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THE IMPORTANCE OF SPOKEN LANGUAGE

"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

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.

We need to encourage children to explain what they are doing and why they are doing it. We must offer them opportunities to use mathematical language frequently, for example by participating in paired activities, group discussions and games as well as other dialogues. This will help 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 can be thought of as a rehearsal for recording as well as an outcome in its own right. It 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.

2The productive 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 will play 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 all children to make links across areas of mathematics, across the curriculum as a whole and also within real-life situations. It can especially support lower attainers, enabling them to build confidence, communicate and problem solve, so should be an integral part of every mathematics lesson. Teachers need to 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.

USING MATHEMATICAL VOCABULARY

"Approaches which explicitly aim to develop spoken vocabulary work best when they are related to current content being studied in school and when they involve theactive use of the new vocabulary."

The Education Endowment Foundation, 2014

Barriers to acquiring mathematical vocabulary

For children to participate effectively in mathematics lessons, they must acquire the appropriate vocabulary to enable them to explain their thinking and make progress in different areas of mathematical knowledge. There are several potential barriers to this, which teachers should consider when using language in the mathematics lesson.

- Many words used in mathematics are terms specific to the subject area which may rarely be encountered outside the lesson, for example, multiple, factor, trapezium, denominator. It is important to introduce these words explicitly first, explaining their meanings clearly.
- Some words used in mathematics have different meanings when used in an everyday English context, for example, face, take away, match, odd, lots of, product. It is important that children explore all the meanings they know for these words first, then focus on the mathematical definitions to understand how the terms are used in a mathematical context. Using specific mathematical vocabulary, such as 'multiplied by' instead of 'lots of' can help to avoid confusion.
- Misconceptions can arise when mathematical vocabulary is used imprecisely. For example, imprecise and ambiguous descriptions of a rectangle as 'a shape with four right angles and two

pairs of equal sides', could lead to children not recognising that a square is also a rectangle, or not understanding that a rectangle is also a type of parallelogram and quadrilateral. A good definition should be complete and concise, for example 'a rectangle is a four-sided shape, all four of whose angles are right-angles'. It is important that teachers, teaching assistants and other adults are consistent in their use of mathematical language.

Introducing new mathematical language

Children should be introduced to the appropriate vocabulary at a time when it is relevant and required. As teachers, sometimes we will expect children to remember and begin to use particular terms. On other occasions, we may simply be introducing words so that children can hear their sound and develop a knowledge that a mathematical term exists. For example, when children in Year 1 learn about halves and quarters, to gain a real understanding of what these are they need to know what the numbers that make them represent. It can be useful to introduce the words numerator and denominator to describe the top and bottom numbers of a fraction. At this stage it is not essential that children remember these words, but this modelling will help them become familiar with the terms, gradually beginning to use them accurately and with understanding in later years.

Once new mathematical language has been introduced, children must be allowed to try it out, misuse it, see when it works, and understand how it fits with what they already know. In this way, they will eventually make it their own. We therefore need to ensure that we give children opportunities to speak this mathematical language within conversations rather than simply practising the words. Teachers and other adults in the classroom should be aware of potential misconceptions, for example using the term capacity (rather than volume) to describe the amount of liquid inside a container instead of the amount a container can hold. This type of inaccuracy should be corrected whenever terms are heard being misused.

The final stage of embedding understanding of new mathematical vocabulary is learning to read and write the words, ultimately spelling them correctly. Children should also be provided with opportunities to develop these skills. Providing access to mathematical dictionaries in the classroom and encouraging children to make use of them is especially helpful in securing their knowledge. Asking children to label displays of their work, including writing captions on working walls, will also be useful, as is referring to the words in further sessions.

USING THIS BOOK

This book provides a series of checklists to support teachers in identifying the words that the children need to understand and use in order to make good progress in mathematics. The book is for class teachers, support staff and any other adults in the classroom. It may also be helpful to share lists of relevant key words with parents and carers on a regular basis to enable them to focus on certain vocabulary at home to support learning.

The checklists have been organised by year group to provide relevant vocabulary for each domain in the 2014 National Curriculum in England: mathematics programme of study for key stages 1 and 2. Where appropriate, words have been further classified into specific areas. For example, the lists of words for the Measurement domain contain words related to length, weight, capacity and volume, time, temperature and money, as well as general measurement vocabulary.

The book begins with the vocabulary that the children should be introduced to in the Mathematics area of the Statutory Framework for the Early Years Foundation Stage. It progresses through KS1 and KS2 to the words that children would be expected to know and be able use in Year 6. The words listed for each year group include all the vocabulary from the previous year/s for reference, with new words for that year highlighted in red from Year 1 onwards.

These lists will help teachers identify key language for a topic and integrate their use into lesson plans. They can then ensure that new vocabulary is introduced at the right time and that familiar words continue to be consolidated. When working on a particular topic it is helpful to display the appropriate vocabulary in the classroom. In this way children are reminded of the words that they need to know and use. If space allows, include symbols, diagrams and drawings to illustrate the meanings of new words visually. Providing mathematical dictionaries near to the display will encourage children to look up any words they don't know.

The checklists are suggestions of vocabulary appropriate for each area of mathematics at each year level to ensure that children are equipped with the language they need to make expected levels of progress. Though comprehensive, the checklists are not necessarily exhaustive and more words can be added if you wish.

Vocabulary development

It is important to introduce children to the correct vocabulary at the appropriate time and within a suitable context. It is often helpful to do this using relevant real-life objects, mathematical manipulatives and visual representations such as pictures and diagrams. All children need regular, planned opportunities to develop their mathematical vocabulary in order that they become familiar with the language and are not confused by mathematical terms. They need to acquire the words necessary for them to take part in lessons and activities, respond to questions correctly and carry out tasks successfully. Fun games and activities, such as the following example, can be a useful way to rehearse words and their meanings regularly.

'Just a minute' word game

Choose a topic that the class is working on. Write up to 20 relevant mathematical words on separate pieces of card. Ensure that familiar as well as new words are included. Create enough sets of cards for small groups of children to use. Demonstrate what the children need to do: say the meanings of the words on the cards. Ask the children to identify the word you are describing. How many can they say correctly in one minute?

Next, organise children into mixed-attaining groups and give each group a set of cards. Choose the most confident child to begin describing the words on the cards as you previously demonstrated. After a minute, the describer role passes to the next most confident learner. Repeat until all the children have taken a turn, finishing with the least confident learner. The children can use or adapt each other's definitions or create descriptions of their own. For each turn, the group should note how many words were identified correctly. Does their score improve by the final turn?

EFFECTIVE QUESTIONING

Whilst children may be able to remember new terms, learning the meanings of words requires more than memorisation. To help children understand mathematical ideas and support them in using mathematical terms correctly, it is vital to employ a variety of questioning techniques to promote good dialogue in mathematics lessons.

Open and closed questions

As teachers, we should be asking a variety of types of question. Effective questioning will include both closed questions with a single correct answer (What sort of number do you get when you add two odd numbers together?) and open questions with a number of possible answers to encourage children to think more deeply (What sort of numbers do you get when you add three consecutive numbers together?). Encouraging children to explain their thinking and methods is also vitally important. The answers given will provide teachers with useful assessment opportunities and evidence of children's level of understanding. Follow-up questions such as How do you know? or What makes you think that? as well as Can you give me another example? are essential to probe, develop and consolidate understanding.

Planning open questions that have more than one answer or more than one route to arrive at an answer gives more children a chance to respond. Open questions can also offer greater challenge and extension opportunities for higher-attaining children, encouraging them to search for alternative, less obvious or more general answers.

Question types

Sometimes we may just want to ask questions to check the recall of facts, for example, What is 6 multiplied by 9?

What is 23 + 27? Sometimes we may ask questions that involve applying those facts, for example, What are the factors of 42? What are some multiples of 8? The ability to recall and apply knowledge is key to becoming fluent in the fundamentals of mathematics. However, children should also be asked questions that require a higher level of thinking. This is important to develop conceptual understanding, to encourage children to follow lines of enquiry and justify their reasoning, and to assist them in seeking solutions to problems.

Questions that can help to develop more complex thinking, include those which require children to:

- predict or hypothesise
 Roughly how much is 51 multiplied by 47?
 Estimate the number of counters in the tray.
- represent mathematical ideas
 How could you show that on a number line?

Can you represent the problem using counters?

- apply mathematics to solve problems
 How could we count these?
 How could you test a number to see if it is
 divisible by 6?
- make generalisations
 What does that tell us about numbers that
 have a 5 or 0 in the ones position?
 What can we say about the total angles in
 a quadrilateral?
- reason mathematically
 I have 58p in my pocket, what coins could they be?

 Why is the product of two odd numbers

Useful question starters

When planning open questions, the following question stems and sentence starters can be helpful:

- Explain why ...
- I wonder why ...
- How do you know ...?
- Does anyone know ...?
- What will happen if ...?
- How will you know ...?
- How can we find out ...?
- Can you describe ...?
- Convince me ...
- Is there another way ...?
- What makes you think that ...?

always odd?

RISING STARS Mathematical Vocabulary Checklists

EARLY YEARS FOUNDATION STAGE to YEAR 6

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 ...?

difference between

Multiplication and division

sharing

doubling

halving

number patterns

Fractions

parts of a whole

half

quarter

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

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 ...?

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

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 ...?

total

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

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

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

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

uarter 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

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

less than

half full

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 ...?

GEOMETRY

Properties of shape

shape, pattern

flat

total

curved, straight

round

hollow, solid

sort

make, build, draw

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
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

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

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

ess

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, factorgroups 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 ...

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

just over, just under

Length

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 \dots between \dots to \dots 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

takes longer, takes less time flat curved, straight how long ago? how long will it be to ...? round how long will it take to ...? hollow, solid how often? sort always, never, often, sometimes make, build, draw perimeter usually once, twice surface hour, o'clock, half past, quarter past, quarter size to bigger, larger, smaller 5, 10, 15 ... minutes past symmetry, symmetrical, symmetrical pattern a.m., p.m. line symmetry clock, clock face, watch, hands pattern, repeating pattern digital/analogue clock/watch, timer match hour hand, minute hand hours, minutes, seconds 2-D shape Roman numerals corner, side 12-hour clock time, 24-hour clock time point, pointed rectangle (including square), rectangular Money circle, circular triangle, triangular money coin pentagon, pentagonal penny, pence, pound hexagon, hexagonal price, cost octagon, octagonal buy, bought, sell, sold quadrilateral spend, spent right-angled pay parallel, perpendicular change 3-D shape dear, costs more face, edge, vertex, vertices cheap, costs less, cheaper costs the same as cube, cuboid

GEOMETRY

Properties of shape

shape, pattern

how much ...?

how many ...?

23

total

Position and direction

position

pyramid

cone

cylinder

sphere, hemisphere

prism, triangular prism

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

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

mental calculation
written calculation
statement

right angle

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

25

next, consecutive

> greater than

< less than

Roman numerals

integer, positive, negative above/below zero, minus

negative numbers

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

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

Fractions (including decimals)

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

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 ...?

total

GEOMETRY

Properties of shape

shape, pattern

flat, line

curved, straight

round

hollow, solid

sort

make, build, construct, draw, sketch

perimeter

centre

surface

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

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

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

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

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 commonleast

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

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

how many have gone? before, after one less, two less, ten less ... one hundred next less between how many fewer is ... than ...? halfway between how much less is ...? above, below difference between **Estimating** equals is the same as guess number bonds/pairs/facts how many ...? missing number estimate tens boundary, hundreds boundary, ones nearly boundary, tenths boundary roughly inverse close to approximate, approximately **Multiplication and division** about the same as multiplication just over, just under multiply exact, exactly multiplied by too many, too few multiple, factor enough, not enough groups of round, nearest, round to the nearest ten, times hundred, thousand, ten thousand product round up, round down once, twice, three times ... ten times repeated addition Addition and subtraction division addition dividing, divide, divided by, divided into add, more, and left, left over, remainder make, sum, total grouping altogether sharing, share, share equally double one each, two each, three each ... ten each near double group in pairs, threes ... tens half, halve equal groups of one more, two more ... ten more ... one hundred more doubling how many more to make ...? halving how many more is ... than ...? array how much more is ...? row, column subtract number patterns take away multiplication table

multiplication fact, division fact

how many are left/left over?

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 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

MEASUREMENT

percentage, per cent, %

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

Weight

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

metre stick, tape measure

mass: big, bigger, small, smaller

litre, half litre, millilitre capacity

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

Temperature

temperature degree centigrade

Time

time

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?

days of the week, Monday, Tuesday ...

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

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

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

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

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

37

≥ 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

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

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

Algebra

formula, formulae equation unknown variable

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

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) metre stick, tape measure

Weight

volume

weight: heavy/light, heavier/lighter, heaviest/ lightest tonne, kilogram, half kilogram, gram, pound, weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales

mass: big, bigger, small, smaller

Capacity and volume

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

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

Temperature

temperature degree centigrade

Time

time

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 ...?

days of the week, Monday, Tuesday ...

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, che

dear, costs more
cheap, costs less, cheaper
costs the same as
how much ...?
how many ...?
total
discount
currency

GEOMETRY

Properties of shape

shape, pattern flat, line

profit, loss

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

41

parallelogram, rhombus, trapezium, kitepolygon

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

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

STATISTICS

ruler, set square

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)

GENERAL

statistics, distribution

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 greatest value, least value mental calculation written calculation statement iustify

make a statement

explain your reasoning