#### Year 6 Greater Depth Term 1

## Number - number and place value (2 weeks)

- Read, write and order numbers up to 10,000,000 and determine the value of each digit
- find 10 or 100 more or less than a given number
- recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)
- compare and order numbers up to 1,000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1,000 in numerals and in words
- solve number problems and practical problems involving these ideas

#### Number - addition, subtraction multiplication and division (3 weeks)

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the 4 operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- solve problems involving addition, subtraction, multiplication and division
- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Moonwalk Maths	Fractions of numbers		Equivalent fractions	Add and subtract fractions	Mental Calculations	Identify common factors, common multiples and prime numbers
Count. stick	7s	ASSESSMENT	8 <i>s</i>	9s	11s	12s

Main focus	Place Value  Read, write and order numbers up to 10,000,000 and determine the value of each digit  find 10 or 100 more or less than a given number  recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)	WEEK	Place Value  compare and order numbers up to 1,000  identify, represent and estimate numbers using different representations  read and write numbers up to 1,000 in numerals and in words	Addition and Subtraction  solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why	Multiplication  • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Division  • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding.
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## Fractions, decimals and percentages (2 weeks)

- use common factors to 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 fractions
- multiply simple pairs of proper fractions, writing the answer in its simplest form
- divide proper fractions by whole numbers
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction
- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

## Measurement (2 weeks)

- solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 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 vice versa, using decimal notation to up to 3 decimal places
- convert between miles and kilometres
- recognise that shapes with the same areas can have different perimeters and vice versa
- recognise when it is possible to use formulae 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].

Moonwalk Maths	Multiplication And Division		2-D and 3D Shape	Area and Perimeter	Angles	
Count. stick	7s		8s	9s	11s	
Main focus	Fractions		Fractions			
	<ul> <li>use common factors to simplify fractions; use</li> </ul>	ASSESSMENT	add and subtract fractions with different	Measurement	Measurement	Christmas Week
	common multiples to express fractions in the same denomination	WEEK	denominators and mixed numbers, using the concept of equivalent	Converting units of measurement	Area, volume and perimeter	
	<ul> <li>compare and order fractions, including fractions &gt; 1</li> </ul>		<ul><li>fractions</li><li>multiply simple pairs of proper fractions,</li></ul>			
	<ul> <li>associate a fraction with division and calculate decimal fraction</li> </ul>		writing the answer in its simplest form  divide proper fractions			
	equivalents [for example, 0.375] for a simple fraction		by whole numbers			

## Geometry - Shapes (1 week)

- 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 and know that the diameter is twice the radius
- recognise angles where they meet at

#### Geometry - position and direction (1 week)

- describe positions on the full coordinate grid (all 4 quadrants)
- draw and translate simple shapes on the coordinate plane, and reflect them in the axes

#### Algebra (1 week)

- 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.

## Ratio and proportion (1 week)

- 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 using knowledge of fractions and multiples.

## Statistics (1 week)

- interpret and construct pie charts and line graphs and use these to solve problems
- calculate and interpret the mean as an average

Moonwalk Maths	Percentage of amounts	Converting Measurement(inc.time)	Area, perimeter, volume	Ratio and Proportion	Data handling
Count. stick	7s	8s	9s	11s	12s

Main focus	Geometry - Shapes  • draw 2-D shapes using given dimensions and angles  • recognise, describe and build simple 3-D shapes, including making nets  • illustrate and name parts of circles, including radius, diameter and circumference	ASSESSMENT WEEK	Algebra  • 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.	Ratio and proportion • solve problems involving: > the relative sizes of two quantities where missing values can be found by using x ÷ facts > the calculation of percentages and the use of percentages for comparison > similar shapes where the scale factor is known or can be found > unequal sharing and grouping using	Geometry - Position and Direction  • describe positions on the full coordinate grid (all four quadrants)  • draw and translate simple shapes on the coordinate plane, and	• interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average.
	circumference			unequal sharing and grouping using knowledge of fractions and multiples.	plane, and reflect them in the axes.	

#### Number - number and place value (1 week)

- Read, write and order numbers up to 10,000,000 and determine the value of each digit
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- compare and order numbers up to 1,000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1,000 in numerals and in words

solve number problems and practical problems involving these ideas

#### Number - addition, subtraction multiplication and division (1 week)

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- perform mental calculations, including with mixed operations and large numbers
- use their knowledge of the order of operations to carry out calculations involving the 4 operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

use estimation to check answers to calculations and determine, in the context of a problem

# Fractions, decimals and percentages (1 week)

- use common factors to simplify fractions
- $\bullet$  compare and order fractions, including fractions > 1
- calculate decimal fraction equivalents for a simple fraction
- add and subtract fractions and mixed numbers
- multiply simple pairs of proper fractions divide proper fractions by whole numbers

## Geometry - Position and Direction (1 week)

- describe positions on the full coordinate grid
- draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

## Statistics (1 week)

- interpret and construct pie charts and line graphs and use these to solve problems
- calculate and interpret the mean as an average.

Moonwalk	Shape	Statistics	Percentages	Position and	Place Value
Maths				direction	

Main focus	Place Value  Read, write and order numbers up to 10,000,000 and determine the value of each digit  find 10 or 100 more or less than a given number compare and order numbers up to 1,000  identify, represent and estimate numbers using different representations  read and write numbers up to 1,000 in numerals	Calculations • solve addition, subtraction multiplication and division multi-step problems in contexts, deciding which operations and methods to use and why • use the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and	Fractions, decimals and percentages  use common factors to simplify fractions compare and order fractions, including fractions > 1 calculate decimal fraction equivalents for a simple fraction add and subtract fractions and mixed numbers multiply simple pairs of proper fractions divide proper fractions	ASSESSMENT WEEK	Geometry - Position and Direction  describe positions on the full coordinate grid (all four quadrants)  draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Statistics Interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average.
	and in words	interpret remainders	<ul> <li>divide proper fractions</li> <li>by whole numbers</li> </ul>			

- ALL OBJECTIVES
- Algebra (3days)

Moonwalk	Calculations	Fractions	Percentages		Problem Solving	
Maths						
Main focus	<ul> <li>Algebra (3 days)</li> <li>use simple formulae</li> <li>generate and         describe linear         number sequences</li> <li>express missing         number problems         algebraically</li> <li>find pairs of numbers         that satisfy an         equation with two         unknowns</li> <li>enumerate         possibilities of         combinations of two         variables.</li> </ul>	Reasoning Review lessons	Reasoning Review lessons	SATS WEEK	Problem solving	HALF TERM