CWPS Mathematics Curriculum (NC 2014)

Assessment:

Children securely working at the EXPECTED STANDARD (EX) at the end of an NC year will be shown as (S) on Target Tracker. Those 'just' working at EX will be shown as (W+) on Target Tracker.

Children working at (W), (B+) or (B) are WORKING TOWARDS (WT).

Children who have demonstrated all the skills in their year group's band and are also demonstrating a greater depth of understanding in a variety of contexts are working ABOVE (AB). They are recorded as (S+) on Target Tracker.

Children who move from (S) to (S) each year will have made expected progress (6 Points).

Year 1 Secure (1s) / Band 1

A child working at the EXPECTED Level at the end of Year 1 will demonstrate the following:

Number & Place Value
- Can count to and past 100, forwards and backwards starting from nay number.
- Can count, read and write numbers to 100 in numerals and count in jumps of 2, 5 and 10.
- Can identify one more and one less, given as starting number.
- Can find and show numbers using objects and pictures including number lines and use equal to, more than, less than (fewer), most, least.
- Can read and write numbers from 1 to 20 in numbers and words.

Addition & Subtraction
- Can read, write and understand number statements using +, - and =.
- Can use number bonds and matching subtraction facts up to 20.
- Can add and subtract one digit and two digit numbers to 20.
- Can answer problems that use addition and subtraction, including missing number problems, using objects and pictures.

Multiplication & Division
- Can answer multiplication and division questions using objects, pictures and other equipment.

Fractions
- Can find and name ½ of an object, shape or amount.
- Can find and name ¼ as one of four equal parts of an object, shape or amount.

Measurement
- Can solve problems for length and height by telling which objects are longer or shorter / taller of shorter.
- Can solve problems for mass and weights by telling which objects are heavier or lighter.
- Can solve problems for capacity and volume by telling if a container is empty, half full or full and if there is more in one container than another.
- Can solve problems for time. Can tell if something is quicker or slower. Can tell if something happened earlier or later.
- Can measure weight or mass and write these measurements down.
- Can measure capacity or volume and write these measurements down.
- Can measure time in hours, seconds or minutes and write these measurements down.
- Can tell how much different coins or notes are worth.
- Can tell when things happened by using: before, after, next, first, today, yesterday, tomorrow, morning, afternoon, evening.
- Can talk about dates using the days of the week, weeks, months and years.
- Can tell what the time is in hours and half past the hour. Can draw these on a clock face.
- Can measure and begin to record length / height.

Geometry – Properties of Shape / Position & Direction
- Can recognise and name common 2D shapes such as rectangles, squares, circles and triangles.
- Can recognise and name common 3D shapes such as cuboids, cubes, pyramids and spheres.
- Can talk about whole, half, quarter and three quarter turns. Can then use this to explain movement, direction and position.

Year 2 Secure (2s) / Band 2

A child working at the EXPECTED Level at the end of Year 2 will demonstrate the following:

Number & Place Value
- Can count forward/backwards in jumps of 2, 3 and 5 from 0 and in 10s from any number.
- Can find the place value of each digit of a number with tens and units.
- Can find and show numbers using different equipment such as number lines and number squares.
- Can compare and order numbers from 0 to 100 using <> and =.
- Can read and write numbers to 100 in numbers and words.
- Can use place value and number facts to answer questions.

Addition & Subtraction
- Can solve problems with addition and subtraction including those involving numbers, quantities and measures by busing objects or pictures.
- Can answer simple addition and subtraction questions in their head and by writing them down.
- Can use addition and subtraction facts to 20 quickly and workout similar facts to 100.
- Can add and subtract a two digit number and a one digit number mentally and when using objects, number lines and pictures.
- Can add and subtract:
  - a two digit number and tens mentally and when using objects, number lines and pictures.
  - 2 two digit numbers mentally and when using objects, number lines and pictures.
  - 3 one digit numbers mentally and when using objects, number line and pictures.
- Can show that adding 2 numbers can be done in any order but subtraction cannot.
- Can show that subtraction is the opposite of addition and use this to check their work.

Multiplication & Division
- Can remember and use multiplication and division facts for the 2, 5 and 10 time stables and recognise odd and even numbers.
- Can answer multiplication and division problems within the tables using multiplication, division and equals.
- Can show that multiplying 2 numbers can be done in any order but division cannot.
- Can answer questions involving multiplication and division mentally and with objects.

Fractions
- Can find, name and write fractions of a length, shape, set of objects or amount, including 1/3, 1/4, 2/4 and 3/4.
- Can write simple fractions facts such as ½ of 6 = 3 and 2/4 = ½.

Measurement
- Can choose the right units to measure length, height, mass, temperature or capacity. Can read to the nearest unit and do this on rulers or scales.
- Can compare amounts using >, < or =.
- Can use the £ sign and p sign. Can use notes and coins to make a particular amount.
- Can find different ways for coins to add up to an amount.
- Can add and subtract money and give change.
- Can put different events in order and compare them.
- Can tell the time to 5 minutes. Can tell when it is quarter past or quarter to an hour. Can draw these on a clock.
- Can tell how many minutes are in an hour and how many hours are in a day.

Geometry – Properties of Shape / Position & Direction
- Can notice and explain the properties of 2D shapes, e.g. number of sides and lines of symmetry.
- Can notice and explain the properties of 3D shapes, e.g. the number of edges, vertices and faces.
- Can spot 2D shapes on the surfaces such as a circle on a cylinder and a triangle on a pyramid.
- Can compare and sort common 2D and 3D shapes and everyday objects.
- Can order mathematical objects in patterns and sequences.
- Can use mathematical vocabulary to describe position, direction and movement. This could include movement in a straight line.

Statistics
- Can read and draw simple pictograms, tally charts, block diagrams and simple tables.
- Can ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.
- Can ask and answer questions about totaling and comparing grouped data.

Year 3 Secure (3s) / Band 3

A child working at the EXPECTED Level at the end of Year 3 will demonstrate the following:

Number & Place Value
- Can count from 0 in multiples of 4, 8, 50 and 100 and can find 10 and 100 more or less than a given number.
- Can recognise the place value of each digit of a number with HTU.
- Can compare and order numbers up to 1001.
- Can find, show and estimate numbers using objects and pictures.
- Can read and write numbers to 1000 in numbers and words.
- Can solve number and word problems

Addition & Subtraction
- Can add and subtract numbers in their head, including a three digit number and ones.
- Can add and subtract numbers in my head, including a three digit number and tens.
- Can add and subtract numbers in their head, including a three digit numbers and hundreds.
- Can add and subtract numbers with up to three digits using formal column methods.
- Can estimate the answer to a calculation and use this and inverse operations to check answers.
- Can solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Multiplication & Division
- Can recall and use multiplication and division facts for the 3, 4 and 8 time stables.
- Can calculate multiplication and division problems, both mentally and in writing, using the times tables, including TU x U.
- Can solve problems, including missing number problems, involving multiplication and division, including factors and ratio.

Fractions
- Can count up and down in tenths and know that tenths are made from dividing an object into 10 equal parts and in dividing one digit numbers or quantities by 10.
- Can write and find fractions of a set of data and can recognise fractions with small denominations.
- Can find and use fractions of numbers such as ¼ of 8 = 2 and ¾ of 8 = 6.
- Can identify and show equivalent fractions.
- Can add and subtract fractions with the same denominator to make one whole.
- Can compare and order fractions with the same denominator.
- Can solve fraction problems.

Measurement
- Can measure compare, add and subtract: lengths (m/cm and mm); mass (Kg/g); volume and capacity (l/ml).
- Can measure the perimeter of simple 2D shapes.
- Can add and subtract money giving change, using pounds and pence. Can do this with real coins and notes.
- Can tell the time on a clock face. Can do this if it uses the Roman numerals from I to XII and can use 12H and 24H clocks.
- Cam estimate and read the time to the nearest minute. Can record time in seconds, minutes and hours. Can use the words@ o'clock, am, pm, morning, afternoon, noon and midnight.
- Can tell you the number of seconds in a minute and how many days there in a month, a year, and in a leap year.
- Can compare how much time is taken by different events or tasks.

Geometry – Properties of Shape / Position & Direction
- Can draw 2D shapes and make 3D shapes using modelling materials. Can recognise 3D shapes in different orientations.
- Can recognise angles as properties of shape. Know that angles are a description of a turn.
- Can spot right angles. Know that 2 right angles make a half turn, three make 3 quarters of a turn and four make a full turn. Can spot when angles are greater or less than a right angle.
- Can spot horizontal and vertical lines and pairs of perpendicular and parallel lines.

Statistics
- Can interpret and present data using bar charts, pictograms and tables.
- Can solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables.

CWPS Mathematics Curriculum (NC 2014)

Assessment:

Children securely working at the EXPECTED STANDARD (EX) at the end of an NC year will be shown as (S) on Target Tracker. Those 'just' working at EX will be shown as (W+) on Target Tracker.

Children working at (W), (B+) or (B) are WORKING TOWARDS (WT).

Children who have demonstrated all the skills in their year group's band and are also demonstrating a greater depth of understanding in a variety of contexts are working ABOVE (AB). They are recorded as (S+) on Target Tracker.

Children who move from (S) to (S) each year will have made expected progress (6 Points).

Year 3 Secure (3s) — Band 3

A child working at the EXPECTED Level at the end of Year 3 will demonstrate the following:

Number & Place Value
- Can count from 0 in multiples of 4, 8, 50 and 100 and can find 10 and 100 more or less than a given number.
- Can recognise the place value of each digit of a number with HTU.
- Can compare and order numbers up to 1001.
- Can find, show and estimate numbers using objects and pictures.
- Can read and write numbers to 1000 in numbers and words.
- Can solve number and word problems

Addition & Subtraction
- Can add and subtract numbers in their head, including a three digit number and ones.
- Can add and subtract numbers in my head, including a three digit number and tens.
- Can add and subtract numbers in their head, including a three digit numbers and hundreds.
- Can add and subtract numbers with up to three digits using formal column methods.
- Can estimate the answer to a calculation and use this and inverse operations to check answers.
- Can solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Multiplication & Division
- Can recall and use multiplication and division facts for the 3, 4 and 8 time stables.
- Can calculate multiplication and division problems, both mentally and in writing, using the times tables, including TU x U.
- Can solve problems, including missing number problems, involving multiplication and division, including factors and ratio.

Fractions
- Can count up and down in tenths and know that tenths are made from dividing an object into 10 equal parts and in dividing one digit numbers or quantities by 10.
- Can write and find fractions of a set of data and can recognise fractions with small denominations.
- Can find and use fractions of numbers such as ¼ of 8 = 2 and ¾ of 8 = 6.
- Can identify and show equivalent fractions.
- Can add and subtract fractions with the same denominator to make one whole.
- Can compare and order fractions with the same denominator.
- Can solve fraction problems.

Measurement
- Can measure compare, add and subtract: lengths (m/cm and mm); mass (Kg/g); volume and capacity (l/ml).
- Can measure the perimeter of simple 2D shapes.
- Can add and subtract money giving change, using pounds and pence. Can do this with real coins and notes.
- Can tell the time on a clock face. Can do this if it uses the Roman numerals from I to XII and can use 12H and 24H clocks.
- Cam estimate and read the time to the nearest minute. Can record time in seconds, minutes and hours. Can use the words@ o'clock, am, pm, morning, afternoon, noon and midnight.
- Can tell you the number of seconds in a minute and how many days there in a month, a year, and in a leap year.
- Can compare how much time is taken by different events or tasks.

Geometry – Properties of Shape / Position & Direction
- Can draw 2D shapes and make 3D shapes using modelling materials. Can recognise 3D shapes in different orientations.
- Can recognise angles as properties of shape. Know that angles are a description of a turn.
- Can spot right angles. Know that 2 right angles make a half turn, three make 3 quarters of a turn and four make a full turn. Can spot when angles are greater or less than a right angle.
- Can spot horizontal and vertical lines and pairs of perpendicular and parallel lines.

Statistics
- Can interpret and present data using bar charts, pictograms and tables.
- Can solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables.

Year 4 Secure (4s) — Band 4

A child working at the EXPECTED Level at the end of Year 4 will demonstrate the following:

Number & Place Value
- Can count in multiples of 6, 7, 9, 25 and 1000.
- Can find 1000 more or less than a given number.
- Can count backwards through 0 to include negative numbers.
- Can recognise the place value of each digit of a 4 digit number (ThHTU).
- Can order and compare numbers beyond 1000.
- Can identify, represent and estimate numbers using different representations including measures.
- Can round numbers to the nearest 10, 100 or 1000.
- Can solve number and practical problems that involve large positive numbers.
- Can read Roman numerals to 100 and know that the number system has changed to include 0 and place value.

Addition & Subtraction
- Can add and subtract numbers with up to four digits using formal column methods.
- Can use estimating and inverse operations to check my answers.
- Can solve two step addition and subtraction problems using different methods and explain why they were used.

Multiplication & Division
- Can recall times tables facts up to 12x12.
- Can use place value and number facts to multiply and divide mentally, including multiplying 1 and 0; dividing by 1; and multiplying together 3 numbers.
- Can use factor pairs in mental calculations.
- Can multiply 2 digit and 3 digit numbers by a 1 digit number using a formal written method.
- Can solve problems involving multiplication and addition, including the distributive law such as 3 x (12+14)= 3x12 + 3x14.

Fractions
- Can recognise and show, using diagrams, families of common equivalent fractions.
- Can count up and down in hundredths and know that dividing an object by 100 creates hundredths and by 10 creates tenths.
- Can solve problems involving fractions to calculate quantities and fractions to divide quantities.
- Can add and subtract fractions with the same denominator.
- Can find and write decimals equivalents using tenths and hundredths.
- Can find and write decimal equivalents to ¼, ½ and ¾.
- Can divide one and two digit numbers by 10 and 100 and explain the effect this has on place value.
- Can round decimals using tenths to the nearest whole number.
- Can compare numbers with the same number of decimal places up to 2dp.
- Can solve simple money and measure problems involving fractions and decimals to 2dp.

Measurement
- Can convert different units of measurement (e.g. Km to m).
- Can measure and calculate perimeter of a rectangular figure in cm and m.
- Can find the area of rectangular shapes by counting squares.
- Can estimate, compare and calculate different measures, including money in £/p.
- Can read, write and compare time between analogue and digital 12 and 24 hour clocks.
- Can solve problems involving conversion of units of time (e.g. hours to minutes).

Geometry – Properties of Shape / Position & Direction
- Can compare and classify geometric shapes including quadrilaterals and triangles, based on their properties and sizes.
- Can identify acute and obtuse angles. Can compare and order angles up to two right angles by size.
- Can identify lines of symmetry in 2D shapes presented in different orientations.
- Can complete a simple symmetric figure with respect to specific lines of symmetry.
- Can recognise where angles are greater than two right angles. Know the term straight angle refers to two right angles together.
- Can use line symmetry with two lines of symmetry.
- Can plot positions on a 2D grid as positive number coordinates.
- Can describe movements between positions as translations of a given unit to the left/right and up/down.
- Can plot points and draw sides to complete a polygon.

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Year 5 Secure (5s) — Band 5

A child working at the EXPECTED Level at the end of Year 5 will demonstrate the following:

Number & Place Value
- Can read, write, order and compare numbers to at least 1,000,000 and say the value of each digit.
- Can keep multiplying a number by 10 or 100 up to 1,000,000 and count back.
- Can use negative numbers in context when looking at temperature and money; counting forwards and backwards through 0.
- Can round numbers up to 1,000,000 to the nearest 10, 100, 1000, 10, 000 or 100,000.
- Can solve number and practical problems that involve ordering and comparing numbers to 1,000,000, counting forwards or backwards in steps, negative numbers and rounding.
- Can read Roman numerals to 1000 and recognise years written in these.

Addition & Subtraction
- Can add and subtract numbers with more than 4 digits using written methods.
- Can add and subtract 2 and 3 digit numbers in their head.
- Can use rounding to check answers to calculations and determine levels of accuracy.
- Can solve addition and subtraction problems needing more than one step and can work out which operation and method is the most suitable.

Multiplication & Division
- Can find multiples and factors of a number and can identify factors common to 2 different numbers.
- Can use vocabulary relating to prime numbers, prime factors and composite numbers.
- Can work out if any given number up to 100 is a prime number and can recall prime numbers to 19.
- Can multiply numbers with up to 4 digits by a 1 or 2 digit number using formal written methods.
- Can mentally multiply and divide numbers using the times tables.
- Can divide numbers with up to 4 digits by a 1 digit number using formal written methods and explain remainders.
- Can multiply and divide whole and decimal numbers by 10, 100 and 1000.
- Can identify and use square and cube numbers and their notations.
- Can solve problems involving multiplication and division, including using factors and multiples, squares and cubes.
- Can solve problems involving all 4 operations and a combination of these , including understanding the meaning of the equals sign.
- Can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Fractions
- Can compare and order fractions whose denominators are all multiples of the same number.
- Can find, name and write equivalent fractions of a given fraction including 10ths and 100ths.
- Can identify mixed numbers and improper fractions and convert them from one to another.
- Can add and subtract fractions whose denominators are all multiples of the same number.
- Can multiply fractions by whole numbers using objects and pictures.
- Can read and write decimal numbers as fractions (i.e. 0.71 = 71/100).
- Can identify and use thousandths and can explain how they relate to 10ths and 00ths and their decimal equivalents.
- Can round numbers with 2 decimal places.
- Can read, write, order and compare numbers with up to 3 decimals places.
- Can identify the % symbol and how it relates to parts per 100, 100ths and decimals.
- Can solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25.

Measurement
- Can convert between different forms of metric measurement (e.g. Km/m, Kg/g).
- Can understand and compare equivalencies between metric and common imperial units.
- Can measure and calculate the perimeter of composite rectilinear shapes in cm/m.
- Can calculate and compare the area of rectangles using standard units (cm2) and estimate the area of irregular shapes.
- Can estimate volume by using 1cm3 blocks to build cuboids and capacity using water and different containers.

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CWPS Mathematics Curriculum (NC 2014)

Year 3 Secure (3s)	Band 3	Year 4 Secure (4s)	Band 4	Year 5 Secure (5s)	Band 5
		A child working at the EXPECTED Level at the end of Year 4 will demonstrate the following: **Statistics** • Can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time charts. • Can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables ands other graphs.		**A child working at the EXPECTED Level at the end of Year 5 will demonstrate the following:** **Measurement (Continued)** • Can solve problems where units of time need to be converted. • Can sue all 4 operations to solve problems involving measure such as length, mass, volume, money, using decimal notation, including scaling. **Geometry – Properties of Shape / Position & Direction** • Can identify 3D shapes, including cubes and other cuboids, from 2D representations. • Can estimate and compare acute, obtuse and reflex angles. Know that angles are measured in degrees. • Can draw given angles and measure them in degrees. • Can identify angles at a point and one whole turn. • Can identify angles at a point on a straight line and ½ turn (total 180^{o}). • Can identify other multiples of 90^{o}. • Can use properties of rectangles to find related facts, missing lengths and missing angles. • Can tell the difference between regular and irregular polygons. Can do this using reasoning about equal sides and angles. • Can identify, describe and represent the position of a shape following a reflection or translation. Can use mathematical vocabulary to explain . Know that the shape hasn't changed. **Statistics** • Can solve comparison, sum and difference problems using information presented in a line graph. • Can complete, read and interpret information in tables, including timetables.	

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Children securely working at the EXPECTED STANDARD (EX) at the end of an NC year will be shown as (S) on Target Tracker. Those 'just' working at EX will be shown as (W+) on Target Tracker.

Children working at (W), (B+) or (B) are WORKING TOWARDS (WT).

Children who have demonstrated all the skills in their year group's band and are also demonstrating a greater depth of understanding in a variety of contexts are working ABOVE (AB). They are recorded as (S+) on Target Tracker.

Children who move from (S) to (S) each year will have made expected progress (6 Points).

Year 5 Secure (5s) | Band 5

A child working at the EXPECTED Level at the end of Year 5 will demonstrate the following:

Number & Place Value
- Can read, write, order and compare numbers to at least 1,000,000 and say the value of each digit.
- Can keep multiplying a number by 10 or 100 up to 1,000,000 and count back.
- Can use negative numbers in context when looking at temperature and money; counting forwards and backwards through 0.
- Can round numbers up to 1,000,000 to the nearest 10, 100, 1000, 10, 000 or 100,000.
- Can solve number and practical problems that involve ordering and comparing numbers to 1,000,000, counting forwards or backwards in steps, negative numbers and rounding.
- Can read Roman numerals to 1000 and recognise years written in these.

Addition & Subtraction
- Can add and subtract numbers with more than 4 digits using written methods.
- Can add and subtract 2 and 3 digit numbers in their head.
- Can use rounding to check answers to calculations and determine levels of accuracy.
- Can solve addition and subtraction problems needing more than one step and can work out which operation and method is the most suitable.

Multiplication & Division
- Can find multiples and factors of a number and can identify factors common to 2 different numbers.
- Can use vocabulary relating to prime numbers, prime factors and composite numbers.
- Can work out if any given number up to 100 is a prime number and can recall prime numbers to 19.
- Can multiply numbers with up to 4 digits by a 1 or 2 digit number using formal written methods.
- Can mentally multiply and divide numbers using the times tables.
- Can divide numbers with up to 4 digits by a 1 digit number using formal written methods and explain remainders.
- Can multiply and divide whole and decimal numbers by 10, 100 and 1000.
- Can identify and use square and cube numbers and their notations.
- Can solve problems involving multiplication and division, including using factors and multiples, squares and cubes.
- Can solve problems involving all 4 operations and a combination of these, including understanding the meaning of the equals sign.
- Can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Fractions
- Can compare and order fractions whose denominators are all multiples of the same number.
- Can find, name and write equivalent fractions of a given fraction including 10ths and 100ths.
- Can identify mixed numbers and improper fractions and convert them from one to another.
- Can add and subtract fractions whose denominators are all multiples of the same number.
- Can multiply fractions by whole numbers using objects and pictures.
- Can read and write decimal numbers as fractions (i.e. 0.71 = 71/100).
- Can identify and use thousandths and can explain how they relate to 10ths and 00ths and their decimal equivalents.
- Can round numbers with 2 decimal places.
- Can read, write, order and compare numbers with up to 3 decimals places.
- Can identify the % symbol and how it relates to parts per 100, 100ths and decimals.
- Can solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25.

Measurement
- Can convert between different forms of metric measurement (e.g. Km/m, Kg/g).
- Can understand and compare equivalencies between metric and common imperial units.
- Can measure and calculate the perimeter of composite rectilinear shapes in cm/m.
- Can calculate and compare the area of rectangles using standard units (cm2) and estimate the area of irregular shapes.
- Can estimate volume by using 1cm3 blocks to build cuboids and capacity using water and different containers.

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Year 6 Secure (6s) | Band 6

A child working at the EXPECTED Level at the end of Year 6 will demonstrate the following:

Number & Place Value
- Can read, write, order and compare numbers to at least ten million and say the value of each digit.
- Can round any number to a required degree of accuracy.
- Can use negative numbers in context when looking at temperature or money; counting in jumps forwards or backwards through 0.
- Can solve number and practical problems that involve ordering and comparing numbers to ten million, rounding to a required degree of accuracy, using negative numbers and calculating intervals across 0.

Addition & Subtraction
- Can mentally calculate using a mix of the four operations.
- Can solve problems with more than one step and operation and explain why they were used.
- Can solve addition and subtraction word and practical problems.
- Can use estimation to check answers to calculations and determine an appropriate degree of accuracy.

Multiplication & Division
- Can multiply numbers of up to 4 digits by a 2 digit number using a formal written method.
- Can divide numbers of up to 4 digits by a 2 digit number using :
  - a formal written method of long division, showing remainders, fractions or rounding as appropriate.
  - A formal written method of short division, showing remainders, fractions or rounding as appropriate.
- Can mentally calculate using a mix of the 4 operations and increasingly large numbers.
- Can identify common factors, multiples and prime numbers.
- Can use the order of importance of the 4 operations when answering questions.
- Can solve addition and subtraction multi-step problems, deciding which operations and methods to use and explain why they were suitable.
- Can solve problems involving addition, subtraction, multiplication and division.
- Can sue estimating to check answers and problem solving.

Fractions
- Can use common factors and multiples to simplify fractions and express fractions in the same denomination.
- Can compare and order fractions including those greater than 1.
- Can add and subtract fractions with different denominators and mixed numbers.
- Can multiply simple pairs of proper fractions, writing the answer in the simplest form.
- Can divide proper fractions by whole numbers.
- Can link a fraction with division and work out decimal fractions such as 0.378 is 3/8 as a simple fraction.
- Can explain the place value of any digit in a number with up to 3dp and multiply or divide these by 10, 100 or 1000.
- Can multiply numbers less than 10 with up to 2dp by whole numbers.
- Can use written division methods for numbers with up to 2dp.
- Can solve problems which require answers to be rounded to specified degrees of accuracy.
- Can use equivalencies between simple fractions, decimals and percentages to help solve problems.

Measurement
- Can solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3dp.
- Can use, read, write and convert between standard units. Can convert measurement of length, mass, volume and time from a smaller unit to a larger unit and vice-versa. Can use decimal notation up to 3dp to do this.
- Can convert between miles and kilometers.
- Can recognise that shapes with the same areas can have different perimeters and vice-versa.
- Can recognise when it is possible to use formulae to find the area or volumes of shapes.
- Can calculate the areas of parallelograms and triangles.
- Can calculate, estimate and compare volumes of cubes and cuboids using standard units, including cm^3 and m^3, extending to mm^3 and km^3.

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Year 6 Exceeding (6s+) | Band 7+

A child working at the EXCEEDING Level at the end of Year 6 will be <u>beginning or working within</u> <u>some</u> of the following:

Number & Place Value
- Can use place value for decimals, measures and whole numbers of any size.
- Can order positive and negative whole numbers, decimals and fractions; can use the symbols =, <, >, ≤, ≥
- Can use the vocabulary of prime numbers, factors, multiples, common factors, common multiples, highest common factor, lowest common multiple,.
- Can use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative.
- Can recognise and use relationships between operations including inverse operations.
- Can use standard units of mass, length, time, money and other measures, including with decimal quantities.
- Can round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures]

Geometry & Measurement
- Can derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders).
- Can calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes.
- Can describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric.
- Can derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies
- Can identify properties of, and describe the results of, translations, rotations and reflections applied to given figures.
- Can use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3D.

Statistics
- Can construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data

Ratio & Proportion
- Can change freely between related standard units [e.g. Time, length, area, volume/capacity, mass].
- Can use ratio notation, including reduction to simplest form.
- Can divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio.

Algebra
- Can use and interpret algebraic notation, including:
  - ab in place of a × b
  - 3y in place of y + y + y and 3 × y
  - a2 in place of a × a, a3 in place of a × a × a; a2b in place of a × a × b
  - a/b in place of a ÷ b
  - brackets
- Can substitute numerical values into formulae and expressions, including scientific formulae
  - simplify and manipulate algebraic expressions to maintain equivalence by:
  - collecting like terms
  - multiplying a single term over a bracket
  - taking out common factors
- Can understand and use standard mathematical formulae; rearrange formulae to change the subject.

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CWPS Mathematics Curriculum (NC 2014)

Year 5 Secure (5s)	Band 5	Year 6 Secure (6s)	Band 6	Year 6 Exceeding (6s+)	Band 7+
A child working at the EXPECTED Level at the end of Year 5 will demonstrate the following: **Measurement (Continued)** • Can solve problems where units of time need to be converted. • Can sue all 4 operations to solve problems involving measure such as length, mass, volume, money, using decimal notation, including scaling. **Geometry – Properties of Shape / Position & Direction** • Can identify 3D shapes, including cubes and other cuboids, from 2D representations. • Can estimate and compare acute, obtuse and reflex angles. Know that angles are measured in degrees. • Can draw given angles and measure them in degrees. • Can identify angles at a point and one whole turn. • Can identify angles at a point on a straight line and ½ turn (total 180°). • Can identify other multiples of 90°. • Can use properties of rectangles to find related facts, missing lengths and missing angles. • Can tell the difference between regular and irregular polygons. Can do this using reasoning about equal sides and angles. • Can identify, describe and represent the position of a shape following a reflection or translation. Can use mathematical vocabulary to explain . Know that the shape hasn't changed. **Statistics** • Can solve comparison, sum and difference problems using information presented in a line graph. • Can complete, read and interpret information in tables, including timetables.		**A child working at the EXPECTED Level at the end of Year 6 will demonstrate the following:** **Geometry – Properties of Shape / Position & Direction** • Can draw 2D shapes using given dimensions and angles. • Can recognise, describe and build simple 3D shapes, including making nets. • Can compare and classify geometric shapes based on their properties and sizes. Cam find unknown angles in any triangles, quadrilaterals or regular polygons. • Can illustrate and name parts of circles, including radius, diameter and circumference. Know that the diameter is twice the radius. • Can recognise angles where they meet at a point, are on a straight line or are vertically opposite. Can then find any missing angles. • Can describe positions in all four quadrants on a full coordinate graph. • Can draw and translate simple shapes on the coordinate plane and reflect these in the axis. **Statistics** • Can interpret and construct pie charts and line graphs. Can use these to solve problems. • Can calculate and interpret the mean as an average. **Ratio & Proportion** • Can solve problems that involve the relative sizes of two things where the missing number can be found by multiplying or dividing by whole numbers. • Can solve problems involving the calculation of percentages. Can also use percentages for comparisons. • Can solve problems involving shapes where the scale factor is known or can be found. • Can solve problems involving unequal sharing and grouping. Can use their knowledge of fractions and multiples to do this. **Algebra** • Can use simple formulae. • Can create and describe linear number sequences. • Can record missing number problems algebraically. • Can find pairs of numbers which complete an equation with two unknowns. • Can create a list of possibilities of the combination of two variables.	**A child working at the EXCEEDING Level at the end of Year 6 will be <u>beginning or working within</u> <u>some</u> of the following:** **Work Mathematically** • Show mathematical knowledge through solving problems and evaluating the outcomes, including multi-step problems. • Can use formal mathematical knowledge to interpret and solve problems. • Can select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems. • Can demonstrate their growing understanding of the number system; make connections between number relationships, and their algebraic and graphical representations. • Can shop extended and formalised knowledge of ratio and proportion when working with measures and geometry. • Can identify variables and express relations between variables algebraically and graphically. • Can select and use appropriate calculation strategies to solve increasingly complex problems. • Can use language and properties precisely to analyse numbers, algebraic expressions, 2D and 3D shapes, probability and statistics. ***(NB. This is NOT the full criteria for Band 7 and 8 – these statements have been selected as likely examples of mastery of mathematics – i.e. exceeding - in Year 6).***	