RISING STARS
Maths

Mathematical Vocabulary

Introduce the right words at the right time to ensure progress in primary maths

⭐ **Indispensable checklists for each year group**

⭐ **Guidance on the importance of spoken language**

⭐ **Organised to support the raised expectations of the 2014 Programme of Study**

multiple

factor

eBook for use on any device

RISING STARS Maths

Rising Stars has worked with leading primary mathematics experts to bring schools the resources they need to deliver the new National Curriculum programme of study for primary mathematics. Take a look at our new and published resources to find out more about how Rising Stars can help raise achievement in your school.

	Planning	Teaching & Learning		Lower attainers	Higher attainers	Embedding learning & homework		Assessment			CPD online courses
KS1	Primary Mathematics Planning Framework	Fluency with Fractions	Problem Solving and Reasoning	Picture Maths	Maths for the More Able		Skills Builders Times Tables	Mathematics Progress Tests	Mental Maths	Assessment Tasks	Essential CPD
LOWER KS2	Primary Mathematics Planning Framework	Fluency with Fractions	Problem Solving and Reasoning	Picture Maths	Maths for the More Able	Learn, Practise and Revise	Skills Builders Fractions, Decimals, Percentages	Mathematics Progress Tests	Mental Maths	Assessment Tasks	Essential CPD
UPPER KS2	Primary Mathematics Planning Framework	Fluency with Fractions	Problem Solving and Reasoning	Picture Maths	Maths for the More Able	Learn, Practise and Revise	Skills Builders Fractions, Decimals, Percentages	Mathematics Progress Tests	Mental Maths	Assessment Tasks	Essential CPD

RISING STARS Maths

Supporting schools through curriculum change
- Medium-term planning framework • Mental Maths
- Problem-solving & Reasoning
- Assessment • Fractions • Times Tables

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☑ The Head Teacher
☑ The Maths Co-ordinator
☑ The SEN Co-ordinator

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For more information or to place an order contact us at:

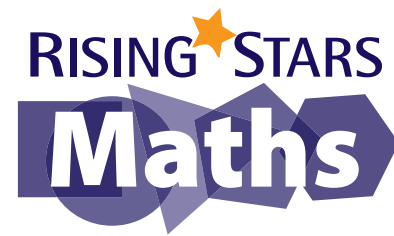☎ Tel: 0800 091 1602 📠 Fax: 0800 091 1603

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CONTENTS

March 2014

Dear Maths Colleague,

With teaching of the 2014 National Curriculum due to begin in only six months' time, we know how busy you are planning how to implement the new primary mathematics programme of study in your school. As you know, one of the key messages across the curriculum is how important spoken language is in helping children to develop and make progress. Teachers have told us that checklists of mathematical vocabulary for each year level are a useful tool to ensure that the right language is introduced at the right time. Here at Rising Stars we are dedicated to providing resources to support you in every way we can, so that is exactly what you will find in this book! Written by primary maths expert and NCETM Coordinator, Caroline Clissold, you can be sure that the word lists match the expectations of the new curriculum perfectly.

Alongside developing this book of *Mathematical Vocabulary*, we have also been working hard with our partner schools and curriculum specialists to produce a range of flexible maths resources. These are specifically designed for the 2014 curriculum, to give you the confidence to deliver the new mathematics programme of study with ease.

Whether you are looking for resources to help inform your medium-term planning, embed problem-solving, develop reasoning and mental calculation skills, improve teaching of tricky topics such as calculating with fractions, or are looking for help in assessing progress effectively in a world without levels, we hope you will find the resources to suit your individual school's needs at Rising Stars.

We hope you find this *Mathematical Vocabulary* book useful and if you would like to find out more about any of the other Rising Stars Maths resources, please don't hesitate to contact our dedicated customer services team on 0800 091 1602.
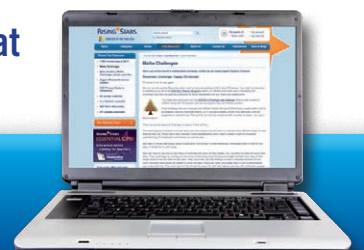
With very best wishes,

Andrea Carr

Andrea Carr
Managing Director
Rising Stars

Did you know?
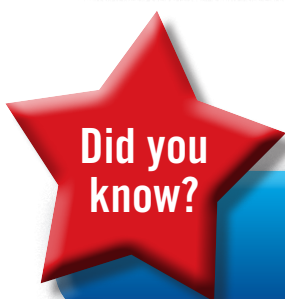
You can now find fun maths challenges for your class at www.risingstars-uk.com/mathschallenges

Have a go at this month's mathematics challenge, written by our maths expert Caroline Clissold!

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.

The 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 the active 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 always odd?

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 ...?*

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

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

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

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

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

Y
E
A
R
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 …?
total

GEOMETRY
Properties of shape
shape, pattern
flat
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

Y E A R 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 2

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 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 …

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 … 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

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 …?

total

GEOMETRY

Properties of shape

shape, pattern

flat

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

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

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

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

YEAR 4

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 (cm^2)

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 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

Y
E
A
R
4

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

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

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 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

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 (cm^2), square metre (m^2), square millimetre (mm^2)

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

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

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

YEAR 5

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

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

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

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 (cm^2), square metre (m^2), square millimetre (mm^2)

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(cm^3), cubic metres (m^3), cubic millimetres (mm^3), cubic kilometres (km^3)

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

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

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

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

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

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draw

compare

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greatest value, least value

mental calculation

written calculation

statement

justify

make a statement

explain your reasoning

Also available from

RISING STARS Maths

Primary Mathematics Planning Framework
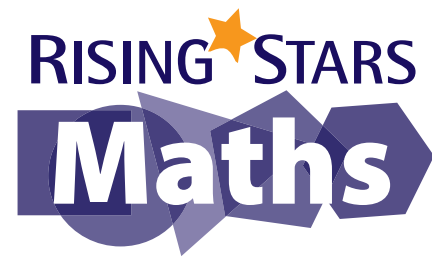
Comprehensive medium-term planning and assessment for the new National Curriculum for Primary Mathematics

Babcock ldp partners in education
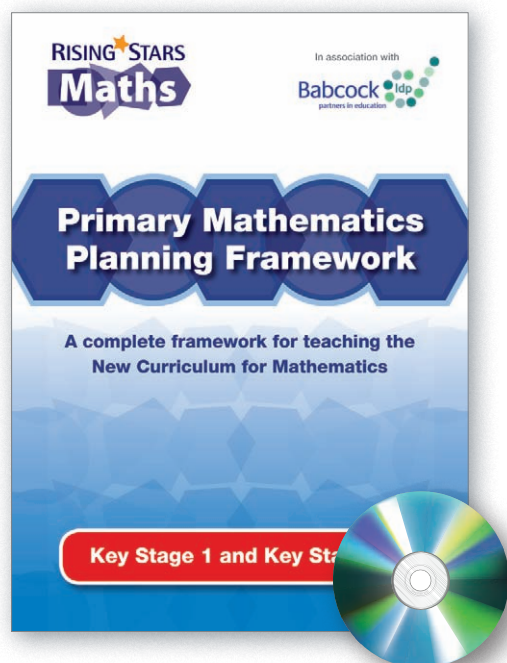
Rising Stars has teamed up with Babcock Learning and Development Partnership (Devon Local Authority), one of the UK's leading school improvement services, to develop a fully planned framework that will help you to deliver the new curriculum with ease and make rich connections across mathematical ideas.

- **Time-saving** – takes all of the effort out of planning for the new curriculum
- **Flexible** – schools can easily edit the pathways to suit their requirements
- **Supportive** – gives schools the confidence to deliver the New Curriculum for Mathematics
- **Cost-effective** – helps schools make the most of existing resources and identify gaps in teacher knowledge

Can both be used alongside any mathematics resources you have in school
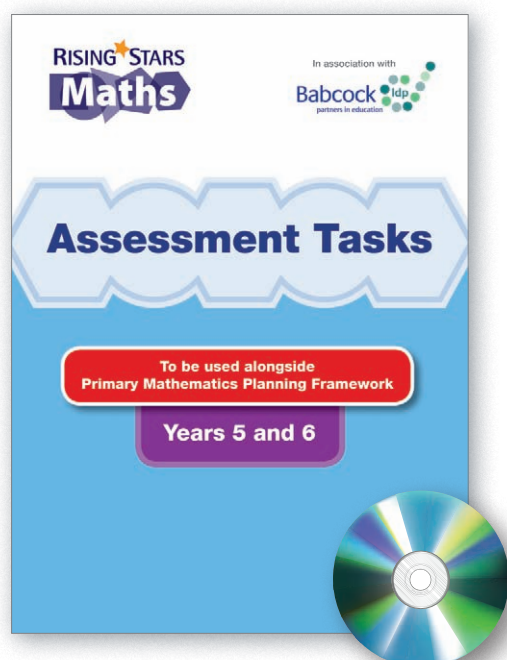
Assessment Tasks

New assessment tasks to support you in assessing pupils' understanding of each objective in the new primary maths curriculum. Three photocopiable books provide 14 assessment tasks for each year linked to the success criteria in each sequence of the Primary Mathematics Planning Framework.

- Designed to be used at the end of the teaching sequence
- Enables identification of those children who have either mastered the content in the sequence or who are still working towards it and need further support
- Includes 'look out for children who …' guidance to support teachers with early identification of problems with conceptual understanding and remediation
- All assessment tasks are provided in print and on an editable CD-ROM for flexible use across year groups

Also available from

Problem Solving and Reasoning

RISING STARS Maths
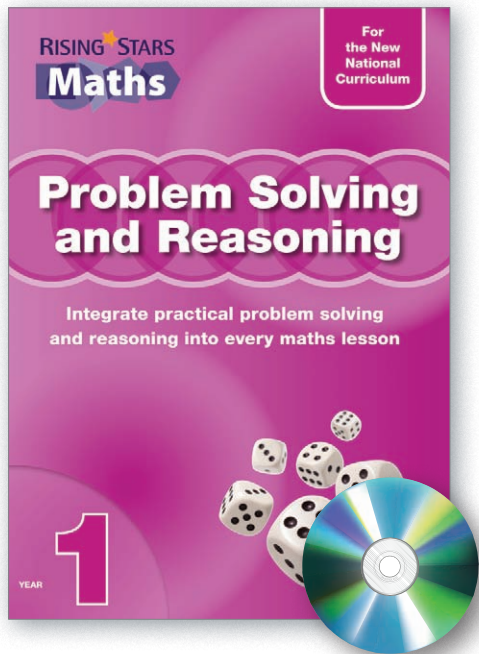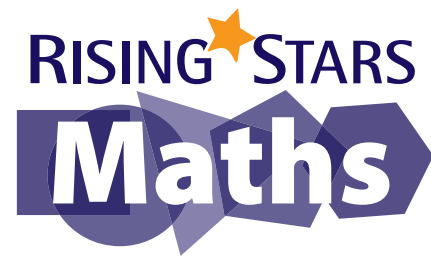
With the renewed emphasis within the new maths curriculum on problem solving and reasoning, this brand new resource will support schools in integrating practical problem solving into their day-to-day teaching.

- Effective strategies and techniques to develop skills across the curriculum
- Key strategies provide practical ideas and questions to embed problem solving and reasoning in every maths lesson
- Each pack includes a bank of investigative activities for pupils to apply their reasoning skills
- Can be used to supplement any existing maths resource

> **'A fantastic resource to help teachers plan and deliver great lessons involving problem solving and reasoning'**
>
> **Caroline Clissold, Coordinator for the National Centre for Excellence in the Teaching of Mathematics (NCETM)**

Fluency with Fractions
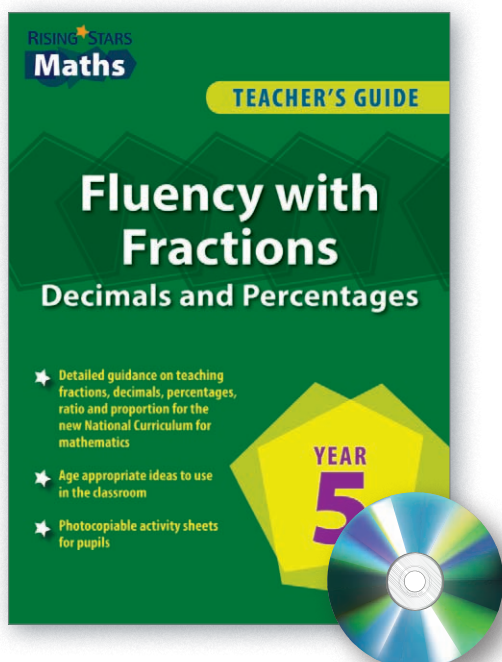
Differentiated activities to promote conceptual understanding and number fluency

- Full coverage of the National Curriculum content
- Easy-to-follow guidance includes clear NC links, prior knowledge requirements and helpful subject knowledge to boost confidence for non-specialists and teaching assistants
- Differentiated activities ensure challenging content can be accessed by all abilities
- References to a wide variety of visual models and images contextualises learning for pupils and helps develop number fluency

CD-ROMs contain editable versions of all the activities

Also available from

RISING STARS
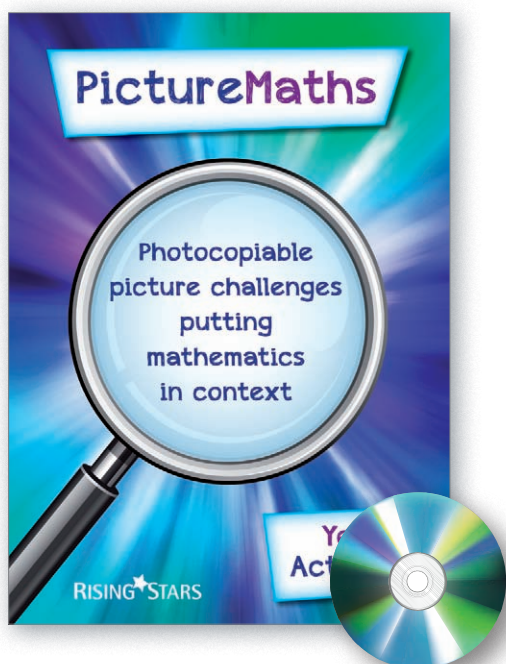**Maths**

Maths for the More Able
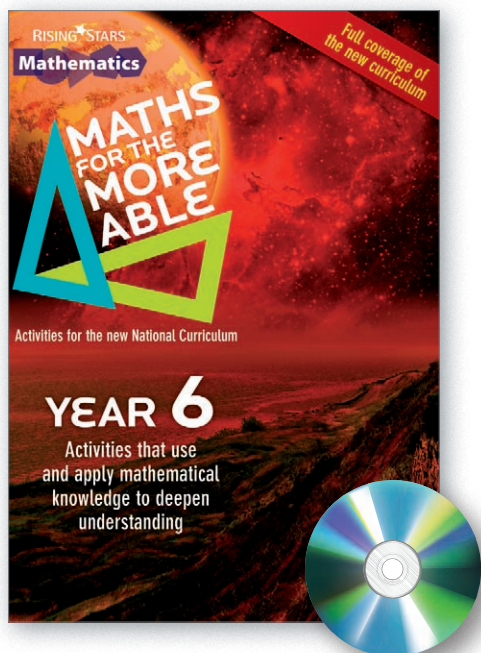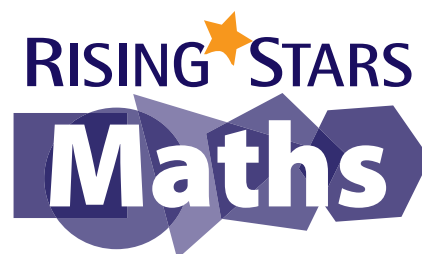
Developed for the new National Curriculum, *Maths for the More Able* is a bank of challenging, space-themed problem-solving activities designed to engage and stretch pupils

- Engage and excite pupils using challenging, space-themed problem-solving activities
- Gain the confidence to stretch your more able pupils in mathematics
- Adapt and edit activities and create your own resources
- Give pupils the opportunity to explore and apply National Curriculum maths content

Published in association with **nace**

Full coverage of the new curriculum

RISING STARS
Mathematics

MATHS FOR THE MORE ABLE

Activities for the new National Curriculum

YEAR 6

Activities that use and apply mathematical knowledge to deepen understanding

Picture Maths

Picture Maths offers a new approach to teaching mathematical problem-solving that will help engage and raise the attainment of visual and reluctant learners using picture-based activities. The tasks develop a deeper level of understanding by putting maths problems into real-life contexts, making maths relevant.

- Teaching ideas to introduce topics in a real-life context
- Photocopiable pupil worksheets using pictures to solve mathematical problems
- Extension and homework activities to challenge and extend learning

PictureMaths

Photocopiable picture challenges putting mathematics in context

RISING STARS

Ideal for Pupil Premium

Also available from

RISING STARS
Maths

New Curriculum Mental Maths Tests
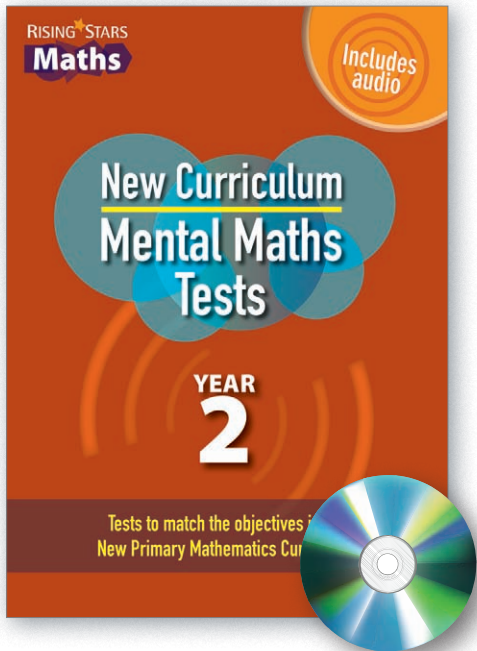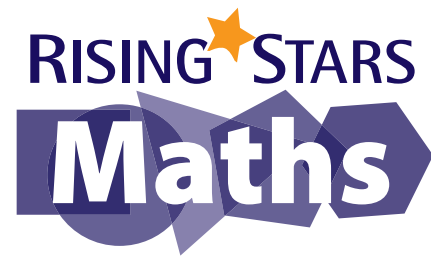
Fully matched to the new National Curriculum, these brand new packs provide regular, weekly mental maths practice that support children in improving their ability to answer mental maths questions.

- Weekly tests provide regular mental maths practice
- Written to match the objectives of the new National Curriculum
- Everything you need to ensure your pupils are prepared for the mental maths element of the KS2 National Tests

Includes audio tests for Years 1-6

> **'This is exactly what I have been looking for! There is nothing else like this available.'**
>
> **Maggie Brooks, KS2 Coordinator, Royston Primary School**

Mathematics Progress Tests
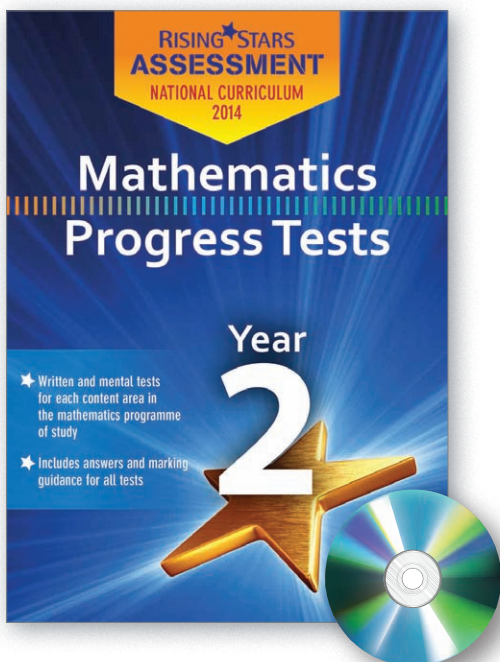
A whole-school approach to support you in assessing mathematics for the new primary curriculum.

- Easily identify strengths and weaknesses to inform teaching
- Assess pupils' learning and demonstrate progress to Ofsted
- CD-ROM includes a unique Progress Tracker to monitor and report on individuals and classes
- Track how pupils are progressing against the topic and their year group
- Supports assessment without levels

Series Adviser

CORNWALL LEARNING

RISING ★ STARS
ESSENTIALCPD

Did you know Rising Stars now provides Interactive Online CPD for your whole school?

Take a look at our maths courses available now and sign-up for a FREE trial!!

Getting to Grips with the New National Curriculum for Primary Schools

Course Leaders: Helen Lewis and Shân Oswald with Sharon Ostowsky

An introduction to the New National Curriculum, this course highlights the key changes, identifies the potentially tricky areas and then helps you to plan for successful implementation.

Supporting the More Able in Mathematics at Key Stage 2

Course leader: Steph King

Strategies to challenge, support and extend your more able pupils

Strategies for Raising Attainment in Mathematics at Key Stage 2

Course leaders: Hilary Koll and Steve Mills

Many children struggle with mathematics but this course will help you identify and overcome the barriers to learning.

Essential Maths for Teaching Assistants: Secrets for Success at Key Stage 2

Course leader: Steph King

This course will support TAs by developing their knowledge of the mathematics required at Key Stage 2.

For a FREE 14 day trial visit: www.essentialcpd.co.uk

For more information or to place an order contact us at:

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RISING ★ STARS

Maths

Mathematical Vocabulary

This resource supports teachers in developing spoken language across the primary mathematics curriculum. It provides:

★ Vocabulary checklists for EYFS to Year 6

★ New words for each year clearly highlighted

★ Guidance on the importance of spoken language

★ Support for effective questioning in maths lessons