

**Perryfields Infant School**

**KS1 MATHS Coverage**

**Year 1**

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| Half term + block | Key knowledge | Key skills |
| **Autumn 1**Place value | * Which signs represent equal, more than, less than.
* Understand more, most, less, least, fewer, fewest, forwards, backwards in relation to numbers 0-10.
 | * Count forward **and back** in 1s to 10.
* Read and write numbers to 10.
* Identify one more or less within 10.
* Count a given number of objects within 10.
* Place numbers 0-10 on a number line.
 |
| Addition | * Number bonds to 10 – focus on addition.
* How to read an addition number sentence in words.
 | * Read, write and solve number problems involving + and =
* Add single digit numbers.
* Solve one step addition and missing number problems within 10.
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| **Autumn 2**Subtraction | * Number bonds to 10 - focus on subtraction.
* How to read a subtraction number sentence in words.
 | * Read, write and solve number problems involving - and =
* Subtract single digit numbers.
* Solve one step subtraction and missing number problems.
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| Shape | * Names of common 2D shapes: rectangle, square, circle, triangle.
* Names of common 3D shapes: cube, cuboid, sphere, pyramid.
 | * Recognise and name common 2D shapes.
* Recognise and name common 3D shapes.
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| Place value | * Which way round the numbers in a two digit (teen) number are placed.
* Understand more, most, less, least, fewer, fewest, forwards, backwards in relation to numbers 0-20
* *Odd and even numbers (relate to Numicon pieces)*
 | * Count forward and back in 1s to 20.
* Read and write numbers to 20.
* Identify one more or less within 20.
* Count a given number of objects within 20.
* Place numbers 0-20 on a number line.
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| **Spring 1**Addition and subtraction | * Number bonds to 20 (and how they relate to number bonds to 10)
* How to read a number sentence where the answer is written at the start of the sentence.
 | * Read, write and solve number problems involving + - and = including where the answer is written first.
* Add and subtract one and two digit numbers within 20.
* Solve one step addition, subtraction and missing number problems.
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| Place value | * Begin to understand that the two digits represent tens and ones and that more tens means the number is bigger.
* The fact that the tens digits increase in ones in just the same as the ones digits do.
* Difference between teen and –ty numbers.
* Understand more, most, less, least, fewer, fewest, forward, backwards in relation to numbers 0-50.
 | * Count forward and back in 1s to 50.
* Read and write numbers to 50.
* Identify one more or less within 50.
* Represent numbers to 50 using objects.
* Place numbers 0-50 on a number line.
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| **Spring 2**Place value and calculation  | * The patterns of the ones digit when counting in 2s, 5s and 10s.
 | * Maintain understanding of counting and ordering numbers to 50.
* Count in 2s, 5s and 10s.
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| Length | * Meaning of words related to length – long/ short, longer/ shorter, taller/ shorter.
* How to measure accurately.
 | * Measure and record lengths.
* Compare and describe lengths.
 |
| Multiplication and division | * Multiplication means lots of or groups of.
* Division means shared between or split into groups of.
* Arrays can represent multiplying or dividing.
 | * Count in 2s. 5s and 10s.
* Solve one step problems involving multiplication.
* Solve one step problems involving division.
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| **Summer 1**Fractions | * That halves and quarters are equal parts of a whole.
* How ½ and ¼ are written.
 | * Recognise half as one of two equal parts.
* Recognise a quarter as one of four equal parts.
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| Weight  | * Meaning of words related to weight – heavy/ light, heavier/ lighter, balanced.
 | * Measure and record mass.
* Compare and describe masses.
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| Capacity (could be covered after fractions) | * Meaning of words related to capacity and volume – full/ empty, more than/ less than, half full.
 | * Measure and record capacity.
* Compare and describe capacity.
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| Position and direction | * Right and left.
* Need to count from the NEXT square/ count the steps.
* Concept of a quarter/ right angle turn.
 | * Describe direction (right, left) and movement (forward, backwards, turn).
* Describe size of turn (whole, half quarter, three quarters).
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| **Summer 2**Place value | * The order of the numbers 50-100.
* With bigger numbers, you can represent tens with one shape and ones with another.
 | * Count to and across 100, forwards and backwards, starting from different places.
* Count, read and write numbers to 100.
* Identify one more or one less within 100.
* Represent numbers to 100.
* Place numbers to 100 on a number line.
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| Money | * The fact that not all values can be made with one coin – know which exist.
* Relative values of different coins (order).
* The fact that adding coins is like adding numbers.
* Notation for pounds and pence/ pennies.
 | * Recognise different denominations of coins and notes.
* Make exact sums of money using coins.
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| Time | * Vocabulary related to passage of time – earlier, later, before, after, longer, shorter.
* Names of days and months, in order.
* Which hand points to the hour and which to the minutes.
* Where the long hand is at o’clock and half past.
* Where the short hand is at half past.
* There are 60 minutes in an hour and 60 seconds in a minute.
 | * Sequence events in chronological order.
* Use language relating to dates, including days, months and years.
* Read the time to the hour and half hour.
* Draw the time to the hour and half hour.
* Compare and describe times.
* Begin to measure and record time.
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**Year 2**

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| Half term + block | Key knowledge | Key skills |
| **Autumn 1**Place value | * Place value is the value given to a digit depending on which column it is in.
* When comparing two digit numbers, one looks at the number of tens first.
* Partitioning means chopping numbers into parts.
* Number bonds are pairs of numbers making a total.
 | * Recognise the place value of each digit in a 2 digit number.
* Compare and order numbers.
* Partition numbers into tens and ones.
* Partition numbers into different combinations of tens and ones.
* Recall all number bonds to and within 10.
* Calculate number bonds to and within 20, using knowledge of bonds to and within 10.
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| Addition  | * Methods – use fingers and count on for single digits, only change the tens when adding a multiple of ten, sticks and dots to add two digits.
* = means “is the same as” and shows balance. It can have calculations on both sides.
* When adding positive numbers, the answer will be the biggest number.
 | * Add one digit to two digits - revision.
* Add multiple of 10 to two digits - revision.
* Add any two digit numbers, explaining/ showing method.
* Use reasoning about addition to solve more complex problems and explain reasoning (eg. what happens when you add two odd numbers; balancing equations) (GD)
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| **Autumn 2**Subtraction  | * Methods – count back if subtracting a single digit, only change the tens when subtracting a multiple of 10, blank number line to subtract 2 two digit numbers.
* When subtracting positive numbers, the starting number must be the biggest.
* Subtraction can be solved by counting forward.
* Subtraction is the inverse of addition – same numbers appear in a different order.
 | * Subtract one digit from 2 digits – revision
* Subtract multiple of 10 from two digits – revision
* Subtract any two digit numbers, explaining/ showing method.
* Solve unfamiliar word problems with addition and/or subtraction, involving 2 steps (GD).
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| Money  | * Equivalence of coins eg. 50p = 5 x 10p
* £1 = 100p
* To give change, count on to the next 10, then on in 10s.
* Giving change is recorded as subtraction.
* £ go before the number, p goes after.
* If there is £ sign, there must be 2 digits after the decimal point and no p.
 | * Make sums of money using coins – revision.
* Use different coins to make the same amounts.
* Begin to find change.
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| Multiplication  | * X can be read as lots of or show how many times a group of a given size is made.
* Multiplication is the same as repeated addition of the same number.
* The ones number can indicate which times table is being used.
* The answer must be the biggest number.
 | * Recall multiplication facts for 2s, 5s and 10s.
* Use multiplication facts for 2s, 5s and 10s to solve simple problems.
* Make deductions outside known facts (GD).
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| **Spring 1**Division  | * ÷ can be read as shared between or made into groups of.
* The answer is either the number of groups or the number in a group.
* Division is the inverse of multiplication.
* The answer must be smaller than the start number.
 | * Recall division facts for 2s, 5s and 10s.
* Use division facts from 2s, 5s and 10s to solve problems.
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| Statistics  | * The scale is like counting in 1s, 2s, 5s or 10s.
* If any of the numbers on the scale are 5s, the scale is in 1s or 5s. If any are 4/6/8, the scale is probably 2s.
* If not all the numbers appear, count on in steps of a given size until you land on a number and see if it is the same as the one you have said.
* How many more/ find the difference means count on or take away.
 | * Read scales in divisions of 1s and 10s.
* Read scales in divisions of 2s and 5s.
* Read scales where not all numbers are marked and estimate points between (GD).
* Solve word problems using statistics.
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| **Spring 2**Shape  | * Meaning of sides, symmetry (2d)
* Meaning of faces, edges, vertices/ vertex, apex (3d)
* Additional 2D shapes: quadrilateral, pentagon, hexagon, octagon. Teach that a square is a type of rectangle.
* Additional 3D shapes: prism, hemisphere.
* Not all shapes have to be regular.
* May need to use the words opposite and parallel.
 | * Name 2D shapes - revision.
* Describe number of sides of 2D shapes.
* Describe lines of symmetry of 2D shapes.
* Name 3D shapes - revision.
* Describe number of vertices of 3D shapes.
* Describe number of edges of 3D shapes.
* Describe number and shape of faces of 3D shapes.
* Compare properties of shapes (GD).
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| Fractions  | * Meaning of fractions – equal parts of a whole.
* Meaning of numerator and denominator and what they show.
* The line can be read as “parts out of every” or just “out of” (1/2 means one out of two and ¾ means 3 parts out of every four). This way, children will be able to find fractions where there are more pieces than the denominator.
* Half of all even numbers 20 and below and half of all multiples of 10.
* How to find half of other numbers by splitting numbers eg. ½ of 38 = ½ of 30 + ½ of 8.
 | * Identify 1/2 of a number or shape and know that parts must be equal.
* Identify 1/3 of a number or shape and know that parts must be equal.
* Identify ¼ of a number or shape and know that parts must be equal.
* Identify 2/4 of a number or shape and know that parts must be equal.
* Identify 3/4 of a number or shape and know that parts must be equal.
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| Length and height | * 1m = 100cm
* Measuring skills – which end of the ruler to start etc.
* Suitable units to measure different size objects.
* How to estimate based on something they know.
 | * Estimate, measure and record lengths to nearest cm or m.
* Compare and order lengths.
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| **Summer 1**Time | * How to compare lengths of time where some are given in hours and some in minutes.
* That in digital time the hours go first but in spoken times they go after the minutes.
* That spoken times are “to” the next hour if the long hand is more than half way round. Digital times are always past the hour.
* Equate quarter hours to quarter cakes etc.
 | * Read the time to the nearest 15 minutes.
* Draw the time to the nearest 15 minutes.
* Read and draw times to 5 minutes (GD).
* Compare times using correct vocabulary – longer/ shorter, earlier/ later.
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| Weight  | * 1kg = 1000g
* That half of 100g = 50g, half of 500g = 250g
* Suitable units to measure different size objects.
* How to estimate based on something they know.
 | * Estimate, measure and record mass to the nearest 100g/kg
* Compare and order masses.
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| Position and direction | * Meaning of clockwise (right) and anti-clockwise (left).
* Revise Y1 learning on right/left, where to count from, size of turn, combining movement and turn.
 | * Describe position, direction and movement of a single object.
* Describe position, direction and movement of shapes in a pattern.
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| **Summer 2**Capacity | * 1litre = 1000ml
* That half of 100ml = 50ml and half of 500ml = 250ml
* How to estimate capacity based on something they know.
 | * Estimate, measure and compare capacity/ volume to the nearest 100ml/ litre.
* Compare and order capacity.
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| Temperature  | * That temperature is measured in degrees.
* *Look at outdoor thermometers and discuss negative numbers.*
 | * Read a temperature scale.
* Use terms hotter/ colder correctly.
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| Investigations and problems | * That ideas should be tested with different numbers.
* How to develop a system to find all solutions.
* How to test using the inverse and knowledge about the size and relative position of numbers.
* Which words indicate which operations.
 | * Find more than one solutions to a problem.
* Choose the appropriate strategy and operation to solve a word problem.
* Use the inverse.
* Generalise beyond known facts (GD).
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