

## Level Expected at the End of EYFS

We have selected the Early Learning Goals that link to the Mathematics National Curriculum. For more detail about linked subject progression within the EYFS Framework, please refer to [these documents](#).

### Number

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

### Numerical Patterns

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

### Key Stage 1 National Curriculum Expectations

- The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].
- At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.
- By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.
- Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

### Lower Key Stage 2 National Curriculum Expectations

- The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.
- At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.
- By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

### Upper Key Stage 2 National Curriculum Expectations

- The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.
- At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.
- By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

For further information about the specific objectives for each phase from Key Stage 1 to Upper Key Stage 2, please click the following link:

[Mathematics programmes of study: key stages 1 and 2](#)

## Intent

At Cookridge Primary School, we believe that every child can excel as a mathematician. Pupils are able to reason and problem solve successfully by developing a strong foundation in the basics (fluency). Through providing an environment in which it is safe to make mistakes, our children will use oracy, role-play and investigation to become inquisitive, resilient and articulate mathematicians who are ready to apply their skills in the real world.

In mathematics, we ensure equality by providing resources that are accessible and appropriate for all pupils regardless of any protected characteristics. During roleplay activities, teachers ensure that the scenarios are appropriate for all pupils and have varied representation and where learning is taking place outside of the classroom, all pupils will be able to access the lesson.



## Implementation

Maths at Cookridge Primary School will cover the National Curriculum objectives through the implementation of the following:

- From Year 1 to Year 6, math frameworks have been developed to ensure teaching is taught in order that allows children to build on their prior knowledge in a logical order. It is our belief that each step of the framework underpins the following objectives. These frameworks are clearly evident on the maths subject guidance page for each year group which allows all stakeholders of Cookridge Primary School access.
- Pupils will take part in daily Fluency session, including the use of Times Tables Rockstars and Numbots to ensure a strong foundation in the basics.
- At Cookridge Primary School, we use the White Rose Maths scheme of work to inform all of our planning. Teachers will look at the White Rose Maths objectives to ensure pitch and order of teaching is accurate. They will then build on these using other resources to ensure there is elements of oracy, role play and reasoning that provides pupils with real world application.
- As previously mentioned, WRM will inform all planning and ensure there is coverage of our mathematic frameworks. Teachers will develop tabletops that allows pupils to independently access all maths learning and teaching and support staff will then target children where additional support is needed. Improvement Challenges (ICs) will then be used to fill prior gaps that may have been identified and Mastery Challenges (MCs) will be used to give children additional challenge where they have successfully met an objective.
- In addition to this, we believe that Same Day Intervention (SDI) plays a vital part in ensuring that children make good progress. Evidence shows that where children have failed to meet an objective, SDI allows any prior gaps to be identified and filled quickly and therefore a child is less likely to fall behind.
- Through regular book scrutiny, observations and assessment, we are able to ensure that maths is being pitched and taught accurately across the primary phase and that all of the above is in place for all children. This ensures that there is a consistency in the approach to teaching maths and therefore provides pupils with the best opportunity to succeed.
- The maths lead works collaboratively with other members of the trust where we are able to moderate and share new strategies.



## Impact

- 2022 KS1 School – EXS = 80%, GDS=28%.
- 2022 KS2 – School EXS = 80% (+9 on National),
- 2022 KS2 - School GDS = 30% (+8 on National)
- What is the subject performance like? – Data and triangulation activities
- Do you know the performance of different groups? – Subject crib sheet
- Who are your children of focus and why? – Subject crib sheet
- Can you measure impact and clearly state the subject Intent as a truth? – Our intent for this subject is a reality because...

## Cookridge Primary School: Year 1 Objectives - Mathematics

All planning will be informed through the use of [White Rose Maths](#) and supported using other resources. [Times Table Rockstars](#) will be used to ensure a strong understanding of Times Tables up to 12 x 12 by the end of Year 4 and through to the end of Year 6.

Basic Skills (Fluency) by the end of Year 1:		White Rose Maths planning area
1. That numbers represent a <b>value</b> (objects, representations and abstract).		Place Value (Autumn Year 1) <u>Numbots</u>
2. Knowing that there are only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 numerals that follow a <b>pattern</b> . It resets and records after 9.		Place Value (Autumn Year 1) <u>Numbots</u>
3. <b>Confidently</b> counts within 100.		Place Value (Summer Year 1) <u>Numbots</u>
4. <b>Identify</b> one more and one less from given a number.		Addition and Subtraction (Autumn Year 1) <u>Numbots</u>
5. <b>Number bonds</b> to 10 – (Link number bonds to 20).		Place Value (Autumn Year 1) <u>Numbots</u>
6. <b>Bridging</b> through 10.		Place Value (Autumn Year 1) <u>Numbots</u>
7. Learning the <b>sequence</b> of place value columns of ones and tens.		Place Value (Autumn Year 1) <u>Numbots</u>
Key Learning for Secure		
<b>Place Value</b>		Place Value (Autumn, Spring, Summer Year 1)
1. Count to and across 100, forwards and backwards.		Place Value (Autumn, Spring, Summer Year 1)
2. Beginning with 0 or 1, or from any given number and count within 100.		Place Value (Autumn, Spring, Summer Year 1)
3. Read and write numbers to 100 (e.g. 15) in numerals and 1-20 in words (e.g. Fifteen).		
4. Use the language of: equal to, more than, less than (fewer), most, least.		Addition and Subtraction (Autumn Year 1)
<b>Addition and Subtraction</b> (Teach inverse e.g. $7+3=10/10-7=3$ )		Addition and Subtraction (Autumn Year 1)
5. Know by heart number bonds and related subtraction facts within 20 and to 20 (make sure number bonds, within 10 and to 10, are secure).		
6. Using concrete objects, pictorial representations, and missing number problems, solve <b>one-step problems</b> that involve addition and subtraction, such as $7 = \square + 5$ .		Multiplication and Division (Summer Year 1)
<b>Multiplication and Division</b> (Teach inverse e.g. $2 \times 5 = 10/10 \div 2 = 5$ )		Multiplication and Division (Summer Year 1)
7. Count in multiples of 2s, 5s, 10s.		Fractions (Summer Y1)
8. Using concrete objects, pictorial representations and arrays, solve <b>one-step problems</b> involving multiplication and division (2s, 5s, 10s), with the support of the teacher.		Measurement and Geometry Units
<b>Fractions</b>		Measurement and Geometry Units
9. Identify $\frac{1}{2}$ and $\frac{1}{4}$ within shapes, objects or quantities (e.g. $\frac{1}{2}$ £8, $\frac{1}{4}$ £10).		
<b>Measurement (Every half term)</b> <b>M1</b> – Compare, describe and solve practical problems for: length, weight, capacity and time [for example, long/short, full, capacity/empty, o'clock and half past, double/half, heavy/light].		
<b>Geometry (Every half term)</b> <b>G1</b> - Recognise and name common 2-D and 3-D shapes [for example, rectangles (including squares), circles and triangles – Cuboid (Cube), cylinder, pyramid, prism].		

Always estimate before counting and calculating.

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Basic Skills (Fluency) by the end of Year 2:		White Rose Maths Planning Area
1. Counting from any number within 100, in <b>1s and 10s</b> .		Place Value (Autumn YEAR 2 ) <a href="#">Numbots</a>
2. <b>Number bonds</b> to 10 – (Link number bonds to 20).		Place Value (Autumn YEAR 2 ) <a href="#">Numbots</a>
3. <b>Consolidate Bridging</b> through 10.		Place Value (Autumn YEAR 2 ) <a href="#">Numbots</a>
4. The pupil can <b>recall doubles and halves</b> to 20.		
5. Read and write numbers to at least 100 in numerals and in <b>words</b> .		Place Value (Autumn YEAR 2 ) <a href="#">Numbots</a>
6. The pupil can <b>add and subtract mentally</b> a two-digit number from another two-digit number when there is no regrouping required (e.g. 74 – 33).		Addition and Subtraction (Autumn Year 2)
7. Know <a href="#">Times Tables 2, 5, 10</a> ( <b>Efficient recall</b> ).		<a href="#">TT Rockstars</a>
<b>Key Learning for Secure</b>		White Rose Maths Planning Area
<b>Place Value</b>		Place Value (Autumn YEAR 2 )
1. Recognise the place value of <b>each digit in a 2 digit</b> number.		Place Value (Autumn YEAR 2 )
2. Compare and order numbers from 0 up to 100; use <, > and = signs.		Place Value (Autumn YEAR 2 )
<b>Addition and Subtraction</b> (Teach inverse e.g. 7+3=10/10-7=3)		Addition and Subtraction (Autumn YEAR 2 )
3. The pupil can add 2 two-digit numbers within 100 and can <b>demonstrate</b> their method using concrete apparatus or pictorial representations.		
4. The pupil can recognise the <b>inverse</b> relationships between addition and subtraction and use this to check calculations and work out missing number problems (e.g. $\Delta - 14 = 28$ ).		Addition and Subtraction (Autumn YEAR 2 )
5. The pupil can use different coins to make the same amount (e.g. pupil uses coins to make 50p in different ways; pupil can work out how many £2 coins are needed to exchange for a £20 note).		Money (Autumn YEAR 2 )
<b>Multiplication and Division</b> (Teach inverse e.g. 2x5=10/10÷2=5)		Multiplication and Division (Spring YEAR 2 )
6. The pupil can <b>recall</b> and use multiplication and division facts for the 2, 3, 5 and 10 multiplication tables to solve simple problems, demonstrating an understanding of commutativity as necessary.		
<b>Fractions</b>		Fractions (Spring YEAR 2 )
7. Identify $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{3}{4}$ , $\frac{2}{4}$ , $\frac{3}{4}$ within shapes, objects or quantities.		
<b>Measurement (Every half term)</b>		Geometry and Measurement Units
<b>M1</b> – The pupil can <b>read scales</b> in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given.		
<b>M2</b> - The pupil can read the time on the clock to the nearest <b>15 minutes</b> .		Geometry and Measurement Units
<b>Geometry (Every half term)</b>		Geometry and Measurement Units
<b>G1</b> - The pupil can describe <b>properties</b> of 2-D and 3-D shapes.		

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Basic Skills (Fluency) by the end of Year 3:	White Rose Planning Area
1. Recognise the place value of each digit in a <b>three-digit</b> number (hundreds, tens, ones and tenths).	Place Value (Autumn Y3)
2. Count in <b>1/10's</b> through whole numbers e.g. 0.8 to 1.1.	Place Value (Autumn Y3)
3. The pupil can <b>add and subtract mentally</b> 1's 10's and 100's from a three-digit number.	Place Value (Autumn Y3)
4. Read and write numbers to at least 1000 in numerals and in <b>words</b> .	Addition and Subtraction (Autumn Y3)
5. <b>Count in multiples of 4, 8, 50 and 100</b> and find 10 more or less from a given number.	Multiplication and Division (Autumn Y3)
6. Know Timetables 2, <u>3</u> , <u>4</u> , 5, <u>8</u> , 10 ( <b>Efficient recall/inverse division facts</b> ).	Multiplication and Division (Autumn Y3) <del>TT Rockstars</del>
7. <b>Recall</b> Mathematical facts and vocabulary related to mathematical understanding e.g. Mathematical facts e.g. 90° in a right angle.	Measurement and Geometry Units (White Rose Maths Y3)
<b>Key Learning for Secure</b>	
<b>Place Value</b>	Place Value (Autumn Y3)
1. <b>Compare and order</b> numbers up to 1000.	See relevant area
2. Solve number problems and <b>practical problems</b> involving the basic skills (Fluency).	Editable reasoning and problem solving
<b>Addition and Subtraction</b> (Teach inverse e.g. $7+3=10/10-7=3$ )	Addition and Subtraction (Autumn Y3)
3. Add and subtract numbers <b>mentally</b> , including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds	
4. Add and subtract amounts of money to give change, using both £ and p in practical contexts.	Money (Spring Y3)
5. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	Addition and Subtraction (Spring Y3)
<b>Multiplication and Division</b> (Teach inverse e.g. $2 \times 5 = 10/10 \div 2 = 5$ )	Multiplication and Division (Spring Y3)
6. Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$ ).	
7. Multiplication and division of two-digit by a one-digit number using <b>formal written layout</b> .	Multiplication and Division (Spring Y3)
<b>Fractions</b>	Fractions (Spring and Summer Y3)
8. Recognise equivalent fractions e.g. $2/8 = 1/4$ .	Fractions (Spring and Summer Y3)
9. Pupils can add and subtract fractions with same denominator e.g. $3/5 - 1/5 = 2/5$	
<b>Measurement</b>	Measurement and Geometry Units
<b>M1</b> – Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	
<b>M2</b> – Know the number of seconds in a minute and the number of days in each month, year and leap year.	Time (Summer Y3)
<b>M3</b> – Estimate and <b>read (Different contexts)</b> time with increasing accuracy to the nearest minute; minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.	Time (Summer Y3)
<b>M4</b> – Can convert 120 cm to m; 5m into cm; 3000g into kg.	Measurement and Geometry Units
<b>Geometry</b>	Measurement and Geometry Units
<b>G1</b> – Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them, being able to measure their perimeter.	
<b>G2</b> – Can identify <b>right angles</b> and whether an angle is greater or less than 90 degrees.	Measurement and Geometry Units

Estimate the answer to a problem or calculation and use inverse operation to check



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Basic Skills (Fluency) by the end of Year 4:	White Rose Maths Planning Area:
1. Count backwards <b>through zero</b> to include negative numbers to three digits.	Place Value (Autumn Y4)
2. Recognise the place value of each digit in a <b>four-digit</b> number (Thousands, hundreds, tens, ones and tenths).	Place Value (Autumn Y4)
3. Count in <b>1/100's</b> through whole numbers e.g. 0.01 to 1.0.	Place Value (Autumn Y4)
4. Count in multiples of <b>6, 7, 9, 25 and 1000</b> and find 1000 more or less from a given number.	Multiplication and Division (Autumn Y4)
5. Know Timetables 2, 3, 4, 5, <b>6, 7, 8, 9, 10, 11, 12</b> (Efficient recall/Inverse division facts).	TT Rockstars Multiplication and Division (Autumn Y4)
6. Recall Mathematical facts and vocabulary related to mathematical understanding e.g. Mathematical facts e.g. $90^\circ$ in a right angle.	Geometry and Measurement units
Key Learning for Secure	White Rose Maths Planning Area:
<b>Place Value</b>	Place Value (Autumn Y4)
1. Compare and order numbers beyond 1000.	Place Value (Autumn Y4)
2. Round any number to the nearest 10, 100 or 1000.	Place Value (Autumn Y4)
3. Read roman numerals to 100.	See relevant area
4. Solve number problems and practical problems involving the basic skills (Fluency).	Addition and Subtraction (Autumn Y4)
<b>Addition and Subtraction</b> (Teach inverse e.g. $7+3=10/10-7=3$ )	Addition and Subtraction (Autumn Y4) – Editable reasoning and problem solving
5. Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	Multiplication and Division (Spring Y4)
6. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Multiplication and Division (Spring Y4) – Editable reasoning and problem solving
<b>Multiplication and Division</b> (Teach inverse e.g. $2 \times 5=10/10 \div 2=5$ )	Fractions (Spring Y4)
7. Multiplication and division of two-digit and three-digit numbers by a one-digit number using formal written layout.	Decimals (Spring Y4)
8. Solve problems, including 2 step problems, involving multiplying and dividing, problems such as n objects are connected to m objects.	Decimals (Spring Y4)
<b>Fractions (Decimals)</b>	Measurement Units
9. Pupils can add and subtract fractions with same denominator e.g. $3/5 - 1/5 =$	Length and perimeter (Autumn Y4)
10. Compare numbers with the same number of decimal places up to two decimal places.	Area (Spring Y4)
11. Round decimals with one decimal place to the nearest whole number.	Time (Summer Y4)
<b>Measurement</b>	Properties of Shape (Summer Y4)
M1 – Consolidate converting between different units of measure e.g. 120 cm to m; 5m into cm; 3000g into kg.	Properties of Shape (Summer Y4)
M2 – Measure perimeter in cm and m and work out the area by counting squares.	Statistics (Summer Y4)
M3 – Convert time between analogue and digital solving relating contextual problems.	
<b>Geometry</b>	
G1 – Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	
G2 – Identify lines of symmetry in 2-D shapes presented in different orientations and create simple symmetrical figures.	
<b>Statistics</b>	
S1 – Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	

Estimate the answer to a problem or calculation and use inverse operation to check.

## Cookridge Primary School: Year 5 Objectives - Mathematics

All planning will be informed through the use of [White Rose Maths](#) and supported using other resources. [Times Table Rockstars](#) will be used to ensure a strong understanding of Times Tables up to  $12 \times 12$  by the end of Year 4 and through to the end of Year 6.

Basic Skills (Fluency) by the end of Year 5:	White Rose Maths Planning Area:
1. Read, write, order and compare numbers to at least 1 000 000 and determine the <b>value of each digit</b> .	Place Value (Autumn Y5)
2. Read, write, order and compare numbers with up to <b>three decimal places</b> .	Place Value (Autumn Y5)
3. Recap on number bonds and bridging through any <b>given numbers</b> .	Place Value (Autumn Y5)
4. <b>Recall</b> multiplication and division facts for multiplication tables up to $12 \times 12$ .	Times Table Rockstars Multiplication and Division (Autumn Y5)
5. <b>Round</b> any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 and those numbers with <b>decimals</b> .	Place Value (Autumn Y5)
6. <b>Recall</b> Mathematical facts and vocabulary related to mathematical understanding e.g. Measure – $1\text{km}=1000\text{m}$ , Geometry – identify: angles at a point and one whole turn (total $360^\circ$ ), angles at a point on a straight line and 2 1 a turn (total $180^\circ$ ), other multiples of $90^\circ$ .	Geometry and Measurement Units
Key Learning for Secure	White Rose Maths Planning Area:
<b>Place Value</b>	Place Value (Autumn Y5)
1. Count <b>through 0</b> both forwards and backwards, including decimals and negative numbers.	Place Value (Autumn Y5)
2. Read <b>roman numerals</b> to 1000.	See relevant area
3. Solve number problems and <b>practical problems</b> involving the basic skills (Fluency).	Addition and Subtraction (Autumn Y5)
<b>Addition and Subtraction</b> ( <del>Teach inverse</del> e.g. $7+3=10/10-7=3$ )	Addition and Subtraction (Autumn Y5)
4. Add and subtract numbers with more than <b>4 digits</b> using the formal <b>written methods</b> of columnar addition and subtraction where appropriate.	Addition and Subtraction (Autumn Y5)
5. Solve addition and subtraction <b>multi-step problems</b> in contexts, deciding which operations and methods to use and why.	Multiplication and Division (Autumn Y5)
<b>Multiplication and Division</b> ( <del>Teach inverse</del> e.g. $2 \times 5=10/10 \div 2=5$ )	Multiplication and Division (Autumn Y5)
6. Multiply and divide whole numbers and those involving <b>decimals by 10, 100 and 1000</b> .	Multiplication and Division (Autumn Y5)
7. Recognise and use <b>square</b> numbers and <b>cube</b> numbers.	Multiplication and Division (Spring Y5)
8. Multiply numbers up to <b>4 digits</b> by a one- or two-digit number using a formal <b>written method</b> .	Multiplication and Division (Spring Y5)
9. Divide numbers up to 4 digits by a one-digit number using the <b>formal written method</b> of short division.	Fractions (Spring Y5)
<b>Fractions (Decimals)</b>	Fractions (Spring Y5)
10. <b>Compare, order and add fractions</b> with the same denominator or denominators that are multiples of the same number.	Fractions (Spring Y5)
11. Recognise <b>mixed numbers</b> and <b>improper fractions</b> and convert from one form to the other.	Fractions (Spring Y5) Decimals (Spring Y5)
12. <b>Multiply</b> proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Perimeter and Area (Autumn Y5)
13. Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ $\frac{2}{5}$ $\frac{4}{5}$ .	Measurement (Summer Y5)
<b>Measurement</b>	Properties of Shape (Summer Y5)
<b>M1</b> – Measure and calculate the <b>perimeter</b> and <b>area</b> of composite rectilinear shapes in <del>cm</del> and <del>ms</del> .	Properties of Shape (Summer Y5)
<b>M2</b> – Estimate volume and capacity.	Statistics (Autumn Y5)
<b>Geometry</b>	
<b>G1</b> – <b>Identify</b> 3-D shapes, including cubes and other cuboids, from 2-D representations, distinguishing 2D regular and irregular polygons.	
<b>G2</b> – <del>Draw</del> given angles, and measure them in degrees ( $^\circ$ ) and recognise those that are <b>acute</b> , <b>obtuse</b> and <b>reflex</b> angles.	
<b>Statistics</b>	
<b>S1</b> – <b>Complete, read and interpret</b> information in tables, graphs and charts using and applying the basic fluency skills.	

Estimate the answer to a problem or calculation and use inverse operation to check.



# Cookridge Primary School: Year 6 Objectives - Mathematics

All planning will be informed through the use of [White Rose Maths](#) and supported using other resources. [Times Table Rockstars](#) will be used to ensure a strong understanding of Times Tables up to 12 x 12 by the end of Year 4 and through to the end of Year 6.

Basic Skills (Fluency) by the end of Year 6:	
1. Read, write, order and compare numbers to at least 10,000,000 and determine the value of each digit.	White Rose Planning Area:
2. Read, write, order and compare numbers with up to three decimal places.	Place Value (Aut – Y6)
3. Recap on number bonds and bridging through given numbers.	Place Value (Aut – Y6)
4. Recall multiplication and division facts for multiplication tables up to 12 x 12.	Times Table Rockstars
5. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 and those numbers with decimals.	Place Value (Aut Y6)
6. Recall Mathematical facts and vocabulary related to mathematical understanding e.g. Measure – 1Km=1000m, Geometry – identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and 1/2 a turn (total 180°), other multiples of 90°.	Geometry and Measurement Units – Y6
Key Learning for Secure	
<b>Place Value</b>	White Rose Planning Area:
1. The pupil can demonstrate an understanding of place value, including large numbers and decimals.	Place Value (Aut – Y6)
2. Child to count in 1/3s, 1/5s, 1/8s.	Fractions (Aut – Y6)
<b>Addition and Subtraction (Teach inverse e.g. 7+3=10/10-7=3)</b>	Addition/Subtraction/Multiply/Divide (Aut – Y6)
3. The pupil can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation (e.g. $53 - 82 + 47 = 53 + 47 - 82 = 100 - 82 = 18$ ; $20 \times 7 \times 5 = 20 \times 5 \times 7 = 100 \times 7 = 700$ ; $53 \div 7 + 3 \div 7 = (53 + 3) \div 7 = 56 \div 7 = 8$ ).	Addition/Subtraction/Multiply/Divide (Aut – Y6) Reasoning & Problem Solving Questions Y6
4. The pupil can use formal methods to solve multi-step problems.	Addition/Subtraction/Multiply/Divide (Aut – Y6)
<b>Multiplication and Division (Teach inverse e.g. 2x5=10/10÷2=5)</b>	Fractions (Aut – Y6)
5. The pupil can use formal methods to solve multi-step problems (e.g. find the change from £20 for three items that cost £1.24, £7.92 and £2.55; a roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?; a bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?).	Decimals (Spr – Y6)
<b>Fractions (Decimals)</b>	Percentages (Spr – Y6)
6. The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1/5 or 0.2 or 20% of the whole cake).	Fractions (Aut – Y6)
7. The pupil can calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as 7/21).	Decimals (Spr)
<b>Measurement</b>	Percentages (Spr)
<b>M1</b> – The pupil can calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).	Measurement Units
<b>Geometry</b>	Geometry Units
<b>G1</b> – The pupil can substitute values into a simple formula to solve problems (e.g. perimeter of a rectangle or area of a triangle).	Geometry and Measurement Units
<b>G2</b> – The pupil can use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles).	

Estimate the answer to a problem or calculation and use inverse operation to check