**CJS Year 4 Maths overview**

Autumn 1

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** |
| **Assessment**  Make flashcards of important Y3 facts.  Presentation in books.  Counting.  Number bonds to 10, 20 and 100.  Days in each month  Days in a year and leap year | **Place value**   * Partition 4 digit numbers into ThHTO (counters, bar model). * Partition 4 digit numbers in different ways (counters, bar model). * Solve balancing equations with partitioning numbers in different ways. * Position of ThHTO on a number line with benchmarks labelled. * Position of ThHTO on a number line with only two benchmarks. * Position of the same ThHTO on differently benchmarked number lines.   **Counting**   * Counting in 1000s from any number. * Adding / subtracting O, T, H, Ths crossing boundaries by using counters on a place value grid and exchanging.   **Comparing and ordering**   * Saying which is bigger / smaller out of two ThHTO numbers, represented in different ways (concrete, pictorial and abstract). * Using < and > to show the relative size of two ThHTO numbers. * Saying which is bigger / smaller out of three+ ThHTO numbers represented in different ways (concrete, pictorial and abstract).   **Rounding**   * Say which multiples of O, T, H and Th a number lies between. * Place numbers between multiples of O, T, H and Th on a number line. * Round numbers to the nearest T, H and Th. * Say which numbers could have been rounded to a given multiple of T, H or Th. * Say all possibilities of a number that could have been rounded to a given multiple of 10. * Say the biggest and smallest possible number that could have been rounded to a given multiple of H and Th.. | | | **Addition and subtraction**   * Add and subtract multiples of 1000 * ThHTO +- 0 crossing 10. * ThHTO +- O, generating 4 addition and subtraction statements. Whole and part unknown questions. Missing number questions. * ThHTO +-multiple of 10 crossing 100. * ThHTO +- multiple of 10, generating 4 addition and subtraction statements. Whole and part unknown questions. Missing number questions. * ThHTO +- multiple of 100 crossing 1000. * ThHTO +- multiple of 100, generating 4 addition and subtraction statements. Whole and part unknown questions. Missing number questions. * THTO +- TO crossing 10 or 100. * ThHTO +- TO, generating 4 addition and subtraction statements. Whole and part unknown questions. Missing number questions. * ThHTO +- HTO crossing 10, 100 or 1000. * ThHTO +- HTO, generating 4 addition and subtraction statements. Whole and part unknown questions. Missing number questions. * ThHTO +- ThHTO crossing 10, 100, 1000 or 10,000. * ThHTO +- ThHTO, generating 4 addition and subtraction statements. Whole and part unknown questions. Missing number questions. * ThHTO +– ThHTO using concrete materials, no exchange then exchange. * ThHTO +– ThHTO using pictorial method, no exchange then exchange. * ThHTO +– ThHTO using expanded column method, no exchange. * ThHTO +– ThHTO using expanded column method, exchange in ones only. * ThHTO +– ThHTO using expanded column method, exchange in tens only. * ThHTO +– ThHTO using expanded column method, exchange in hundreds only. * ThHTO +– ThHTO using expanded column method, exchange in ones, tens and hundreds. * THHTO +– ThHTO using contracted column method, no exchange. * ThHTO +– ThHTO using contracted column method, exchange in ones only. * ThHTO +– ThHTO using contracted column method, exchange in tens only. * ThHTO +– ThHTO using contracted column method, exchange in hundreds only. * ThHTO +– ThHTO using contracted column method, exchange in ones, tens and hundreds. * Missing number problems (whole and part unknown) ThHTO +-ThHTO. * Balancing equations (whole and part unknown) ThHTO +- ThHTO. * Number problem solving * Sort worded problems based on whether the whole or a part is unknown. * Break two step problems into the first and second calculation needed based on whether the whole or part is unknown. | | | |

Autumn 2

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** |
| **6 and 7 times table**   * Count forwards and backwards in 6s and 60s, 7s and 70s. * Classify numbers based on whether they are multiples of 6 and 7 or not. * Multiply TO by 6 and 7 using base 10 or place value counters with no exchange. * Multiply TO by 6 and 7 using a grid method with no exchange. * Multiply TO by 6 and 7 using base 10 or place value counters with exchange. * Multiply TO by 6 and 7 using a grid method with exchange. * Commutative law for 6 and 7 times table. * Bar modelling and number line representation for multiplying by 6 and 7 (whole, number of parts, size of each parts). * Generate 4 multiplication and division statements from a bar model. * Dividing by 6 and 7 by counting in 6s or 7s with no remainders. * Dividing by 6 and 7 by splitting the whole into 6 and 7 groups with no remainders. * Dividing by 6 and 7 by counting in 6s and 7s with remainders. * Dividing by 6 and 7 by splitting the whole into 6 and 7 groups with remainders. * Divide TO by 6 and 7 by chunking. * Sort missing number calculations based on whether the whole, size of each part or number of parts is unknown. * Solve missing number problems. * Solve other problems related to multiples of 6 and 7. * Sort worded problems based on whether the whole, number of parts or size of each part is unknown, then solve. * Break two step problems into the first and second calculation needed based on whether the whole, number of parts or size of each part is unknown. | | | **25 times table**   * Count forwards and backwards in 25s. * Classify numbers based on whether they are multiples of 25 or not. * Multiply numbers by 25. * Commutative law for 25 times table. * Bar modelling and number line representation for multiplying by 25 (whole, number of parts, size of each parts). * Generate 4 multiplication and division statements from a bar model. * Dividing by 25 by counting in 25s with no remainders. * Dividing by 25 by counting in 25s with remainders. * Sort missing number calculations based on whether the whole, size of each part or number of parts is unknown. * Solve missing number problems. * Solve other problems related to multiples of 25. * Sort worded problems based on whether the whole, number of parts or size of each part is unknown, then solve. * Break two step problems into the first and second calculation needed based on whether the whole, number of parts or size of each part is unknown. | **Statistics – pictograms**  NB: Use pictograms with values that reinforce recent times tables work.   * Read the value of pictograms with whole pictures. * Read the value of pictograms with half pictures. * Read the value of pictograms with quarter pictures. * Draw whole pictures on pictograms. * Draw half pictures on pictograms. * Draw quarter pictures on piotograms. * Problems involving adding the value of pictures. * Problems involving find the difference between the values of pictures. * Make comparisons between pictures (how many more / fewer…?). | **Measuring length**   * Measure length in metres, including to one decimal place. * Estimate length to the nearest metre. * Measure length using a ‘broken ruler’. * Add lengths in metres. * Subtract lengths in metres. * Compare lengths in metres. * Generate 4 addition and subtraction statements. * Missing number questions where the whole or a part is unknown. * Measure length in centimetres, including decimals. * Estimate length to the nearest centimetre. * Measure length using a ‘broken ruler’. * Add lengths in centimetres. * Subtract lengths in centimetres. * Compare lengths in centimetres. * Generate 4 addition and subtraction statements. * Missing number questions where the whole or a part is unknown. * Measure length in millimetres. * Estimate length in millimetres. * Measure length using a ‘broken ruler’. * Add lengths in millimetres. * Subtract lengths in millimetres. * Compare lengths in millimetres. * Generate 4 addition and subtraction statements. * Missing number questions where the whole or a part is unknown. * Sort worded problems based on whether the whole or a part is unknown. * Break two step problems into the first and second calculation needed based on whether the whole or part is unknown. | |

Spring 1

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| **Perimeter**   * Count the perimeter of rectangles on a grid. * Count the perimeter of rectilinear shapes on a grid. * Draw rectangles on a grid with a given perimeter. * Draw rectilinear shapes on a grid with a given perimeter. * Calculate the perimeter of rectangles where all sides are labelled. * Work out unlabelled side lengths in rectangles. * Calculate the perimeter of rectangles where two adjacent sides are labelled. * Calculate the perimeter of rectilinear shapes where all sides are labelled. * Work out unlabelled side lengths in rectilinear shapes. * Calculate the perimeter of rectilinear shapes where some sides are labelled. * Measure the perimeter of rectangles. * Measure the perimeter of rectilinear shapes. | | **Statistics – tables**   * Read information on two way tables. * Fill in information on two way tables. * Problems involving adding the value of fields in a two way table. * Problems involving finding the difference between values of fields in two way tables. * Make comparisons between values of fields in two way tables. * Fill in unknown fields using addition and subtraction of known fields. | **Telling the time - analogue**   * Tell the time using a straight number line and one arrow (o’clock / half past / quarter past / quarter to). * Estimate the time using a straight number line and one arrow with quarter hour benchmarks labelled. * Estimate the time using a straight number line and one hour with only hour benchmarks labelled. * Tell the time using a clock and only the hour hand. * Tell the time using a clock with the hour hand and the minute hand to 5 minutes. * Tell the time using a clock with the hour hand and the minute hand to 1 minute. | | **Converting between minutes and hours**   * Count forwards and backwards in 60s. * Count forwards and backwards in 30s. * Count forwards and backwards in 15s. * Convert multiples of one hour to minutes. * Convert multiples of half an hour to minutes. * Convert multiples of quarter of an hour to minutes. * Convert multiples of 60 minutes to hours. * Convert multiples of 30 minutes to hours. * Convert multiples of 15 minutes to hours. * Convert multiples of 1 minute to hours. |

Spring 2

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| **11 and 12 times table**   * Count forwards and backwards in 11s and 110s, 12s and 120s. * Classify numbers based on whether they are multiples of 11 and 12 or not. * Bar modelling and number line representation for multiplying by 11 and 12 (whole, number of parts, size of each parts). * Generate 4 multiplication and division statements from a bar model. * Dividing by 11 and 12 by counting in 11s or 12s with no remainders. * Dividing by 11 and 12 by splitting the whole into 11 and 12 groups with no remainders. * Dividing by 11 and 12 by counting in 11s and 12s with remainders. * Dividing by 11 and 12 by splitting the whole into 11 and 12 groups with remainders. * Divide TO by 11 and 12 by chunking. * Sort missing number calculations based on whether the whole, size of each part or number of parts is unknown. * Solve missing number problems. * Solve other problems related to multiples of 11 and 12. * Sort worded problems based on whether the whole, number of parts or size of each part is unknown, then solve. * Break two step problems into the first and second calculation needed based on whether the whole, number of parts or size of each part is unknown. | | **Area**   * Find the area of rectangles by counting squares. * Find the area of rectilinear shapes by counting squares. * Find the area of rectangles by counting rows or columns. * Calculate the area of rectangles by multiplying adjacent sides. * Calculate an unknown side of a rectangle by dividing the area by the known side. * Calculate the area of compound rectilinear shapes by working out the area of each rectangle and adding them together. * Estimate the area of rectangles where only one side’s length is labelled. | **Converting between seconds and minutes**   * Count forwards and backwards in 60s. * Count forwards and backwards in 30s. * Count forwards and backwards in 15s. * Convert multiples of one minute to seconds. * Convert multiples of half a minute to seconds. * Convert multiples of 60 seconds to minutes. * Convert multiples of 30 seconds to minutes. * Convert multiples of 15 seconds to minutes. * Convert multiples of 1 second to minutes. | **Statistics – bar charts**   * Read the value of bar charts where each interval is labelled. * Read the value of bar charts where alternate intervals are labelled. * Read the value of bar charts where alternate intervals are labelled and bars fall half way between a labelled and unlabelled interval. * Draw bars on a chart with every interval labelled. * Draw bars on a chart with alternate intervals labelled. * Draw bars on a chart where alternate intervals are labelled and bars must fall half way between a labelled and unlabelled interval. * Problems involving adding the value of bars. * Problems involving find the difference between the values of bars. * Make comparisons between bars (how many more / fewer…?). | **Digital time**   * Write the time as hours: minutes. * Use 12 hour time with am / pm notation. * Write 24 hour time. * Convert from analogue to digital time. * Convert from digital to analogue time. |

Summer 1

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** |
| **Fractions**   * Find fractions of equivalent value by folding paper and cutting objects. * Find fractions of equivalent value by drawing bar models and halving parts. * Find fractions of equivalent value by reading a fraction wall. * Show which unit fraction is bigger or by shading a picture or drawing own bar model. * Show which fraction (with the same denominator) is bigger or smaller by shading or drawing own bar model. * Order three or more unit fractions by shading pictures or drawing own bar model. * Order 3 or more fractions with the same denominator by shading pictures of drawing own bar model. * Add and subtract fractions with the same denominator within and up to one whole using Numicon. * Add and subtract fractions with the same denominator within and up to one whole using a bar model and number line. * Add and subtract fractions where one denominator is a multiple of the other using Numicon. * Add and subtract fractions where one denominator is a multiple of the other using a bar model and number line. * Generate 4 addition and subtraction statements using a bar model. * Generate 4 addition and subtraction statements using a bar model where the whole or a part is unknown. * Sort missing number questions based on whether the whole or a part is unknown, then solve. * Solve balancing equations where both sides are whole unknown. * Solve balancing equations where both sides are part unknown. * Solve balancing equations where one side is part unknown and one side is whole unknown. * Calculate a unit fraction of a number by dividing into groups of the denominator – counters on a bar model. * Calculate a unit fraction of a number by dividing into groups of the denominator – jottings on a bar model. * Calculate the whole when given the unit fraction. * Calculate a non unit fraction of a number by dividing into groups of the denominator and multiplying by the numerator – counters on a bar model. * Calculate a non unit fraction of a number by dividing into groups of the denominator and multiplying by the numerator – jottings on a bar model. * Calculate the whole when given the non unit fraction. * Solve balancing equations where both sides are unit fractions (whole and part unknown). * Solve balancing equations where one side is a unit fraction and one side is a non unit fraction (whole and part unknown).   Solve balancing equations where both sides are non unit fractions (whole and part unknown). | | | **Acute angles**   * Represent acute angles as smaller than right angles. * Identify acute angles in different orientations, sizes and shapes. * Estimate the size of acute angles where the 45 degree benchmark is labelled. * Estimate the size of acute angles with no benchmarks. * Compare two acute angles to say which is bigger / smaller. * Order multiple acute angles from smallest to biggest / biggest to smallest. | **Converting between hours and days and weeks**   * Count forwards and backwards in 12s. * Count forwards and backwards in 24s. * Convert multiples of one day to hours. * Convert multiples of half a day to hours. * Convert multiples of 24 hours to days. * Convert multiples of 12 hours to days. * Convert multiples of 1 hour to days. * Count forwards and backwards in 7s. * Convert multiples of one week to days. * Convert multiples of 7 days to weeks. * Convert multiples of 1 day to weeks. |

Summer 2

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** |
| **Time differences**   * Add a duration to a start time to find the end time with no crossing of boundaries. * Add a duration to a start time to find the end time with crossing of boundaries. * Subtract a duration from an end time to find the start time with no crossing of boundaries. * Subtract a duration from an end time to find the start time with crossing of boundaries. * Count from the start time to the end time to find the duration with no crossing of boundaries. * Count from the start time to the end time to find the duration with crossing of boundaries. * Say how much longer / shorter two durations are when given the start and end times. * Use timetables to solve a variety of problems where the start time, end time or duration are unknown. | | **Obtuse angles**   * Represent obtuse angles as greater than right angles but smaller than straight lines. * Identify obtuse angles in different orientations, sizes and shapes. * Estimate the size of obtuse angles where the 135 degree benchmark is labelled. * Estimate the size of obtuse angles with no benchmarks. * Compare two obtuse angles to say which is bigger / smaller. * Order multiple obtuse angles from smallest to biggest / biggest to smallest. * Order multiple obtuse and acute angles from smallest to biggest / biggest to smallest. | **Statistics – line graphs**   * Use a plotted point on a line graph to read from the y to the x axis. * Use a plotted point on a line graph to read from the x to the y axis. * Plot points on a line graph. * Use a value on the y axis to read a value on the x axis. * Use a value on the x axis to read a value on the y axis. * Describe the story of a line graph. * Calculate lengths of time from points on a line graph. | **Triangles**   * Classify examples and non examples of triangles based on the number of sides. * Annotate equilateral triangles to show equal sides and equal angles in different sizes / orientations. * Find 3 lines of symmetry in equilateral triangles in different orientations / sizes. * Classify examples and non examples of equilateral triangles. * Annotate isosceles triangles to show 2 equal sides and 2 equal angles in different sizes / orientations. * Find one line of symmetry in isosceles triangles in different orientations / sizes. * Classify examples and non examples of isosceles triangles. * Annotate scalene triangles to show 3 different length sides and 3 different angles in different sizes / orientations. * Classify examples and non examples of scalene triangles. | **Quadrilaterals**   * Classify examples and non examples of quadrilaterals based on the number of sides. * Annotate squares to show equal sides and equal angles in different sizes / orientations. * Find 4 lines of symmetry in squares in different orientations / sizes. * Classify examples and non examples of squares in different orientations and sizes. * Annotate rectangles to show two pairs of equal sides and 4 equal angles in different sizes / orientations. * Find 2 lines of symmetry in rectangles in different orientations / sizes. * Classify examples and non examples of rectangles in different orientations and sizes. * Annotate rhombuses to show equal sides and 2 pairs of equal angles in different sizes / orientations. * Find 2 lines of symmetry in rhombuses in different orientations / sizes. * Classify examples and non examples of rhombuses in different orientations and sizes. * Annotate trapeziums to show (possibly) 2 equal sides and 2 equal angles. * Annotate isosceles trapeziums to show 2 equal sides and 2 pairs of equal angles in different sizes / orientations. * Find one line of symmetry in isosceles trapeziums in different orientations / sizes. * Classify examples and non examples of trapeziums in different orientations and sizes. * Annotate kites to show 2 pairs of equal sides and 2 pairs of equal angles in different sizes / orientations. * Find 2 lines of symmetry in kites in different orientations / sizes. * Classify examples and non examples of kites in different orientations and sizes. | |