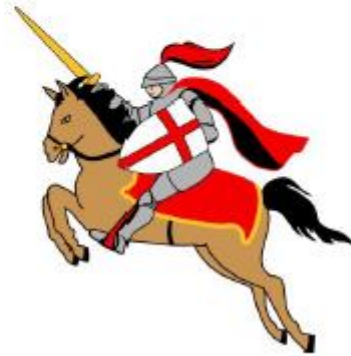


# Conisbrough Ivanhoe Primary Academy



Maths Vocabulary Policy  
2019-2020

“The national curriculum for mathematics reflects the importance of spoken language in pupils’ development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. They must be assisted in making their thinking clear to themselves as well as others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.”

**National Curriculum in England, Department for Education, 2013**

### **Aims and objectives.**

At Conisbrough Ivanhoe Primary Academy, we believe that using correct mathematical language is crucial for thinking, learning and communicating mathematically. Children may build knowledge through remembering information that they hear, but it is only when they put these ideas into their own words that it becomes clear whether concepts have been learned effectively. It is in listening to children talking about mathematics that we, as teachers, can best assess what they are actually learning and understanding. This enables us to identify and address any misconceptions that might be developing.

### **School commitment.**

As a school, we encourage children to explain what they are doing and why they are doing it. We offer them opportunities to use mathematical language frequently, for example by participating in paired activities, group discussions and activities as well as other dialogues. This helps children to learn new vocabulary, to use words they already know more accurately, and to express new ideas and new thinking.

Spoken language in mathematics allows children to extend and develop their reasoning skills as they explain and justify their thinking. It provides the opportunity to review existing knowledge, to explore new ideas and to extend their understanding. The use of spoken language in mathematics allows children to evaluate their learning, support others' suggestions, challenge ideas, reason or justify and ask questions. Therefore, it is important to encourage children not just to learn and remember the correct vocabulary, but also to use these words regularly to communicate mathematically. This plays a vital role in enabling children to develop their mathematical thinking, as appropriate use of mathematical language is essential for developing an argument or proof.

Using mathematical vocabulary can help children to make links across areas of mathematics, across the curriculum as a whole and also within real-life situations. It enables children to build confidence, communicate and problem solve which is why it is an integral part of every mathematics lesson. Teachers plan the introduction of new words into lessons and provide opportunities for children to rehearse and use them on a regular basis so that they begin to remember both the words themselves and their meanings. It is also essential that other adults working with children use mathematical vocabulary accurately and consistently. Mathematical vocabulary is displayed within classrooms for children to use as necessary.

<b>Place value</b>	<p>Number, numeral, zero, one, two, three ... twenty, teens numbers, eleven, twelve ... twenty, twenty-one, twenty-two ... one hundred, none</p> <p>how many ...? count, count (up) to, count on (from, to), count back (from, to) forwards, backwards, count in ones, twos, fives, tens, equal to, equivalent to, is the same as, more, less, most, least, many, odd, even, multiple of, few, pattern, pair, Place value, ones, tens</p> <p>digit, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one less, ten less, equal to, one more, ten more, one less, ten less, compare, order, size, first, second, third... twentieth, last, last but one, before, after, next, between, half-way between, above, below, Estimating Guess, how many ...?, estimate, nearly, roughly, close to, about the same as, just over, just under, too many, too few, enough, not enough</p>
<b>Addition and Subtraction</b>	<p>Addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, one more, two more ... ten more</p> <p>how many more to make ...? how many more is ... than ...? how much more is ...? Subtract, take away, how many are left/left over? how many have gone? one less, two less, ten less ... how many fewer is ... than ...? how much less is ...?</p> <p>difference between, equals, is the same as, number bonds/pairs, missing number</p>
<b>Multiplication and Division</b>	<p>Multiplication, multiply, multiplied by, multiple, division, dividing, grouping, sharing, doubling, halving, array, number patterns</p>
<b>Fractions, Ratio and Proportion</b>	<p>Fraction, equal part, equal grouping, equal sharing, parts of a whole, half, one of two equal parts, quarter, one of four equal parts</p>
<b>Decimals and Percentages</b>	<p>N/A</p>
<b>Statistics</b>	<p>count, sort, vote, group, set, list, table</p>
<b>Geometry</b>	<p>shape, pattern, flat, curved, straight, round, hollow, solid, sort, make, build, draw, size, bigger, larger, smaller, symmetry, symmetrical, symmetrical pattern, pattern, repeating pattern, match, corner, side, point, pointed rectangle (including square) circle, triangle, face, edge, vertex, vertices, cube, cuboid, pyramid, sphere, cone, cylinder, position, over, under, underneath, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, beside, next to</p> <p>opposite, apart, between, middle, edge, centre, corner, direction, journey, left, right, up, down, forwards, backwards, sideways, across, next to, close, near, far, along, through, to, from, towards, away from, movement, slide, roll, turn, stretch, bend, whole turn, half turn, quarter turn, three-quarter turn</p>

<p><b>Measurement</b></p>	<p>Measure, measurement, size, compare, guess, estimate, enough, not enough, too much, too little, too many, too few</p> <p>nearly, close to, about the same as, roughly, just over, just under, centimetre, metre, length, height, width, depth, long, short, tall, high, low, wide, narrow, thick, thin, longer, shorter, taller, higher ... and so on, longest, shortest, tallest, highest ... and so on, far, near, close, ruler, metre stick, kilogram, half kilogram, weigh, weighs, balances, heavy, light, heavier than, lighter than heaviest, lightest scales, litre, half litre, capacity, volume, full, empty, more than, less than, half full</p> <p>quarter full, holds, container, time, days of the week, Monday, Tuesday ... months of the year (January, February ...)</p> <p>seasons: spring, summer, autumn, winter, day, week, weekend, month, year, birthday, holiday, morning, afternoon, evening, night, bedtime, dinner time, playtime, today, yesterday, tomorrow, before, after, earlier, later, next, first, last</p> <p>midnight, date, now, soon, early, late, quick, quicker, quickest, quickly, slow, slower, slowest, slowly, old, older, oldest</p> <p>new, newer, newest, takes longer, takes less time, how long ago? how long will it be to ...? how long will it take to ...?</p> <p>how often? always, never, often, sometimes, usually, once, twice, hour, o'clock, half past, quarter past, quarter to</p> <p>clock, clock face, watch, hands, hour hand, minute hand, hours, minutes, money, coin, penny, pence, pound, price, cost</p> <p>buy, sell, spend, spent, pay, change, dear, costs more, cheap, costs less, cheaper, costs the same as, how much ...? how many ...? total</p>
<p><b>Algebra</b></p>	<p>N/A</p>
<p><b>Problem solving</b></p>	<p>Pattern, puzzle, problem, problem solving, mental, mentally, what could we try next? how did you work it out? explain your thinking recognise, describe, draw, compare, sort</p>

### Y2 Vocabulary

**Place value**

See Year 1 Vocabulary plus the following Y2 specific vocabulary:

Two hundred...one thousand, threes, fours and so on, tally, sequence, continue, predict, rule, greater than, less than, hundreds, one-, two- or three digit number, place value, stands for, represents, exchange, twenty-first, twenty second.... exact, exactly

**Addition and Subtraction**

See Year 1 Vocabulary plus the following Y2 specific vocabulary:

	One hundred more, one hundred less, number facts, tens boundary
<b>Multiplication and Division</b>	See Year 1 Vocabulary plus the following Y2 specific vocabulary:  groups of, times, once, twice, three times ... ten times, repeated addition, divide, divided by, divided into, share, share equally, left, left over, one each, two each, three each ... ten each, group in pairs, threes ... tens, equal groups of, row, column, multiplication table, multiplication fact, division fact
<b>Fractions, Ratio and Proportion</b>	See Year 1 Vocabulary plus the following Y2 specific vocabulary:  Equivalent fraction, mixed number, numerator, denominator, two halves, two quarters, three quarters, one third, two thirds, one of three equal parts
<b>Decimals and Percentages</b>	
<b>Statistics</b>	See Year 1 Vocabulary plus the following Y2 specific vocabulary:  tally, graph, block graph, pictogram, represent, label, title, most popular, most common, least popular, least common
<b>Geometry</b>	See Year 1 Vocabulary plus the following Y2 specific vocabulary:  Surface, line symmetry, rectangular, circular, triangular, pentagon, hexagon, octagon, route, higher, lower, clockwise, anti-clockwise, right angle, straight line
<b>Measurement</b>	See Year 1 Vocabulary plus the following Y2 specific vocabulary:  Measuring scale, further, furthest, tape measure, gram, millilitre, contains, temperature, degree, fortnight, 5,10,15.... Minutes past, digital, analogue, clock, watch, timer, seconds, bought, sold
<b>Algebra</b>	N/A
<b>Problem solving</b>	See Year 1 Vocabulary plus the following Y2 specific vocabulary:  Show how you....., explain your method, describe the pattern, describe the rule, investigate, mental calculation, written calculation

### Y3 Vocabulary

<b>Place value</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Eights, fifties, hundreds, factor of, relationship, Roman numerals, one hundred more, one hundred less, approximate, approximately, round, nearest, round to the nearest ten, hundred, round up, round down
<b>Addition and Subtraction</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Hundreds boundary
<b>Multiplication and Division</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Factor, product, remainder



<b>Fractions, Ratio and Proportion</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Sixths, sevenths, eighths, tenths .....
<b>Decimals and Percentages</b>	
<b>Statistics</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Chart, bar chart, frequency table, carrol diagram, venn diagram, axis, axes, diagram
<b>Geometry</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Perimeter, pentagonal, hexagonal, octagonal, quadrilateral, right-angled, parallel, perpendicular, hemisphere, prism, triangular prism, compass point, north, south, west, east, N, S, E, W, horizontal, vertical, diagonal, angle .... Is a greater/smaller angle than, acute angle, obtuse angle
<b>Measurement</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Division, approximately, millimetre, kilometre, mile, distance apart....between....to....from, perimeter, centigrade, century, calendar, earliest, latest, a.m, p.m, roman numerals, 12-hour clock time, 24-hour clock time
<b>Algebra</b>	
<b>Problem solving</b>	See Year 2 Vocabulary plus the following Y3 specific vocabulary:  Greatest value, least value, statement

### Y4 Vocabulary

<b>Place value</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Ten thousand, hundred thousand, million, sixes, sevens, nines, twenty-fives, next, consecutive, integer, positive, negative, above/below zero, minus/negative numbers, one thousand more, one thousand less, thousand
<b>Addition and Subtraction</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Inverse
<b>Multiplication and Division</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Inverse, square, squared, cube, cubed
<b>Fractions, Ratio and Proportion</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Hundredths, decimal, decimal fraction, decimal point, decimal place, decimal equivalent, proportion

<b>Decimals and Percentages</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:
<b>Statistics</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Survey, questionnaire, data
<b>Geometry</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Line, construct, sketch, centre, angle, right-angled, base, square-based, reflect, reflection, regular, irregular, 2-D, two-dimensional, oblong, rectilinear, equilateral triangle, isosceles triangle, scalene triangle, heptagon, parallelogram, rhombus, trapezium, polygon, 3-D, three-dimensional, spherical, cylindrical, tetrahedron, polyhedron, north-east, north-west, south-east, south-west, NE, NW, SE, SW, translate, translation, rotate, rotation, degree, reflection, ruler, protractor, compass
<b>Measurement</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Unit, standard unit, metric unit, breadth, edge, area, covers, square centimetre (cm <sup>2</sup> ) mass: big, bigger, small, smaller, weight: heavy/light, heavier/lighter, heaviest/lightest, measuring cylinder, leap year, millennium, noon, date of birth, timetable, arrive, depart
<b>Algebra</b>	N/A
<b>Problem solving</b>	See Year 3 Vocabulary plus the following Y4 specific vocabulary:  Justify, make a statement

### Y5 Vocabulary

<b>Place value</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:  Factor pair, $\geq$ greater than or equal to, $\leq$ less than or equal to, formula, divisibility, square number, prime number, ascending/descending order, ten thousand
<b>Addition and Subtraction</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:  Ones boundary, tenths boundary
<b>Multiplication and Division</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:
<b>Fractions, Ratio and Proportion</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:  Proper/improper fraction, equivalent, reduced to, cancel, thousandths, in every, for every
<b>Decimals and Percentages</b>	percentage, percent, %
<b>Statistics</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:

	Database, bar line chart, line graph, maximum/minimum value, outcome
<b>Geometry</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:  Radius, diameter, congruent, axis of symmetry, reflective symmetry, x-axis, y-axis, quadrant, octahedron, coordinate
<b>Measurement</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:  Square metre (m <sup>2</sup> ), square millimetre (mm <sup>2</sup> ), pint, gallon, discount, currency
<b>Algebra</b>	N/A
<b>Problem solving</b>	See Year 4 Vocabulary <b>plus</b> the following Y5 specific vocabulary:  Explain your reasoning

### Y6 Vocabulary

<b>Place value</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary:  Factorise, prime factor, digit total
<b>Addition and Subtraction</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary:
<b>Multiplication and Division</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary:
<b>Fractions, Ratio and Proportion</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary: Ratio
<b>Decimals and Percentages</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary:
<b>Statistics</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary: Pie charts, mean (mode, median, range as estimates for this) statistics, distribution
<b>Geometry</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary:  circumference, concentric, arc, net, open, closed, intersecting, intersection, plane, dodecahedron, net, open, closed, reflex angle,
<b>Measurement</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary:

	Yard, inch, inches, foot, feet, circumference, tonne, pound, ounce, centilitre, cubic centimetres( $\text{cm}^3$ ), cubic metres ( $\text{m}^3$ ), cubic millimetres ( $\text{mm}^3$ ), cubic kilometres ( $\text{km}^3$ ), Greenwich Mean Time, British Summer Time, International Date Line, profit, loss
<b>Algebra</b>	Formulae, equation, unknown, variable
<b>Problem solving</b>	See Year 5 Vocabulary <b>plus</b> the following Y6 specific vocabulary: