go User Guide and Lesson Ideas
	activity where the	4. ³² ²⁰ · 독陸	
	children have to visit all	<u>28</u> , 16 ^{, 48} 40, 티코	
	of the numbers in the	-12 +4 8 ∞ ∞ = = -	
	correct order.	214 36	



Game Sequence Snake: Eat the numbered balls to complete the sequence. Three levels of challenge that increases the complexity of the numbers used and the speed. – use challenge B.

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Number - Addition and Subtraction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics	Number lines and 100 squares	Printable Number Lines, Number cards,
	printable resources		Number Squares, Place value, special
Add and subtract numbers			numbers resources
with up to 4 digits using the		Place Value	Printable Place Value worksheets
formal written methods of columnar addition and subtraction where appropriate.		Pisce value: Tr. H T O	
 Estimate and use inverse 	Ready-made activities	Missing Numbers in Equations 1	Missing Numbers in Equations 1
operations to check answers		Missing Numbers in Equations 2	Missing Numbers in Equations 2
to a calculation.		Random Number Addition	Random Number Addition Example
Solve addition and		Example	
subtraction two-step	Maths Quiz	2Quiz	2DIY & 2Quiz Resources
problems in contexts,	Generate your own		
deciding which operations	maths quizzes. Test the		
and methods to use and	children on +, - or X of		
why.	varying complexity. Use		
	for mental maths		
<u>4NF–3 Apply place-value</u>	practice and testing.		
<u>knowledge to known additive</u>	Bond Bubbles	Score: 0 Level: 10 Make 120	Use Bond Bubbles Challenge B and levels
and multiplicative number facts	Aim the bubble blower		8-12.
(scaling facts by 100)	by clicking near a target	60 (26) (26) (26) (27) (10)	
	bubble at the top of the	(7) (4) (4) (4) (4) (4) (9) (2) (4) (4) (4)	
	screen. If the total of the	Ker bas	

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bubble and the c	
hits are the targe	
number the bub!	es will
fall. Three levels	f
challenge: Up to	20, 200
and finally 400.	
Funky Platform	Funky Platform Three levels of challenge that increases
Make the number	on the score to the numbers used and
calculator equal	ne to
the target number	
jumping on the S	
platforms. Gain k	
points by doing t	nis in as
few moves as po	ssible.
2Race	2Race 2Race
Set up multiplay	
games. Choose y	bur Ville Internet in the second s
track type and q	estion
types; pre-set ch	vices Frances
include:	
One less/mor	than
Odd/eve	
Comparison	
Number bond	
Addition	
Subtraction	
Multiplication	
Division	

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Times tables		
2Calculate	2Calculate Spreadsheets	2Calculate Resources
Spreadsheets		
Includes premade lesson		
plans and videos to		
develop number		
problem-solving skills.		
2Calculate Lessons:		
Two Number Test		
Counting Machine 1 & 2		
Sequences		
Magic Squares		
2Calculate Random	2Calculate Random number	Use 2Calculate random number tool to
number additions	additions example	create problems for the children to solve.
<u>example</u>		Set these as 2Dos.
		- -
		4 + 12 = 🕅
		+ 9 =?
		😑 + 🕒 = 📀
		9 + <mark>8 _?</mark>
		8 +) =?

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2 simple

A-Fish-metric Develop basic number skills with 4 levels of difficulty. Levels 1 and 2 cover addition and subtraction, level 3 multiplication and level 4	Current: 2 Target: 5 3 + 2 = 5 25 3 + 2 = 5
multiplication and level 4 advanced multiplication.	+1 +3

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Number – Multiplication and Division

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:Recall multiplication and	Use of Mathematics printable resources	Number lines and 100 squares	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources
division facts for		Times Tables	Printable Times Tables resources
multiplication tables up to 12	Ready-made activities	Multiplication Pairs	Multiplication Pairs
× 12	Activities listed here are	Multiplication quiz	Multiplication quiz
Use place value, known and	for Y4, use activities for	Multiplication facts spreadsheet	Multiplication facts spreadsheet
derived facts to multiply and	other year groups to	Multiplication fact pairs	Multiplication fact pairs
divide mentally, including: multiplying by 0 and 1;	review and revise areas.	Multiplication Quiz	Multiplication Quiz
dividing by 1; multiplying		Using Known Facts 1	Using Known Facts 1
together three numbers.		Using Known Facts 2	Using Known Facts 2
Recognise and use factor		Dividing By 10 – 2Calculate	Dividing By 10 – 2Calculate
pairs and commutativity in		Dividing By 10 – 2Quiz	<u>Dividing By 10 – 2Quiz</u>
mental calculations.		Word Problems	Word Problems
 Multiply two-digit and three- digit numbers by a one-digit number using formal written layout. Solve problems involving multiplying and adding, including using the 	Table ToonsThe children developtheir multiplication skillsthrough song. Thechildren create their ownmusical playlist using arange of different songs.Games consolidate these	Tabletoons ● ● ●	Watch the help video from within Table Toons to find out how to make full use of this tool.

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distributive law to multiply	skills. Ranging from 2x		
two digit numbers by one	to 12x		
digit, integer scaling	2Race	2Race	2Race
problems and harder	Set up multiplayer	(
correspondence problems	games. Choose your		
such as n objects are	track type and question		
connected to m objects.	types; pre-set choices		
	include:		
4NF–1 Recall multiplication	 One less/more than 		
and division facts up to 12×12	 Odd/eve 		
and recognise products in	Comparison		
multiplication tables as	Number bond		
multiples of the corresponding	Addition		
number.	Subtraction		
	Multiplication		
4NF-2 Solve division problems,	Division		
with two-digit dividends and	 Times tables 		
one-digit divisors, that involve	Dividers	Dividers	Use Challenge A and B. You can change
remainders, and interpret	Dividers	Score: 0 Level: 1 P	the level using the teachers tab at the top
remainders appropriately	Divide the numbers	20 8 15 12	of the screen.
according to the context.	before they reach the	2 3 🔍	
	calculator by firing		
	factors at them. Three		
4NF–3 Apply place-value	levels of challenge that	2	
knowledge to known additive	increases the complexity		
and multiplicative number facts	of the numbers used and		
(scaling facts by 100)	the speed.		

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<u>4MD–1 Multiply and divide</u> <u>whole numbers by 10 and 100</u> <u>(keeping to whole number</u> <u>quotients); understand this as</u> <u>equivalent to making a number</u> <u>10 or 100 times the size.</u>	Factoroids Break down the factors into equal parts. Three levels of challenge that increases the complexity of the numbers used and the speed.	Factoroids Score: 0 Level: 1 P 2 0 1 1	Use Challenge A and B. You can change the level using the teachers tab at the top of the screen
 <u>4MD-2 Manipulate</u> <u>multiplication and division</u> <u>equations, and understand and</u> <u>apply the commutative</u> <u>property of multiplication.</u> <u>4MD-3 Understand and apply</u> <u>the distributive property of</u> <u>multiplication.</u> 	2Calculate Spreadsheets Includes premade lesson plans and videos to develop number problem-solving skills. Create your own activities to set as 2Dos. 2Calculate Lessons: Counting Machine 1 & 2 Sequences	2Calculate Spreadsheets	2Calculate Resources Ask the children to create their own number machine spreadsheet.
	A-Fish-metric Develop basic number skills with 4 levels of difficulty. Levels 1 and 2 cover addition and subtraction, level 3 multiplication and level 4 advanced multiplication.	Level 3 multiplication Current: 2 Target: 8 Round: 1 Click the bubbles and try to get to 8 fish. x 2 x 3 x 4 x 5 x 6	



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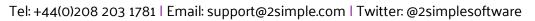
Number – Fractions

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Fraction Walls	Printable Fractions Resources
 common equivalent fractions. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Add and subtract fractions with the same denominator 	Fraction Wall Guide the falling fractions as they drop down from the top of the screen. Position the fractions so they contain a whole. Three levels of challenge that increases the complexity of the numbers used and the speed.	Score: 1 Level: 1 Pett + Pett	Use Challenge A, Levels 2-4. You can change the level using the teachers tab at the top of the screen.
	Fractonio's Pizzeria Develop fraction skills with 3 levels of difficulty.	Level 2: Pizza Master	 Level 1: Pizza Rookie asks the children to use simple fractions to create a pizza. Level 2: Pizza Master encourages the children to use mixed fractions and level 3: Pizza King converts fractions into percentages.
	Ready-made fractions activities	Tenths and Hundredths Pairs Fraction Quiz	Tenths and Hundredths Pairs Fraction Quiz

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Recognise and write decimal		Decimals and fractions quiz	Decimals and fractions quiz
equivalents of any number of tenths or hundredths.		Rounding spreadsheet	Rounding spreadsheet
Recognise and write decimal		Rounding placing activity	Rounding placing activity
equivalents to 1/4, 1/2, 3/4.			
• Find the effect of dividing a one- or two-digit number by		Comparing fractions	Comparing fractions
10 and 100, identifying the		Comparing decimals	Comparing decimals
value of the digits in the		Hundredths	Hundredths
answer as ones, tenths and hundredths.			
 Round decimals with one 		Mixed & Improper Fractions –	Mixed & Improper Fractions – Sort
decimal place to the nearest		Sort Mixed & Improper Fractions –	Mixed & Improper Fractions – Pair
whole number.		Pair	<u>· · · · · · · · · · · · · · · · · · · </u>
Compare numbers with the same number of decimal	2DIY - Placing	2DIY Pairs	2DIY & 2Quiz Resources
places up to two decimal	Place numbers or objects		Round numbers with one decimal place to
places.	in their correct place.		the nearest whole number.
Solve simple measure and money problems involving	2Calculate Spreadsheets	💶 0.00 💦 📐 퉂	2Calculate Resources
fractions and decimals to	Explore formatting with numbers of decimal		
two decimal places	places; relate to	Format Cell:	
4F–1 Reason about the	rounding.	0.00 £0.00 % 1/2	
location of mixed numbers in	Explore formatting as fractions. Convert to	Set decimal places	
the linear number system.	decimals and multiply by	2	
AF 2 Convert mixed must be	10 or 100. Use the		
<u>4F–2 Convert mixed numbers</u>			





to improper fractions and vice	tool to compare fractions	
versa.	and decimals.	
<u>4F–3 Add and subtract</u> <u>improper and mixed fractions</u> <u>with the same denominator,</u> <u>including bridging whole</u> <u>numbers.</u>		



National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:Convert between different units of measure [for	Use of Mathematics printable resources Conversions	Clock proformas, days of the week, months of the year resources. 2Calculate Spreadsheets	Printable Time Resources 2Calculate Resources
 example, kilometre to metre; hour to minute] Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. 	<u>2Calculate Spreadsheets</u> Create a conversion tool; see Upper KS2 Lesson – Miles to Kilometers. Apply this to other units as well.		
 Find the area of rectilinear shapes by counting squares. Estimate, compare and calculate different measures, including money in pounds and pence Read, write and convert time between analogue and 	Perimeter <u>2Calculate Spreadsheets</u> Create a spreadsheet for pupils to record the lengths and widths of 2D shapes and create formulae to calculate perimeter (and area).	2Calculate Spreadsheets	<u>2Calculate Resources</u>
 digital 12- and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; 	Ready-made activities in Measurement Category	Convert units of measure Perimeter Convert between different units of measure quiz	Convert units of measure Perimeter Convert between different units of measure quiz

Measurement

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years to months; weeks to		Area of shapes	Area of shapes
days.			
	<u>Area</u>	2Calculate Spreadsheets	2Calculate Resources
	2Calculate Spreadsheets		
	Use ready-made activities		
	Sheep Shapes (lower KS2) and		
	Area (Upper KS2).		
	Money	2Calculate Spreadsheets	2Calculate Resources
	2Calculate Spreadsheets		
	Use of the money images and		
	currency formatting of cells to	100 X0	
	explore mathematics with	· · · · · · · · · · · · · · · · · · ·	
	money and calculate change.		
	Use images to create a virtual		
	shop and set simulated		
	shopping tasks.		
	Financial Capability activities	Financial Education	Financial Capability Lesson Ideas
	Aimed at Y1-6 a collection of a		
	variety of activities		
	Time	Time Conversions	Time Conversions
	Ready-made activities in	Clock faces	Clock faces
	Time Category	Telling the time	<u>Telling the time</u>
		Pairs game	Pairs game
		Years and Months	Years and Months
		Convert Between Units of Time	Convert Between Units of Time
		Time Problems	Time Problems

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Geometry - Properties of a Shape

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	2D and 3D shapes	Printable Shape Resources
 Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify acute and obtuse angles and compare and order angles up to two right angles by size. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. 	resources Symmetry - Paint Projects 1 line of symmetry Reflections Textures Rangoli patterns Ready-made shape activities	2PaintReflectionsReflections and TextureRangoli patterns3D shape pairs game3D shape branching database2D shape pairs gameAcute and Obtuse anglesLines of SymmetryShape slideshowName 2D shapes 2Name 2D shapes 3Ordering AnglesRegular or Irregular PolygonsWriting Project - PolygonsWriting Project - TriangleProperties	3D shape pairs game 3D shape branching database 2D shape pairs game Acute and Obtuse angles Lines of Symmetry Shape slideshow Name 2D shapes 2 Name 2D shapes 3 Ordering Angles Regular or Irregular Polygons Writing Project - Polygons Writing Project - Triangle Properties
<u>quadrant, and translate within</u> the first quadrant.		Writing Project - Quadrilaterals	<u>Writing Project - Quadrilaterals</u>

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Geometry - Position and Direction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon. 	2Go Use the ready-made templates to guide the object around the screen or begin to write a more complicated series of instructions Change the input method in settings to extend children's knowledge of directional control. There are several Challenges for children to try.	1 2 3 1 2 3 2 3 0 degrees 3 5 6	2Go User Guide and Lesson Ideas
	Logo Write instructions of developing complexity to control the on screen turtle using simple logo commands	https://www.purplemash.com/# app/tools/2logo	<u>https://www.purplemash.com/site#ap</u> <u>p/guides/2Logo_Guide</u>
	Use of Mathematics printable resources		Printable Shape Resources
	Ready Made Coordinate	Coordinates	Coordinates
	Activities	Coordinates 2	Coordinates 2

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Statistics

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using 	<u>2Investigate</u> Create databases and watch the computer move the data cards around the screen to perform meaningful searches and sorts; Perform advanced and / or searches; Make reports on the database; Update data / pictures across a network instantly		<u>2Investigate Resources</u> Use the ready-made databases and accompanying worksheets to practice problem solving using data.
information presented in bar charts, pictograms, tables and other graphs.	<u>2Graph</u> Create a range of bar, block, line and pie charts to show information gathered from elsewhere.	2Graph	2Graph_Guide
	<u>2Calculate Spreadsheets</u> Includes premade lesson plans and videos to develop number problem-solving skills. Create your own activities including scaled bar charts and tables.	2Calculate Spreadsheets	2Calculate Resources Relevant 2Calculate Lessons: Intermediate Points (Upper KS2)
	Ready-made activities at Statistics Activities	Interpreting Block Graphs	Interpreting Block Graphs

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		Interpreting Pictograms	Interpreting Pictograms
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Year 5

Number - Number and Place Value

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:Read, write, order and	Use of Mathematics printable resources	Number lines, 100 squares, number cards, place value	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources
compare numbers to at least 1 000 000 and determine		Roman Numerals	Printable Roman Numerals
 the value of each digit. Count forwards or backwards in steps of powers of 10 for any given 		Place Value	Printable Place Value worksheets
number up to 1 000 000.	Ready-made activities	Numbers to 1,000,000	<u>Numbers to 1,000,000</u>
Interpret negative numbers	Listed are those	Roman Numerals	Roman Numerals
in context, count forwards	designed for Y5, look at	Multiples of 6,7,9,25,1000	Multiples of 6,7,9,25,1000
and backwards with positive	previous years'	Thousands	<u>Thousands</u>
and negative whole	resources for revision of	Rounding spreadsheet	Rounding spreadsheet
numbers, including through zero.	topics	Counting in steps of powers of ten spreadsheet	<u>Counting in steps of powers of ten</u> <u>spreadsheet</u>
Round any number up to 1		Rounding to nearest 100	Rounding to nearest 100
000 000 to the nearest 10,		Rounding to Estimate	Rounding to Estimate
100, 1000, 10 000 and 100 000.		Comparing and Ordering Decimals	Comparing and Ordering Decimals

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 Solve number problems and practical problems that involve all of the above. Read Roman numerals to 1000 (M) and recognise 		Locating Decimals – Number line Number Sequences 2Calculate Place Value	Locating Decimals – Number line Number Sequences Thousands, Hundreds, Tens and Ones
years written in Roman numerals. <u>5NPV–1 Know that 10 tenths</u> <u>are equivalent to 1 one, and</u> <u>that 1 is 10 times the size of</u>		Spreadsheets. Help children recognise the place value of each digit. Use as a whiteboard resource or for individuals to challenge and test themselves. 2-Player place value game	2-Player place value game
0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. SNPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and	 2Calculate Create activities using 2Calculate set as 2Dos. Use the tool to verify their answers. Include negative numbers through zero. Explore formatting with numbers of decimal places; and rounding. 	2-Prayer place value game 2Calculate Spreadsheets Format Cell: 0.00 @ 0.00 % 1/2 Set decimal places @ 2	Number Reard to nearest 100 Reard to nearest 100 Round to nearest 100
non-standard partitioning.	<u>2Race</u> Set up multiplayer games. Choose your	2Race	2Race



 <u>5NPV-3 Reason about the</u> <u>location of any number with up</u> <u>to 2 decimals places in the</u> <u>linear number system,</u> <u>including identifying the</u> <u>previous and next multiple of 1</u> <u>and 0.1 and rounding to the</u> <u>nearest of each.</u> <u>5NPV-4 Divide 1 into 2, 4, 5 and 10</u> equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. 	track type and question types; pre-set choices include: One less/more than Odd/eve Comparison Number bond Addition Subtraction Multiplication Division		
5NPV-5 Convert between units of measure, including using common decimals and fractions.	• Times tables Game Sequence Snake: Eat the numbered balls to complete the sequence. Three levels of challenge that increases the complexity of the numbers used and the speed. – use challenge C.	Sequence Snake	

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Number - Addition and Subtraction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics	Number lines and 100 squares	Printable Number Lines, Number cards,
	printable resources		Number Squares, Place value, special
 Add and subtract whole 			numbers resources
numbers with more than 4		Place Value	Printable Place Value worksheets
digits, including using formal written methods (columnar addition and subtraction).		Place Value: Th. H. T. O	
• Add and subtract numbers	Maths Quiz	2Quiz	2DIY & 2Quiz Resources
mentally with increasingly	Generate your own		
large numbers.	maths quizzes. Test the		
 Use rounding to check 	children on +, - or X of		
answers to calculations and	varying complexity. Use		
determine, in the context of a	for mental maths		
problem, levels of accuracy.	practice and testing.		
Solve addition and	2Race	2Race	2Race
subtraction multi-step	Set up multiplayer	(
problems in contexts,	games. Choose your		
deciding which operations	track type and question		
and methods to use and	types; pre-set choices	「「「」」	
why.	include:		
	 One less/more than 		
5NF-2 Apply place-value	Odd/eve		
<u>knowledge to known additive</u>	Comparison		
and multiplicative number facts	Number bond		

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<u>(scaling facts by 1 tenth or 1</u> <u>hundredth).</u>	 Addition Subtraction Multiplication Division Times tables Bond Bubbles Aim the bubble blower by clicking near a target bubble at the top of the screen. If the total of the bubble and the one it hits are the target number, the bubbles will fall. Three levels of challenge: Up to 20, 200 and finally 400. 	Score; 0 Level: 10 to	Use Bond Bubbles Challenge C.
	Funky PlatformMake the number on the calculator equal the to the target number by jumping on the SUM 	Funky Platform	Three levels of challenge that increases the complexity of the numbers used and the speed. Use challenge C.

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<u>2Calculate Random</u> number sums example	<u>Y5 Addition Spreadsheet</u>	Use 2Calculate random number tool to create problems for the children to solve. Set these as 2Dos.
2Calculate Missing Numbers	2Calculate Missing Numbers	Find the missing numbers. Image: Second se
2Calculate	2Calculate Spreadsheets	2Calculate Resources
Spreadsheets		
Includes premade lesson	Can be accessed by pupils from	
plans and videos to	within 2Calculate tool.	
develop number		
problem-solving skills.		
2Calculate Lessons:		
Number Stories		
Making Formulae		



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Number - Multiplication and Division

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Identify multiples and factors, including finding all 	Use of Mathematics printable resources	Number lines and 100 squares Times Tables	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources Printable Times Tables resources
 numbers. Establish whether a number up to 100 is prime and recall other year group to 19 		Prime, Square and Cubed numbers Special Numbers:	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources
	Ready-made activities Activities listed here are for Y5, use activities for other year groups to review and revise areas.	Prime Numbers Prime Numbers 2 Decomposing large numbers Multiplication of HTU x U Square and cube numbers Multiplying and dividing by powers of 10 Multiplying Numbers Multiplication HTU x U Multiplication HTU x TU Multiplying HTU x TU Multiplication 2 Digit Division with remainders	Prime NumbersPrime Numbers 2Decomposing large numbersMultiplication of HTU x USquare and cube numbersMultiplying and dividing by powers of 10Multiplying NumbersMultiplication HTU x UMultiplying HTU x TUMultiplication 2 DigitDivision with remainders
		Division with remainders Division whole number	Division with remainders Division whole number

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• Multiply and divide numbers		Division by a single number	Division by a single number
mentally drawing upon		Division questions	Division questions
known facts.	Table Toons	<u>Tabletoons</u>	
• Divide numbers up to 4	The children develop		
digits by a one-digit number	their multiplication skills		Watch the help video from within
using the formal written	through song. The		Table Toons to find out how to make full
method of short division and	children create their own	🍈 🔈 🕵 🕵 .	use of this tool.
interpret remainders	musical playlist using a		
appropriately for the context.	range of different songs.		
Multiply and divide whole	Games consolidate these	CK 9 Games 🖑	
numbers and those involving	skills. Ranging from 2x		
decimals by 10, 100 and	to 12x		
1000.	2Race	2Race	2Race
Recognise and use square	Set up multiplayer	(
numbers and cube numbers,	games. Choose your		
and the notation for squared	track type and question		
$(^{2})$ and cubed $(^{3})$.	types; pre-set choices	「「「」」	
 Solve problems involving 	include:		
multiplication and division	 One less/more than 		
including using their	Odd/eve		
knowledge of factors and	 Comparison 		
multiples, squares and	 Number bond 		
cubes.	Addition		
 Solve problems involving 	 Subtraction 		
addition, subtraction,	 Multiplication 		
multiplication and division	Division		
and a combination of these,	 Times tables 		



including understanding the	Dividers	Dividers	Use Challenge C. You can change the
meaning of the equals sign.	Divide the numbers	Sore: 0 Level: 1 P 3 1 1 - P 3 1 1 - P 3 1 1 - P 3 1 1 - P 3 1 1 - P 3 1 1 - P 3 1 - P	level using the teachers tab at the top of
Solve problems involving	before they reach the	15 12 2 3	the screen.
multiplication and division,	calculator by firing		
including scaling by simple	factors at them. Three	6	
fractions and problems	levels of challenge that		
involving simple rates.	increases the complexity		
	of the numbers used and		
5NF-1 Secure fluency in	the speed.		
multiplication table facts, and	Factoroids	Factoroids	Use Challenge C. You can change the
corresponding division facts,	Break down the factors	Score: 0 Level: 1 R J @ H H G	level using the teachers tab at the top of
through continued practice.	into equal parts. Three		the screen
	levels of challenge that		
5NF-2 Apply place-value	increases the complexity	•	
knowledge to known additive	of the numbers used and		
and multiplicative number facts	the speed.		
<u>(scaling facts by 1 tenth or 1</u>	2Calculate	2Calculate Spreadsheets	2Calculate Resources
<u>hundredth).</u>	Spreadsheets		
	Includes premade lesson	Function Machine Council	Ask the children to create their own
5MD-1 Multiply and divide	plans and videos to		number machine spreadsheet.
numbers by 10 and 100;	develop number		
understand this as equivalent	problem-solving skills.		
<u>to making a number 10 or 100</u>	Create your own		
<u>times the size, or 1 tenth or 1</u>	activities to set as 2Dos.		
hundredth times the size.	2Calculate	2Calculate Spreadsheets	2Calculate Resources
	Create activities using		
5MD-2 Find factors and	2Calculate set as 2Dos		
multiples of positive whole			



numbers, including common	using the <mark>=?</mark> tool to	
factors and common multiples,	verify their answers.	
and express a given number as		
a product of 2 or 3 factors.		
5MD–3 Multiply any whole		
number with up to 4 digits by		
any one-digit number using a		
formal written method.		
5MD-4 Divide a number with		
up to 4 digits by a one-digit		
number using a formal written		
method, and interpret		
remainders appropriately for		
the context.		



Number – Fractions

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Fraction Walls	Printable Fractions Resources
 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. Recognise mixed numbers and improper fractions and 	Fraction Wall Guide the falling fractions as they drop down from the top of the screen. Position the fractions so they contain a whole. Three levels of challenge that increases the complexity of the numbers used and the speed.		Use Challenge C. You can change the level using the teachers tab at the top of the screen.
convert from one form to the other and write mathematical statements > 1 as a mixed number [for example,	Fractonio's Pizzeria Develop fraction skills with 3 levels of difficulty.	Level 2: Pizza Master	Level 1: Pizza Rookie asks the children to use simple fractions to create a pizza. Level 2: Pizza Master encourages the children to use mixed fractions and level 3: Pizza King converts fractions into percentages.
$\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$	Ready-made activities	Tenths and Hundredths Pairs	Tenths and Hundredths Pairs
 Add and subtract fractions 		Decimals and fractions quiz	Decimals and fractions quiz
with the same denominator		Comparing fractions	Comparing fractions
and denominators that are		Rounding spreadsheet	Rounding spreadsheet
multiples of the same		3 decimal places	<u>3 decimal places</u>
number.		Compare fractions	Compare fractions

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 Multiply proper fractions and 		Rounding To Nearest Whole	Rounding To Nearest Whole Number
mixed numbers by whole		Number	
numbers, supported by		Fraction Equations	Fraction Equations
materials and diagrams.		Fraction Calculations	Fraction Calculations
 Read and write decimal 		Comparing Mixed Numbers	Comparing Mixed Numbers
numbers as fractions [for		Mixed and Improper Fractions –	Mixed and Improper Fractions – Sort
example, $0.71 = \frac{71}{100}$].		Sort	
 Recognise and use 		Mixed and Improper Fraction –	Mixed and Improper Fraction – Pair
thousandths and relate them		Pair	
to tenths, hundredths and	2Calculate	2Calculate Spreadsheets	2Calculate Resources
decimal equivalents.	Explore formatting with		Number Round to Round
 Round decimals with two 	numbers of decimal	Format Cell:	
decimal places to the nearest	places; relate to	0.00 £0.00 % 1/2	4000 4600 4570 4568 4567.9 4567.89 4578.89 4578.99 4578.89 4588.89 45888888888888 4888888888888888888888
whole number and to one	rounding.	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Comment 1000 700 680 678 678.1 678.06 678.064 Microsover 0 100 350 346 345.5 345.50 345.500
decimal place	5	2	2.347650000 0 0 0 0 2 2.3 2.35 2.348
 Read, write, order and 			
compare numbers with up to			
three decimal places.	<u>2Calculate</u>	2Calculate Spreadsheets	2Calculate Resources
 Solve problems involving 	Explore formatting as	📰 💿 💦 💽	Fraction Decimal Number by 100 100
number up to three decimal	fractions and	Format Cell:	1/4 🥥 0.75
places.	percentages. Convert to		¼ ↓ ↓ 0.75 ½ ↓ ↓ ↓ 0.75 ½ ↓ ↓ ↓ 0.75 ½ ↓ ↓ ↓ ↓
Recognise the per cent	decimals and multiply by	0.00 £0.00 % 1/2	³ /10 ⇒ 0.75
symbol (%) and understand	10 or 100.	Set decimal places 🗹	
that per cent relates to		2	
'number of parts per		$\frac{2}{5}$ + $\frac{4}{5}$ = $1\frac{1}{5}$	
hundred', and write		⁸ / ₉ + ⁴ / ₉ =?	
percentages as a fraction			



with denominator 100, and	[*] 4 x	4⁄5	$= 3\frac{1}{5}$	0.01	1/ ₁₀₀			
as a decimal.	³ 9 x	4⁄9	=?	1.05	1 ¹ ⁄ ₂₀			
Solve problems which				1/2	+ 7/40	= 1 ¹ / ₅		
require knowing percentage					. 210			
and decimal equivalents of				0.01 0.02	0.03 0.04	0.05 0.06	0.07 0.08 0).09
$\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those				¹ / ₁₀₀ ¹ / ₅₀	³ / ₁₀₀ ¹ / ₂₅	1/ ₂₀ 3/ ₅₀	7 _{/100} 2 _{/25}	⁹ ⁄100
fractions with a denominator				1 ÷	100 =	0.01 =	1% =	1/100
of a multiple of 10 or 25.				20 ÷	100 =	0.2 =	20% =	1/5
of a multiple of 10 of 25.				50 ÷ 75 ÷	100 = 100 =	0.5 = 0.75 =	50% = 75% =	1/2 3/.
FF 1 Find non-white functions of				36 ÷	100 =	0.36 =	36% =	⁹ /25
5F–1 Find non-unit fractions of								
<u>quantities.</u>								
5F–2 Find equivalent fractions								
and understand that they have								
the same value and the same								
position in the linear number								
<u>system.</u>								
5F–3 Recall decimal fraction								
equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, and								
$\frac{1}{1_{10}}$ and for multiples of these								
proper fractions.								

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Measurement

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	<u>Conversions</u> <u>2Calculate Spreadsheets</u>	2Calculate Spreadsheets	2Calculate Resources
• Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre;	Create a conversion tool; see Upper KS2 Lesson – Miles to Kilometers. Apply this to other units as well.		
 centimetre and millimetre; gram and kilogram; litre and millilitre). Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Measure and calculate the 	Perimeter <u>2Calculate Spreadsheets</u> Create a spreadsheet for pupils to record the lengths and widths of 2D shapes and create formulae to calculate perimeter (and area). Create composite shapes and apply these formulae.	2Calculate Spreadsheets	<u>2Calculate Resources</u>
 perimeter of composite rectilinear shapes in centimetres and metres. Calculate and compare the 	Ready-made activities in Measures Category	Convert units of measure Units of Measurement Perimeter Area	Convert units of measure Units of Measurement Perimeter Area
area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres (m ²) and	<u>Area</u> <u>2Calculate Spreadsheets</u> Use ready-made activities Sheep Shapes (lower KS2) and Area (Upper KS2).	2Calculate Spreadsheets	2Calculate Resources

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 estimate the area of irregular shapes. Estimate volume [for example, using 1 cm³ blocks to build cuboids (including 	2Design and Make Create annotated cuboids using 2Design & Make with size information in the nets; children can calculate the volumes.		2Design & Make Guide
 cubes)] and capacity [for example, using water]. Solve problems involving converting between units of 	Financial Capability activities Aimed at Y1-6 a collection of a variety of activities	Financial Education	Financial Capability Lesson Ideas
converting between units of time.Use all four operations to	<u>Time</u> <u>Ready-made activities in Time</u> <u>Category</u>	Time Conversions 12 Hour and 24 Hour Conversions	Time Conversions12 Hour and 24 Hour Conversions
solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.		Timetables	<u>Timetables</u>



Geometry - properties of a shape

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	2D and 3D shapes	Printable Shape Resources
 Identify 3-D shapes, 	Ready-made shape activities	Angles	Angles
including cubes and other		3D Shapes	<u>3D Shapes</u>
cuboids, from 2-D		Estimate angles	Estimate angles
representations.		Types of angles	<u>Types of angles</u>
 Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (°). Identify: Angles at a point and one whole turn (total 360°) Angles at a point on a straight line and ½ a turn (total 180°). Other multiples of 90°. Use the properties of rectangles to deduce related facts and find missing lengths and angles. 	Logo Explore angles using the Logo turtle.		2Logo Guide

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 Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. 		
<u>5G–1 Compare angles.</u> <u>estimate and measure angles</u> <u>in degrees (°) and draw angles</u> <u>of a given size.</u>		
5G–2 Compare areas and calculate the area of rectangles (including squares) using standard units.		

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Geometry - Position and Direction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: 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. 	Logo Use Logo to draw a simple shape. Using the Pen Up and Pen Down translate the shape (10,2)	2Logo	<u>2Logo Guide</u>

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Statistics

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Asheets 2Calculate Resources Image: Contract of the second sec				
 Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables, including timetables. Includes premade lesson plans and videos to develop number problem-solving skills. Create your own activities including scaled bar charts and tables. Relevant 2Calculate Lessons: Intermediate Points (Upper KS2) 		2Calculate Spreadsheets Image: Can be accessed by pupils from within 2Calculate tool.					
	Ready-made activities in	Timetables	<u>Timetables</u>				
	Measures Category	Interpreting Timetables	Interpreting Timetables				
	2Investigate Create databases and watch the computer move the data cards around the screen to perform meaningful searches and sorts; Perform advanced and / or searches; Make reports on the database; Update data / pictures across a network instantly		Use the ready-made databases and accompanying worksheets to practice				

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Year 6

Number - Number and Place Value

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics	Number lines, 100 squares,	Printable Number Lines, Number cards,
	printable resources	number cards, place value	Number Squares, Place value, special
Read, write, order and			numbers resources
compare numbers up to 10		Place Value	Printable Place Value worksheets
000 000 and determine the			FIIItable Flace Value Worksheets
value of each digit.			
Round any whole number to			
a required degree of		Place Value: Th, H, T, O Place Value: M, Th, H, T, O	
accuracy.	Ready-made place value	Numbers to 10,000,000	<u>Numbers to 10,000,000</u>
Use negative numbers in	<u>activities</u>	Rounding	Rounding
context and calculate	Also look at previous	Rounding spreadsheet	Rounding spreadsheet
intervals across zero.	years' resources in this	Number Lines – Placing	Number Lines – Placing Numbers
 Solve number and practical 	area for revision of topics	Numbers	
problems that involve all of		Negative Number Lines	Negative Number Lines
the above.		Negative Numbers	Negative Numbers
		Positive & Negative Integers	Positive & Negative Integers
6NPV-1 Understand the		Negative/Positive	Negative and Positive Numbers
relationship between powers		Problem Solving (+ - X ÷)	Problem Solving
of 10 from 1 hundredth to 10		Find the missing number (+ - X	Find the missing number
million, and use this to make a		÷)	
<u>given number 10, 100, 1,000, 1</u>		Problems Involving Decimals	Problems Involving Decimals

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tenth, 1 hundredth or 1		Journey Distances Decimals	Journey Distances Decimals
thousandth times the size		Number Pattern Rules	Number Pattern Rules
(multiply and divide by 10, 100		Number Patterns	Number Patterns
and 1,000).		2Calculate Place Value	Thousands, Hundreds, Tens and Ones
		Spreadsheets.	<u>Spreadsheet</u>
6NPV-2 Recognise the place		Help children recognise the place	
value of each digit in numbers		value of each digit. Use as a	
up to 10 million, including		whiteboard resource or for	
decimal fractions, and		individuals to challenge and test	
compose and decompose		themselves.	
numbers up to 10 million using	Game Sequence Snake:	Sequence Snake	Use 2DIY Game Sequence Snake to make
standard and non-standard	Eat the numbered balls	Score: 0 Level: 1 🛛 🖓 🖓 🖓 👘 🖗 🥞	a game suited to your pupils.
partitioning.	to complete the		2DIY Snake
partitioning.	sequence. Three levels of		Watch the help video in the app for a
6NPV–3 Reason about the	challenge that increases		quick overview of how to do this.
	the complexity of the	· · · · · · · · · · · · · · · · · · ·	
location of any number up to	numbers used and the	-	
10 million, including decimal	speed. – use challenge C.		
fractions, in the linear number	speed. use challenge e.		
system, and round numbers, as	20.00	20.00	20
appropriate, including in	2Race	2Race	2Race
<u>contexts.</u>	Set up multiplayer	(
	games. Choose your	A00001	
6NPV-4 Divide powers of 10,	track type and question		
from 1 hundredth to 10 million,	types; pre-set choices		
into 2, 4, 5 and 10 equal parts,	include:		
and read scales/number lines	• One less/more than		
with labelled intervals divided	Odd/eve		
into 2, 4, 5 and 10 equal parts.	Comparison		
$\frac{1110}{2}, 4, 5 \text{ and } 10 \text{ equal parts.}$	 Number bond 		
	1		1



Addition	
Subtraction	
 Multiplication 	
Division	
 Times tables 	

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Number – Addition, Subtraction, Multiplication and Division

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Multiply multi-digit numbers 	Use of Mathematics printable resources	Number lines and 100 squares	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources
up to 4 digits by a two-digit whole number using the formal written method of long multiplication.		Place Value	Printable Place Value worksheets
• Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret		Prime, Square and Cubed numbers 123 123 156 156 1789 Square Numbers Corr Understand Square Numbers Corr Understand Square Numbers Corr Corr Square Numbers Cube Numbers Corr Cor Cor <td>Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources</td>	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources
remainders as whole number remainders, fractions, or by rounding, as appropriate for	Ready-made place value activities Also look at previous	Long Division Common Factors and Primes	Long Division Common Factors and Primes
 the context. Divide numbers up to 4 digits by a two-digit number using the formal written 	years' resources in this area for revision of topics	Multiplication – 2 by 3 Digits Multiplication – multiple digits Missing Numbers (x) Missing Numbers (x & ÷)	<u>Multiplication – 2 by 3 Digits</u> <u>Multiplication – multiple digits</u> <u>Missing Numbers (x)</u> <u>Missing Numbers (x & ÷)</u>
method of short division where appropriate, interpreting remainders according to the context.		Multiples of 10 (x & ÷) Long Multiplication Multiplying Decimals	Multiples of 10 (x & ÷) Long Multiplication Multiplying Decimals

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• Perform mental calculations,		Mental Calculations	Mental Calculations
including with mixed	<u>Maths Quiz</u>	2Quiz	2DIY & 2Quiz Resources
operations and large	Generate your own		
numbers.	maths quizzes. Test the		
Identify common factors,	children on +, - or X of		
common multiples and prime	varying complexity. Use		
numbers.	for mental maths		
• Use their knowledge of the	practice and testing.		
order of operations to carry	Table Toons	<u>Tabletoons</u>	
out calculations involving the	The children develop		
four operations.	their multiplication skills		Watch the help video from within
Solve addition and	through song. The		Table Toons to find out how to make full
subtraction multi-step	children create their own	8 🧕 🕵 🥵	use of this tool.
problems in contexts,	musical playlist using a		
deciding which operations	range of different songs.		
and methods to use and why	Games consolidate these		
Mathematics – key stages 1	skills. Ranging from 2x		
and 2 40 Statutory	to 12x		
requirements.	2Race	2Race	2Race
Solve problems involving	Set up multiplayer	(
addition, subtraction,	games. Choose your		
multiplication and division.	track type and question		
Use estimation to check	types; pre-set choices	「「「」」	
answers to calculations and	include:	00	
determine, in the context of a	 One less/more than 		
problem, an appropriate	Odd/eve		
degree of accuracy.	Comparison		
	 Number bond 		

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6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.6AS/MD-3 Solve problems involving ratio relationships.	 Addition Subtraction Multiplication Division Times tables Bond Bubbles Aim the bubble blower by clicking near a target bubble at the top of the screen. If the total of the bubble and the one it hits are the target number the bubbles will fall. Three levels of challenge Up to 20, 200 and finally 400.	Score: 0 Make 120 Make 1	Use Bond Bubbles Challenge C.
6AS/MD-4 Solve problems with 2 unknowns.	Funky Platform Make the number on the calculator equal the to the target number by jumping on the SUM platforms. Gain bonus points by doing this in as few moves as possible.	Funky Platform	Three levels of challenge that increases the complexity of the numbers used and the speed. Use challenge C.

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2Calculate Random	Y5 Addition Spreadsheet	Use 2Calculate random number tool to
number sums example		create problems for the children to solve.
		Set these as 2Dos.
2Calculate	2Calculate Spreadsheets	2Calculate Resources
<u>Spreadsheets</u>		
Includes premade lesson	Can be accessed by pupils from	
plans and videos to	within 2Calculate tool.	
develop number		
problem-solving skills.		
2Calculate Lessons:		
Number Stories		
Making Formulae		
Area		
A-Fish-metric Develop basic number skills with 4 levels of difficulty. Levels 1 and 2 cover addition and subtraction, level 3 multiplication and level 4	Current 2 Target 5 $3 + 2 = 5$	
advanced multiplication.		



<u>Dividers</u>	Dividers	Use Challenge C. You can change the
Divide the numbers	Score: 0 Level: 1 P 1 C 4	level using the teachers tab at the top of
before they reach the	15 12 2 3	the screen.
calculator by firing		
factors at them. Three		
levels of challenge that		
increases the complexity		
of the numbers used and		
the speed.		
Factoroids	Use Challenge C. You can	Factoroids
Break down the factors	change the level using the	
into equal parts. Three	teachers tab at the top of the	
levels of challenge that	screen	
increases the complexity	. Score: 0 Level: 1 😰 🖄 📽 🖬	
of the numbers used and		
the speed.		
	•	



Number – Fractions

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:Use common factors to	Use of Mathematics printable resources	Fraction Walls	Printable Fractions Resources
 simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent 	Fraction Wall Guide the falling fractions as they drop down from the top of the screen. Position the fractions so they contain a whole. Three levels of challenge that increases the complexity of the numbers used and the speed.	Sorre 1 Level 1 not 1 no	Use Challenge C. You can change the level using the teachers tab at the top of the screen.
 fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8]. Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]. 	Fractonio's Pizzeria Develop fraction skills with 3 levels of difficulty.	Level 2: Pizza Master	Level 1: Pizza Rookie asks the children to use simple fractions to create a pizza. Level 2: Pizza Master encourages the children to use mixed fractions and Level 3: Pizza King converts fractions into percentages.
		Fraction and Decimal Pairs	Fraction and Decimal Pairs

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	1		,
 Associate a fraction with division and calculate 	Ready-made activities in https://www.purplemash	Compare and Order fractions	Compare and Order fractions
decimal fraction equivalents	.com/#tab/pm-	Writing Fractions – LCM	Writing Fractions – LCM
[for example, 0.375] for a	home/maths/numbers/nu	Prime Factorisation & HCF	Prime Factorisation & HCF
simple fraction [for example,	mber_fractions	Comparing Fractions	Comparing Fractions
³ / ₈].		Fractions, Decimals and	Fractions, Decimals and Percentages
Identify the value of each		Percentages	
digit in numbers given to		Equivalent Fractions	Equivalent Fractions
three decimal places and		Fraction Calculations	Fraction Calculations
multiply and divide numbers		Fraction Sentences	Fraction Sentences
by 10, 100 and 1000 giving			
answers up to three decimal		Related Denominators	Related Denominators
places.	<u>2Calculate</u>	2Calculate Spreadsheets	2Calculate Resources
Multiply one-digit numbers	Explore formatting with	📰 🚥 🖪 💽 🖹	Number Round to
with up to two decimal	numbers of decimal	Format Cell:	57874 0 57873 00 57870 57874 0 57873 00 57873 00 57873 00 57873 00 57873 00 57873 00 57873 00 57873 00 57873 00
places by whole numbers.	places; relate to	0.00 £0.00 % 1/2	5000 4600 4570 4568 4567.9 4567.89 4567.89 4000 700 670 678 6770 6770 6770 6770 6770
Use written division methods	rounding.	Set decimal places 🗹	Construction 1000 700 680 678 678.1 678.06 678.064 Accounting 0 100 350 346 345.5 345.50 345.50
in cases where the answer		2	2.517850000 0 0 0 2 2.3 2.35 2.348
has up to two decimal			
places.			
Solve problems which	<u>2Calculate</u>	2Calculate Spreadsheets	2Calculate Resources
require answers to be	Explore formatting as	📰 💀 💦 🔳	Fraction Decimal Multiply to Multiply by 100
rounded to specified degrees	fractions and	Format Cell:	V_2 V_2 $O.75$ V_4 V_4 \odot $O.75$ V_5 V_6 $O.75$ V_{10} V_{16} \odot $O.75$ V_{10} V_{16} \odot $O.75$ V_{10} V_{16} \odot $O.75$
of accuracy.	percentages. Convert to		$\frac{\nu_8}{\nu_0} \qquad \frac{\nu_8}{4} \iff \frac{0.75}{0.75}$
Recall and use equivalences	decimals and multiply by	0.00 £0.00 % 1/2	3 ₁₀ 3 ₁₀ ⊕ 0.75
between simple fractions,	10 or 100.	Set decimal places 🖉	
decimals and percentages,		2	



including in different	 [°] 2 _{/5}	+	4/5	=	$1\frac{1}{5}$		0.01	1/100			-			
contexts.					- 75		1.05							
contexts.	8⁄9	+	4⁄9	<mark>=?</mark>	<u> </u>									
	² 4	Х	4/5	=	3 ¹ ⁄5		1∕2	+	7 _{/10}	=	1 1⁄5			
<u>6F–1 Recognise when fractions</u>	9	х	4⁄9	=?										
<u>can be simplified, and use</u>			, in the second se			0.01	0.02	0.03	0.04	0.05	0.06	0.07 0	.08 0.0)9
common factors to simplify						7100	⁷ 50	[≫] 100	⁹ 25	¹ ⁄20	[≁] 50	100	∕25 ^{- %} 100	00
fractions.						1 20	÷	100	=	0.01	=	1% 20%	=	1/1C
						50	÷	100	=	0.2	=	50%	-	- 75 - 1/
<u>6F–2 Express fractions in a</u>						75	÷	100	=	0.75	=	75%	-	3/2
common denomination and use						36	÷	100	=	0.36	=	36%	-	⁹ ⁄28
this to compare fractions that														
<u>are similar in value.</u>														
<u>6F–3 Compare fractions with</u>														
different denominators,														
including fractions greater than														
1, using reasoning, and choose														
between reasoning and														
_														
<u>common denomination as a</u>														
<u>comparison strategy.</u>														

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Ratio and Proportion

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping 	Conversions2Calculate SpreadsheetsCreate a conversion tool; seeUpper KS2 Lesson – Miles toKilometers.Use Converting Money lesson– find missing values usingconversion rates.Use 25% off lesson to practicecalculating percentages ofamounts.Financial Capability activitiesAimed at Y1-6 a collection of avariety of activities	2Calculate Spreadsheets Einancial Education	2Calculate Resources

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using knowledge of fractions and multiples.	https://www.purplemash.com/# app/tools/2logo	https://www.purplemash.com/site#ap p/guides/2Logo_Guide
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Algebra

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables. 	Use of Mathematics printable resources 2Calculate Spreadsheets Use spreadsheet lessons that include formulae. Such as Making Formulae 2Calculate Spreadsheets Use formulae in spreadsheets to create and explore number sequences. Build complexity onto Lower KS2 lesson Sequences.	Special Numbers – explore patterns	Printable Number Lines, Number cards, Number Squares, Place value, special numbers resources 2Calculate Resources 2Calculate Resources
	2Quiz Create quizzes for number sequences. Question formats; sequencing, multiple choice, text, labelling and cloze could be used for this.	2Quiz	2DIY & 2Quiz Resources

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National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Properties of triangles	Printable Shape Resources
 Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. 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 	Conversions2Calculate SpreadsheetsCreate a conversion tool; seeUpper KS2 Lesson – Miles toKilometres.Apply this to other units as well.Upper KS2 lesson – MakingFormulaeUpper KS2 lesson – ConvertingMoney	2Calculate Spreadsheets	2Calculate Resources
 vice versa, using decimal notation to up to three decimal places. Convert between miles and kilometres. Recognise that shapes with the same areas can have 	Area and Perimeter <u>2Calculate Spreadsheets</u> Build upon Lower KS2 Lesson – Sheep Shapes <u>Ready-made activities in</u> <u>Measures Category</u>	2Calculate Spreadsheets Perimeter Area	2Calculate Resources Perimeter Area
different perimeters and vice versa.		Convert units of measure Convert measures to solve problems	<u>Convert units of measure</u> <u>Convert measures to solve problems</u>

Measurement

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Recognise when it is possible to use formulae		Convert units (m and mm) Matching volume and capcity	<u>Convert units (m and mm)</u> <u>Matching volume and capcity</u>
 for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]. 	Volume and Capacity	Volume and Capacity	
	Prefixes in units of measurement	Prefixes in units of measurement 2Design & Make Guide	



Geometry - Properties of a Shape

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	2D and 3D shapes	Printable Shape Resources
 Draw 2-D shapes using given dimensions 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. Illustrate and name parts of circles, including radius, diameter and circumference 	Logo Explore angles using the Logo turtle. <u>2Design and Make</u> Create, edit and make 3D shapes from nets.	https://www.purplemash.com/# app/tools/2logo	https://www.purplemash.com/site#ap p/guides/2Logo_Guide
and know that the diameter is twice the radius.	Ready-made activities at Shape activities	Angles	Angles
• Recognise angles where they meet at a point, are on		3D Shapes	<u>3D Shapes</u>
a straight line, or are		Unknown angles in triangles	Unknown angles in triangles

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vertically opposite, and find missing angles.	shape problems	shape problems
6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.		

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Geometry - Position and Direction

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
Pupils should be taught to:	Use of Mathematics printable resources	Coordinates	Printable Shape Resources
 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. 	Logo Use Logo to draw a simple shape. Using the Pen Up and Pen Down translate the shape (10,2)	https://www.purplemash.com/# app/tools/2logo	https://www.purplemash.com/site#ap p/guides/2Logo_Guide
	2Go Create a resource on 2Go and print it off. Ask the children to answer questions relating to the resource. E.g. use a map of Europe and ask the children where they would land if they travelled (3,4) from Madrid	The second secon	

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Statistics

National Curriculum Statement	Purple Mash Resource	Direct link to resource	Link to Planning and Resources
 Pupils should be taught to: Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average. 	2Calculate SpreadsheetsIncludes premade lesson plansand videos to develop numberproblem-solving skills.Create your own activitiesincluding scaled bar charts andtables.Relevant 2Calculate Lessons:Intermediate Points (Upper KS2)Mean Class sizes	2Calculate Spreadsheets Image: Can be accessed by pupils from within 2Calculate tool.	2Calculate Resources

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