OUR LADY OF LOURDES CATHOLIC MULTI-ACADEMY TRUST ST HUGH'S CATHOLIC PRIMARY VOLUNTARY ACADEMY

MATHEMATICS VOCABULARY PROGRESSION



Overview

(see also: https://www.ncetm.org.uk/features/four-ways-to-create-better-mathematical-talk-in-your-classroom/)

Expressing mathematical ideas orally helps children to build communication skills. It can also form an important part of developing understanding of mathematical concepts and the ability to reason mathematically.

Teaching children specific mathematical vocabulary encourages precision, giving pupils a door on the world of the mathematician. It also supports those with English as an additional language to participate on equal terms with their English-speaking peers.

Pupils' mathematical conversations gives essential insight into their conceptual understanding and allows identification of misconceptions that may be causing more widespread problems. It also gives an opportunity to share overheard insights with the whole class.

1 Create an expectation of mathematical talk

Mathematical talk is not something that can be expected of pupils occasionally or suddenly – it takes practice, and the expectation needs to be built up over time. The following are suggestions that can help build that expectation:

Choral repetition of whole sentence answers can help pupils to engage better with more independent mathematical talk, by modelling and giving them the tools they need to begin to construct their own sentences. Setting an **expectation of full-sentence answers**, even to short, closed questions, can develop some of the skills and confidence needed to respond orally to more complex mathematical problems.

Opportunities to **talk about something other than 'the answer'** can create a more discursive atmosphere and reduce inhibitions by removing the anxiety of being 'wrong'. For example – classifying, comparing, focusing on method rather than solution. Questions such as 'What do you notice?' or 'What do you think would happen if...?' can be useful.

Younger children need more scaffolding and support with mathematical talk. Mathematical talk happens much more spontaneously in classrooms after pupils have become accustomed to it over a number of years.

2 Introduce vocabulary

In order to effectively develop mathematical talk, pupils will need to acquire mathematical vocabulary. Use of technical and precise mathematical language should be evident across the school and should be introduced very explicitly to pupils, carefully planning for its introduction and use. **Mathematical terms can be fun** for children to learn to use correctly and can be an opportunity for a bit of historical or etymological exploration and good stories!

Examples include equation, addend, subtrahend, subitise and calculate.

Beware of words that are often used imprecisely and can therefore cause confusion: words such as *sum* (when used generically beyond addition calculations), *equals, average,* and *half*. Beware also of words that have a meaning in English that is different from or less precise than the

mathematical meaning:

words such as *takeaway*, *mean*, *difference*, *adjacent*, *factor*, *negative* and *range*.

3 Support children in beginning mathematical talk

Generic sentence starters can help give a structure in which children can express their ideas. Examples might be 'I agree because...'/ 'I disagree because...'/ 'If I know..., then I know...'. **Stem sentences** are more specific to the maths being learned but give children a clear 'fullsentence' structure in which to put their own answers. 'This is the number 42. The 4 shows we have 4 groups of ten. The 2 shows we have 2 extra ones.' is an example (when learning about place value in Year 2 – sentence taken from the DfE 2020 maths guidance p.51).

The **teacher modelling** an oral answer to a question is also a powerful way to demonstrate expectations. 'My turn, your turn' is one method for doing this: the teacher first models the answer to a question and then asks pupils to answer a question with a very similar structure, gradually building up the complexity of questions.

4 Encourage more reluctant talkers

'Think, pair, share', where pupils first get a chance to try their ideas out with a partner, can increase confidence in sharing with the class. When the idea is shared more publicly, because it is 'our idea' rather than 'my idea', this can feel less exposing to the contributor.

Asking an individual '**What might someone say** in response to this question and why?' can also give children confidence to express an idea they are unsure about, or to identify potential misconceptions.

Drawing other pupils into a discussion that has been started by a more vocal child can help create a climate of discussion and allows the less confident child to comment on a response already given. Use prompts such as 'Do you agree/disagree?', 'Could anyone explain it a different way?', and 'Did anyone get the answer another way? How? Which is easier?'.

WHITE ROSE MATHS - Schemes of learning, further vocabulary guidance

For each small step Year 4 | Summer term | Block 4 - Shape | Step 1 shown in the White Understand angles as turns Rose schemes of learning, further Notes and guidance **Key questions** guidance is given In Year 3, children explored full, half and quarter turns, using What is a full turn? regarding use of the language of clockwise and anticlockwise. This small step • What is the difference between a half turn and a guarter turn? is an opportunity for children to revisit that learning. vocabulary for a given Which way do the hands move around a clock? Begin by recapping full, half and quarter turns. Ask children What does "clockwise"/"anticlockwise" mean? to stand up and turn as instructed, including a variety of lesson, including different turns both clockwise and anticlockwise. Discuss the • What direction will you be facing if you complete a _ _ turn significance of clockwise and anticlockwise in this context, clockwise/anticlockwise? 'Things to look out using the hands of a clock to demonstrate if needed. Children If you were facing _ ___ and are now facina _ , what turn explore different turns from different starting points, have you made? Is there more than one answer? for' (which may including using compass directions. They then work out the turn after being given a start and end position. They also include notes on **Possible sentence stems** consider what a pictorial representation of an angle looks like and how this relates to turns. • I am now facing . possible If I make a ____ _ turn clockwise/anticlockwise, I will be misconceptions as facing_ Things to look out for To make a three-quarter turn, I could make a ______ turn followed well as vocabulary to Children may confuse clockwise and anticlockwise. by a_ turn Children may need reminding about the meaning of A ______ turn clockwise is the same as a ______ turn anticlockwise. recap from previous half, quarter and three-quarters years), 'Key Children may relate angles to the distance between **National Curriculum links** two points on a line rather than the measure of turn questions' (which will between the lines. Recognise angles as a property of shape or a description of a turn (Y3) encourage responses

including correct vocabulary) and 'possible sentence stems' (which will allow teachers to model appropriate vocabulary usage and similarly show how children should be able to express their answers both in writing and orally).

EARLY YEARS FOUNDATION STAGE

NUMBER

Number and place value

Number

zero number one, two, three ... to twenty and beyond teens numbers, eleven, twelve ... twenty none how many ...? count, count (up) to, count on (from, to), count back (from, to) count in ones, twos, fives, tens is the same as more, less odd, even few pattern pair

Place value

ones tens 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 compare order size first, second, third... twentieth last, last but one before, after next between

Estimating

guess how many ...? estimate nearly close to about the same as just over, just under too many, too few, enough, not enough

Addition and subtraction

add, more, and make, sum, total altogether double one more, two more ... ten more how many more to make ...? how many more is ... than ...? how much more is ...? 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 ...?

Multiplication and division

sharing doubling halving number patterns

Fractions parts of a whole half quarter

EARLY YEARS FOUNDATION STAGE

MEASUREMENT

measure size compare guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as just over, just under

Length

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

Weight

weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

Capacity and volume

full empty half full holds container

Time

time days of the week, Monday, Tuesday ... day, week birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after next, last now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time hour, o'clock clock, watch, hands

Money

money coin penny, pence, pound price, cost buy, sell spend, spent pay

GEOMETRY

Properties of shape

shape, pattern flat curved, straight round hollow, solid sort make, build, draw size

EARLY YEARS FOUNDATION STAGE

bigger, larger, smaller symmetrical pattern, repeating pattern match

2-D shape

corner, side rectangle (including square) circle triangle

3-D shape

face, edge, vertex, vertices cube pyramid sphere cone

Position and direction

position over, under above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge corner direction 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

STATISTICS

count, sort group, set list

GENERAL

pattern puzzle what could we try next? how did you work it out? recognise describe draw compare sort

YEAR 1

NUMBER

Number and place value

Number

number

numeral

zero

one, two, three ... twenty teens numbers, eleven, twelve ... twenty

twenty-one, twenty-two ... one hundred

none

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 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

Addition and subtraction addition

add, more, and make, sum, total altogether double near double half, halve one more, two more ... ten more

how many more to make ...? how many more is ... than ...? how much more is ...?

YEAR 1

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 ...? difference between equals is the same as number bonds/pairs missing number

Multiplication and division

multiplication multiply multiplied by multiple division dividing grouping sharing doubling halving array number patterns

Fractions

fraction equal part equal grouping equal sharing parts of a whole half one of two equal parts quarter one of four equal parts

MEASUREMENT

measure measurement size compare guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as roughly just over, just under

Length

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

Weight

kilogram, half kilogram

weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

YEAR 1

Capacity and volume

litre, half litre capacity volume full empty more than less than half full quarter full holds container

Time

time

days of the week, Monday, Tuesday ... months of the year (January, February ...) 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 midnight date now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...?

how often? always, never, often, sometimes

usually

once, twice

hour, o'clock, **half past, quarter past, quarter to** clock, **clock face,** watch, hands **hour hand, minute hand hours, minutes**

Money

money coin penny, pence, pound price, cost buy, sell spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...?

GEOMETRY

Properties of shape

shape, pattern flat curved, straight round hollow, solid sort make, build, draw size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern pattern, repeating pattern match

YEAR 1

2-D shape

corner, side **point, pointed** rectangle (including square) circle triangle

3-D shape face, edge, vertex, vertices cube, cuboid pyramid sphere cone cylinder

Position and direction

position over, under, **underneath** above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to 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

STATISTICS

count, sort, **vote** group, set list, **table**

GENERAL

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

YEAR 2

NUMBER

Number and place value

Number

number numeral zero one, two, three ... twenty teens numbers, eleven, twelve ... twenty twenty-one, twenty-two ... one hundred, two hundred ... one thousand none how many ...? count, count (up) to, count on (from, to), count back (from, to) forwards backwards count in ones, twos, fives, tens, threes, fours and so on equal to equivalent to is the same as more, less most, least tally many odd, even multiple of sequence continue

predict

few

pattern

pair, rule

> greater than

< less than

Place value

ones tens, hundreds digit one-, two- or three-digit number place, place value stands for, represents exchange 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 compare order size first, second, third ... twentieth twenty-first, twenty-second ... last, last but one before, after next between halfway between above, below

Estimating

guess how many ...? estimate nearly roughly close to about the same as just over, just under exact, exactly

YEAR 2

too many, too few enough, not enough

Addition and subtraction

addition add, more, and make, sum, total altogether double near double half, halve one more, two more ... ten more ... one hundred more 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 ... one hundred less how many fewer is ... than ...? how much less is ...? difference between equals is the same as number bonds/pairs/facts tens boundary

Multiplication and division

multiplication multiply multiplied by multiple groups of times once, twice, three times ... ten times repeated addition

division dividing, divide, divided by, divided into grouping sharing, share, share equally left, left over one each, two each, three each ... ten each group in pairs, threes ... tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact, division fact **Fractions** fraction equivalent fraction mixed number numerator, denominator equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts

MEASUREMENT

measure measurement size compare measuring scale

YEAR 2

guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as roughly just over, just under

Length

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, further, furthest, near, close ruler metre stick, tape measure

Weight

kilogram, half kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

Capacity and volume

litre, half litre, millilitre capacity volume full empty more than less than half full quarter full holds, contains container

Temperature temperature degree

Time

time

days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year birthday, holiday morning, afternoon, evening, night bedtime, dinnertime, playtime today, yesterday, tomorrow before, after earlier, later next, first, last midnight date now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to 5, 10, 15 ... minutes past

YEAR 2

clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, seconds

Money

money coin penny, pence, pound price, cost buy, **bought**, sell, **sold** spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...?

GEOMETRY

Properties of shape shape, pattern flat curved, straight round hollow, solid sort make, build, draw surface size bigger, larger, smaller

bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry

pattern, repeating

2-D shape

corner, side point, pointed rectangle (including square), rectangular circle, circular triangle, triangular pentagon hexagon octagon

3-D shape

face, edge, vertex, vertices cube, cuboid pyramid sphere cone cylinder

Position and direction

position over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge centre corner direction journey, route left, right

YEAR 2

up, down

higher, lower

forwards, backwards, sideways across next to, close, near, far along through to, from, towards, away from **clockwise, anticlockwise** movement slide roll turn stretch, bend whole turn, half turn, quarter turn, three-quarter turn **right angle straight line**

STATISTICS

count, tally, sort, vote graph, block graph, pictogram represent group, set list, table label, title most popular, most common least popular, least common

GENERAL

pattern puzzle problem, problem solving mental, mentally what could we try next? how did you work it out? show how you ... explain your thinking explain your method describe the pattern describe the rule investigate recognise describe draw compare sort mental calculation written calculation

YEAR 3

NUMBER

Number and place value

Number

number numeral zero one, two, three ... twenty teens numbers, eleven, twelve ... twenty twenty-one, twenty-two ... one hundred, two hundred ... one thousand none how many ...? count, count (up) to, count on (from, to), count back (from, to) forwards backwards count in ones, twos, fives, tens, threes, fours, eights, fifties and so on to hundreds equal to equivalent to is the same as more, less most, least tally many odd, even multiple of, factor of sequence continue predict few pattern pair, rule relationship > greater than < less than **Roman numerals**

Place value

ones tens, hundreds digit one-, two- or three-digit number place, place value stands for, represents exchange 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 hundred more one less, ten less, one hundred less equal to compare order size first, second, third ... twentieth twenty-first, twenty-second ... last, last but one before, after next between halfway between above, below

Estimating

guess how many ...? estimate nearly roughly close to approximate, approximately about the same as just over, just under

YEAR 3

exact, exactly too many, too few enough, not enough round, nearest, round to the nearest ten, hundred round up, round down

Addition and subtraction

addition add, more, and make, sum, total altogether double near double half, halve one more, two more ... ten more ... one hundred more 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 ... one hundred less how many fewer is ... than ...? how much less is ...? difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary

Multiplication and division multiplication multiply multiplied by

multiple, factor groups of times product once, twice, three times ... ten times repeated addition division dividing, divide, divided by, divided into left, left over, remainder grouping sharing, share, share equally one each, two each, three each ... ten each group in pairs, threes ... tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact, division fact

Fractions

fraction equivalent fraction mixed number numerator, denominator equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths ...

YEAR 3

MEASUREMENT

measure measurement size compare measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately roughly

Length

just over, just under

millimetre, centimetre, metre, kilometre, mile 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, further, furthest, near, close distance apart ... between ... to ... from perimeter ruler metre stick, tape measure

Weight

kilogram, half kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

Capacity and volume

litre, half litre, millilitre capacity volume full empty more than less than half full quarter full holds, contains container

Temperature

temperature degree centigrade

Time

time days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year, century birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last midnight calendar, date now, soon, early, late, earliest, latest quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest

YEAR 3

flat

takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to 5, 10, 15 ... minutes past a.m., p.m.

clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, seconds

Roman numerals 12-hour clock time, 24-hour clock time

Money

money coin penny, pence, pound price, cost buy, bought, sell, sold spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...?

GEOMETRY

Properties of shape

shape, pattern

curved, straight round hollow, solid sort make, build, draw **perimeter** surface size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry pattern, repeating pattern match **2-D shape**

corner, side point, pointed rectangle (including square), rectangular circle, circular triangle, triangular pentagon, pentagonal hexagon, hexagonal octagon, octagonal quadrilateral right-angled parallel, perpendicular

3-D shape face, edge, vertex, vertices cube, cuboid pyramid sphere, hemisphere cone cylinder prism, triangular prism

Position and direction position

YEAR 3

over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge centre corner direction journey, route left, right up, down higher, lower forwards, backwards, sideways across next to, close, near, far along through to, from, towards, away from clockwise, anticlockwise compass point north, south, east, west, N, S, E, W horizontal, vertical, diagonal movement slide roll turn stretch, bend whole turn, half turn, quarter turn, three-quarter turn angle ... is a greater/smaller angle than right angle

acute angle obtuse angle straight line

STATISTICS

count, tally, sort, vote graph, block graph, pictogram represent group, set list, table, chart, bar chart, frequency table Carroll diagram, Venn diagram label, title, axis, axes diagram most popular, most common least popular, least common

GENERAL

pattern puzzle problem, problem-solving mental, mentally what could we try next? how did you work it out? show how you ... explain your thinking explain your method describe the pattern describe the rule investigate recognise describe draw compare sort greatest value, least value mental calculation written calculation statement

YEAR 4

NUMBER

Number and place value

Number

number numeral zero one, two, three ... twenty teens numbers, eleven, twelve ... twenty twenty-one, twenty-two ... one hundred, two hundred ... one thousand ... ten thousand, hundred thousand, million

none

how many ...?

count, count (up) to, count on (from, to), count back (from, to)

forwards

backwards

count in ones, twos, fives, tens, threes, fours, eights, fifties, sixes, sevens, nines, twenty-fives and so on to hundreds,

thousands equal to equivalent to is the same as more, less most, least tally many odd, even multiple of, factor of sequence continue predict few pattern pair, rule relationship

next, consecutive

> greater than
 < less than
 Roman numerals
 integer, positive, negative
 above/below zero, minus
 negative numbers
 ascending/descending order

Place value

ones tens, hundreds digit one-, two- or three-digit number place, place value stands for, represents exchange 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 hundred more, one thousand more one less, ten less, one hundred less, one thousand less equal to compare order size first, second, third ... twentieth twenty-first, twenty-second ... last, last but on before, after next between halfway between above, below

YEAR 4

Estimating

guess how many estimate nearly roughly close to approximate, approximately about the same as just over, just under exact, exactly too many, too few enough, not enough round, nearest, round to the nearest ten, hundred, thousand round up, round down Addition and subtraction addition

add, more, and make, sum, total altogether double near double half. halve one more, two more... ten more... one hundred more 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 ... one hundred less how many fewer is ... than ...? how much less is ...?

difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary inverse

Multiplication and division

multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times ... ten times repeated addition division dividing, divide, divided by, divided into left, left over, remainder grouping sharing, share, share equally one each, two each, three each ... ten each group in pairs, threes ... tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact, division fact inverse square, squared cube, cubed

YEAR 4

Fractions (including decimals)

fraction, proper/improper fraction equivalent fraction mixed number numerator, denominator equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths ...hundredths decimal, decimal fraction, decimal point, decimal place, decimal equivalent proportion

MEASUREMENT

measure measurement size compare unit, standard unit metric unit measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately roughly just over, just under

Length

millimetre, centimetre, metre, kilometre, mile length, height, width, depth, breadth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from edge, perimeter area, covers square centimetre (cm₂) ruler metre stick, tape measure

Weight

mass: big, bigger, small, smaller weight: heavy/light, heavier/lighter, heaviest/ lightest

kilogram, half kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

Capacity and volume

litre, half litre, millilitre capacity volume full empty more than less than half full quarter full

YEAR 4

holds, contains container, measuring cylinder

Temperature

temperature degree centigrade

Time

time days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year, leap year, century, millennium birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last noon, midnight calendar, date, date of birth now, soon, early, late, earliest, latest quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to

5, 10, 15 ... minutes past a.m., p.m. clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, seconds **timetable, arrive, depart** Roman numerals 12-hour clock time, 24-hour clock time

Money

money coin penny, pence, pound price, cost buy, bought, sell, sold spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...?

GEOMETRY

Properties of shape shape, pattern flat, line curved, straight round hollow, solid sort make, build, construct, draw, sketch perimeter centre surface

YEAR 4

angle, right-angled

base, square-based

size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry **reflect, reflection** pattern, repeating pattern match **regular, irregular**

2-D shape

2-D, two-dimensional corner, side point, pointed rectangle (including square), rectangular, oblong rectilinear circle, circular triangle, triangular equilateral triangle, isosceles triangle, scalene triangle pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal quadrilateral parallelogram, rhombus, trapezium polygon right-angled parallel, perpendicular x-axis, y-axis

3-D, three-dimensional face, edge, vertex, vertices cube, cuboid pyramid sphere, hemisphere, **spherical** cone

3-D shape

cylinder, cylindrical prism, triangular prism tetrahedron, polyhedron **Position and direction** position over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge centre corner direction journey, route left, right up, down higher, lower forwards, backwards, sideways across next to, close, near, far along through to, from, towards, away from clockwise, anticlockwise compass point north, south, east, west, N, S, E, W north-east, north-west, south-east, south-west, NE, NW, SE, SW horizontal, vertical, diagonal translate, translation

YEAR 4

movement slide roll turn stretch, bend whole turn, half turn, quarter turn, three-quarter turn rotate, rotation angle, is a greater/smaller angle than degree right angle acute angle obtuse angle reflection straight line ruler, set square angle measurer, compass coordinate

STATISTICS

count, tally, sort, vote survey, questionnaire, data graph, block graph, pictogram represent group, set list, table, chart, bar chart, frequency table Carroll diagram, Venn diagram label, title, axis, axes diagram most popular, most common least popular, least common

GENERAL

pattern puzzle problem, problem solving mental, mentally what could we try next? how did you work it out?

show how you ... explain your thinking explain your method describe the pattern describe the rule investigate recognise describe draw compare sort greatest value, least value mental calculation written calculation statement justify make a statement explain your reasoning

YEAR 5

NUMBER

Number and place value

Number

number

numeral

zero

one, two, three ... twenty

teens numbers, eleven, twelve ... twenty

twenty-one, twenty-two ... one hundred, two hundred ... one thousand ... ten thousand, hundred thousand, million

none

how many ...?

count, count (up) to, count on (from, to), count back (from, to)

forwards

backwards

count in ones, twos, fives, tens, threes, fours, eights, fifties, sixes, sevens, nines, twenty-fives and so on to hundreds, thousands

equal to

equivalent to

is the same as

more, less

most, least

tally

many

odd, even

multiple of, factor of

factor pair

sequence continue predict few pattern pair, rule relationship next, consecutive > greater than < less than ≥ greater than or equal to ≤ less than or equal to Roman numerals integer, positive, negative above/below zero, minus negative numbers formula divisibility square number prime number

ascending/descending order

Place value

ones tens, hundreds digit one-, two- or three-digit number place, place value stands for, represents exchange 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 hundred more, one thousand more one less, ten less, one hundred less, one thousand less equal to compare order size first, second, third ... twentieth twenty-first, twenty-second ... last, last but one

YEAR 5

before, after next between

halfway between above, below

Estimating

guess how many ...? estimate nearly roughly close to approximate, approximately about the same as just over, just under exact, exactly too many, too few enough, not enough round, nearest, round to the nearest ten, hundred, thousand, ten thousand round up, round down

Addition and subtraction

addition add, more, and make, sum, total altogether double near double half, halve one more, two more ... ten more ... one hundred more 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 ... one hundred less how many fewer is ... than ...? how much less is ...? difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary, ones boundary, tenths boundary inverse

Multiplication and division

multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times ... ten times repeated addition division dividing, divide, divided by, divided into left, left over, remainder grouping sharing, share, share equally one each, two each, three each ... ten each group in pairs, threes ... tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact, division fact

YEAR 5

inverse

square, squared cube, cubed

Fractions (including decimals and percentages)

fraction, proper/improper fraction equivalent fraction mixed number numerator, denominator

equivalent, reduced to, cancel

equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths ... hundredths, thousandths decimal, decimal fraction, decimal point, decimal place, decimal equivalent

proportion, in every, for every

percentage, per cent, %

MEASUREMENT

measure measurement size compare unit, standard unit metric unit, imperial unit measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately roughly just over, just under

Length

millimetre, centimetre, metre, kilometre, mile length, height, width, depth, breadth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from edge, perimeter area, covers square centimetre (cm₂), square metre (m₂), square millimetre (mm₂) ruler

metre stick, tape measure

Weight

mass: big, bigger, small, smaller weight: heavy/light, heavier/lighter, heaviest/ lightest kilogram, half kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

Capacity and volume litre, half litre, millilitre capacity

YEAR 5

volume

full empty more than less than half full quarter full holds, contains container, measuring cylinder **pint, gallon**

Temperature

temperature degree centigrade

Time

time days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year, leap year, century, millennium birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last noon, midnight calendar, date, date of birth now, soon, early, late, earliest, latest quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago?

how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to 5, 10, 15 ... minutes past a.m., p.m. clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, seconds timetable, arrive, depart Roman numerals 12-hour clock time, 24-hour clock time

Money

money coin penny, pence, pound price, cost buy, bought, sell, sold spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...? total discount currency

GEOMETRY Properties of shape shape, pattern

YEAR 5

flat, line curved, straight round hollow, solid sort make, build, construct, draw, sketch perimeter centre, radius, diameter surface angle, right-angled congruent base, square-based size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry reflect, reflection axis of symmetry, reflective symmetry pattern, repeating pattern match regular, irregular

2-D shape

2-D, two-dimensional corner, side point, pointed rectangle (including square), rectangular, oblong rectilinear circle, circular triangle, triangular equilateral triangle, isosceles triangle, scalene triangle pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal quadrilateral parallelogram, rhombus, trapezium polygon right -angled parallel, perpendicular x-axis, y-axis, **quadrant**

3-D shape 3-D, three-dimensional face, edge, vertex, vertices cube, cuboid pyramid sphere, hemisphere, spherical cone cylinder, cylindrical prism, triangular prism tetrahedron, polyhedron octahedron

Position and direction position over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge centre corner direction journey, route left, right up, down

YEAR 5

higher, lower forwards, backwards, sideways across next to, close, near, far along through to, from, towards, away from clockwise, anticlockwise compass point north, south, east, west, N, S, E, W north-east, north-west, south-east, south-west, NE, NW, SE, SW horizontal, vertical, diagonal translate, translation coordinate movement slide roll turn stretch, bend whole turn, half turn, quarter turn, three-quarter turn rotate, rotation angle, is a greater/smaller angle than degree right angle acute angle obtuse angle reflex angle reflection straight line ruler, set square angle measurer, compass, protractor

STATISTICS

count, tally, sort, vote survey, questionnaire, data, database graph, block graph, pictogram represent group, set list, table, chart, bar chart, frequency table, bar line chart Carroll diagram, Venn diagram line graph label, title, axis, axes diagram most popular, most common least popular, least common maximum/minimum value outcome

GENERAL

pattern puzzle problem, problem solving mental, mentally what could we try next? how did you work it out? show how you ... explain your thinking explain your method describe the pattern describe the rule investigate recognise describe draw compare sort greatest value, least value mental calculation written calculation statement justify make a statement explain your reasoning

YEAR 6

NUMBER

Number and place value

Number

number numeral zero one, two, three ... twenty teens numbers, eleven, twelve ... twenty twenty-one, twenty-two ... one hundred, two hundred ... one thousand ... ten thousand, hundred thousand, million none how many ...? count, count (up) to, count on (from, to), count back (from, to) forwards backwards count in ones, twos, fives, tens, threes, fours, eights, fifties, sixes, sevens, nines, twenty-fives and so on to hundreds, thousands equal to equivalent to is the same as more, less most, least tally many odd, even multiple of, factor of factor pair sequence continue predict few pattern pair, rule relationship next, consecutive > greater than < less than

≥ greater than or equal to
≤ less than or equal to
Roman numerals
integer, positive, negative
above/below zero, minus
negative numbers
formula
divisibility
square number
prime number
factorise
prime factor
ascending/descending order
digit total

Place value

ones tens, hundreds digit one-, two- or three-digit number place, place value stands for, represents exchange 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 hundred more, one thousand more one less, ten less, one hundred less, one thousand less equal to compare order size first, second, third ... twentieth twenty-first, twenty-second ... last, last but one before, after next between

YEAR 6

halfway between above, below

Estimating

guess how many ...? estimate nearly roughly close to approximate, approximately about the same as just over, just under exact, exactly too many, too few enough, not enough round, nearest, round to the nearest ten, hundred, thousand, ten thousand round up, round down

Addition and subtraction

addition add, more, and make, sum, total altogether double near double half. halve one more, two more ... ten more ... one hundred more 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 ... one hundred less how many fewer is ... than ...? how much less is ...?

difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary, ones boundary, tenths boundary inverse

Multiplication and division

multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times ... ten times repeated addition division dividing, divide, divided by, divided into left, left over, remainder grouping sharing, share, share equally one each, two each, three each ... ten each group in pairs, threes ... tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact, division fact inverse square, squared cube, cubed

Fractions (including decimals, percentages, ratio and proportion)

fraction, proper/improper fraction

YEAR 6

equivalent fraction mixed number numerator, denominator equivalent, reduced to, cancel equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths ... hundredths, thousandths decimal, decimal fraction, decimal point, decimal place, decimal equivalent proportion, in every, for every ratio percentage, per cent, %

Algebra

formula, formulae equation, unknown variable

MEASUREMENT

measure measurement size compare unit, standard unit metric unit, imperial unit measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately roughly just over, just under

Length

centimetre, metre, millimetre, kilometre, mile, yard, foot, feet, inch, inches length, height, width, depth, breadth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from edge, perimeter, circumference area, covers square centimetre (cm₂), square metre (m₂), square millimetre (mm₂) ruler metre stick, tape measure

Weight

mass: big, bigger, small, smaller weight: heavy/light, heavier/lighter, heaviest/lightest tonne, kilogram, half kilogram, gram, pound, ounce weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

Capacity and volume

litre, half litre, millilitre, centilitre cubic centimetres(cm₃), cubic metres (m₃), cubic millimetres (mm₃), cubic kilometres (km₃) capacity volume

YEAR 6

full

empty more than less than half full quarter full holds, contains container, measuring cylinder pint, gallon

Temperature

temperature degree centigrade

Time

time days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year, leap year, century, millennium birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last noon, midnight calendar, date, date of birth now, soon, early, late, earliest, latest quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...?

how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to 5, 10, 15 ... minutes past a.m., p.m. clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, seconds timetable, arrive, depart Roman numerals 12-hour clock time, 24-hour clock time Greenwich Mean Time, British Summer Time, **International Date Line**

Money

money coin penny, pence, pound price, cost buy, bought, sell, sold spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...? total discount currency profit, loss

GEOMETRY

Properties of shape

shape, pattern flat, line

YEAR 6

curved, straight round hollow, solid sort make, build, construct, draw, sketch perimeter centre, radius, diameter circumference, concentric, arc net, open, closed surface angle, right-angled congruent intersecting, intersection plane base, square-based size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry reflect, reflection axis of symmetry, reflective symmetry pattern, repeating pattern match regular, irregular

2-D shape 2-D, two-dimensional corner, side point, pointed rectangle (including square), rectangular, oblong rectilinear circle, circular triangle, triangular equilateral triangle, isosceles triangle, scalene triangle pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal quadrilateral parallelogram, rhombus, trapezium, kite polygon right-angled parallel, perpendicular x-axis, y-axis, quadrant

3-D shape 3-D, three-dimensional face, edge, vertex, vertices cube, cuboid pyramid sphere, hemisphere, spherical cone cylinder, cylindrical prism, triangular prism tetrahedron, polyhedron octahedron dodecahedron net, open, closed

Position and direction position over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge centre corner direction journey, route left, right, up, down

YEAR 6

higher, lower forwards, backwards, sideways across next to, close, near, far along through to, from, towards, away from clockwise, anticlockwise compass point north, south, east, west, N, S, E, W north-east, north-west, south-east, south-west, NE, NW, SE, SW horizontal, vertical, diagonal translate, translation coordinate movement slide roll turn stretch, bend whole turn, half turn, quarter turn, three-quarter turn rotate, rotation angle, is a greater/smaller angle than degree right angle acute angle obtuse angle reflex angle reflection straight line ruler, set square

STATISTICS

count, tally, sort, vote survey, questionnaire, data, database graph, block graph, pictogram represent group, set

angle measurer, compass, protractor

list, table, chart, bar chart, frequency table, bar line chart Carroll diagram, Venn diagram line graph **pie chart** label, title, axis, axes diagram most popular, most common least popular, least common maximum/minimum value outcome **mean (mode, median, range as estimates for this) statistics, distribution**

GENERAL

pattern puzzle problem, problem solving mental, mentally what could we try next? how did you work it out? show how you ... explain your thinking explain your method describe the pattern describe the rule investigate recognise describe draw compare sort greatest value, least value mental calculation written calculation statement justify make a statement explain your reasoning