Shoreham Beach Primary School

Calculations Policy

Revised: October 2020

Next revision: October 2022

Contents:

Introduction

Children are introduced to the processes of calculation through practical apparatus, oral and mental activities. As children begin to understand the underlying ideas, they develop ways of recording to support their thinking and calculation methods, use particular methods that apply to special cases, and learn to interpret and use the signs and symbols involved. From the early stages, children learn how to use models and images, such as empty number lines, to support their mental and informal written methods of calculation.

There is a considerable emphasis on teaching mental calculation strategies. Informal written recording takes place regularly and is an important part of learning and understanding. More formal written methods follow only when the child is able to use a wide range of mental calculation strategies. As children's mental methods are strengthened and refined, so too are their informal written methods. These methods include bar models, part-part-whole diagrams and pictures. Some recording takes the form of jottings, which are used to support children's thinking. This may be done on scrap paper, jotter books and whiteboards and is not always retained as it is for the children's own personal use.

This policy contains the key pencil and paper procedures that will be taught within our school. It has been written to ensure consistency and progression throughout the school and reflects a whole school agreement.

This policy concentrates on the introduction of standard symbols, the use of the empty numberline as a jotting to aid mental calculation and the introduction of pencil and paper procedures. It is important that children do not abandon jottings and mental methods once pencil and paper procedures are introduced. Therefore children will always be encouraged to look at a calculation/problem and then decide which is the best method to choose – apparatus, pictures, mental calculation with or without jottings, structured recording or a calculator. Our long-term aim is for children to be able to select an efficient method of their choice (whether this be mental, written or in upper Key Stage 2 using a calculator) that is appropriate for a given task. They will do this by always asking themselves:

- 'Can I do this in my head?'
- 'Do I need some apparatus?
- 'Can I do this in my head using drawings or jottings?'
- 'Do I need to use a pencil and paper procedure?'
- 'Do I need a calculator?'

Although the focus of the policy is on pencil and paper procedures it is important to recognise that the ability to calculate mentally lies at the heart of Primary mathematics. Mental methods will be taught systematically from Reception onwards and pupils will be given regular opportunities to develop the necessary skills. However mental calculation is not to the exclusion of written recording and should be seen as complementary to and not as separate from it. In every written method there is an element of mental processing. Sharing written methods with the teacher encourages children to think about the mental strategies that underpin them and to develop new ideas. Therefore written recording both helps children to clarify their thinking and supports and extends the development of more fluent and sophisticated mental strategies.

The overall aim is that when children leave primary school they:

- have a secure knowledge of number facts and a good understanding of the four operations;
- they are able to reason with numbers and problem solve, explaining their understanding and methods
- are able to use this knowledge and understanding to carry out calculations mentally and to apply general strategies when using one-digit and two-digit numbers and particular strategies to special cases involving bigger numbers;
- make use of diagrams and informal notes to help record steps and part answers when using mental methods that generate more information than can be kept in their heads;
- have an efficient, reliable, compact written method of calculation for each operation that they can apply with confidence when undertaking calculations that they cannot carry out mentally;
- use a calculator effectively, using their mental skills to monitor the process, check the steps involved and decide if the numbers displayed make sense.

Although not mentioned in the following grids, opportunities will be given for the children to use and apply new methods of calculating they have learnt. Reasoning and problem solving will be used from Y1 onwards, up to Y6 where the problems will be multi-step.

Addition (+)

Reception

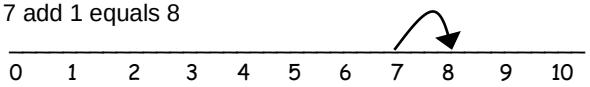
Number rhymes & songs.
Conservation of number.
Understanding the number and what each digit represents.
1 to 1 correspondence.
1 more.
How many altogether? Physical counting objects
Adding 2 small groups (1 digit numbers)
Introduce '+' sign.
Simple word problems.
doubling, halving and sharing

Summer Term – number line 0 to 10 to count on.
Chant counting in 10s up to 100, 2s to 10.
Awareness of 100 square.

Year 1

1 more.

7 and 1 **more** is 8
7 add 1 equals 8



Numberlines 0 to 20.
Using '+' number sentences and using '='
Count in tens, fives, twos.
Number bonds up to 20.
Add 1 and 2 digit numbers to 20.
Work with numbers to 100 and beyond.

Year 2

Add numbers to at least 100 using materials; combining two groups.
Adding 3 single digit numbers
Adding, holding 1 number in head. Counting on.
Counting in steps of 2,3,5 from zero and in 10s from any number forwards and backwards.

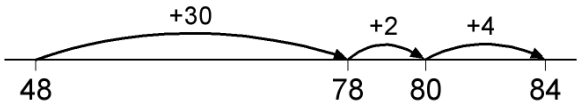
Number bonds up to 20 and derived facts to 100

Commutative law
Inverses of addition/subtraction

Year 3

Work with numbers up to 1000
Add/subtract using column methods
Count in multiples of 4 8 50 and 100

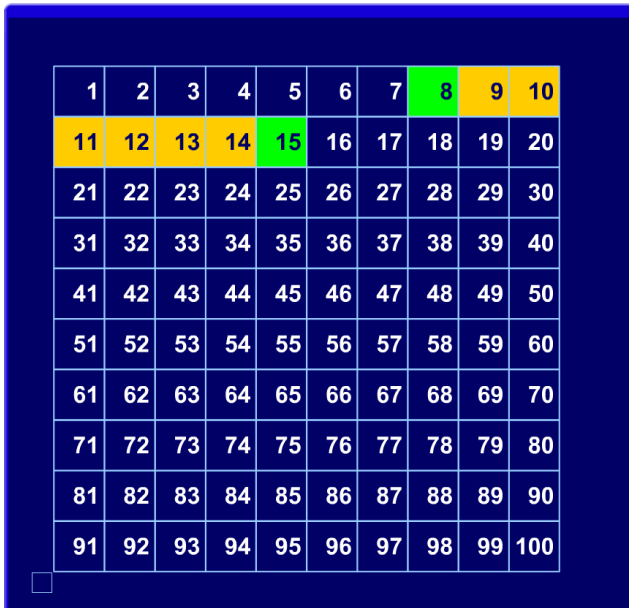
Addition using blank numberlines
48 + 36 =



Partitioning with brackets
34 + 25 = 59
(30+20) (4+6)
50 + 9 =

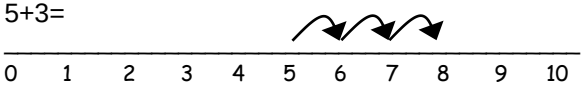
Number square

8+7=



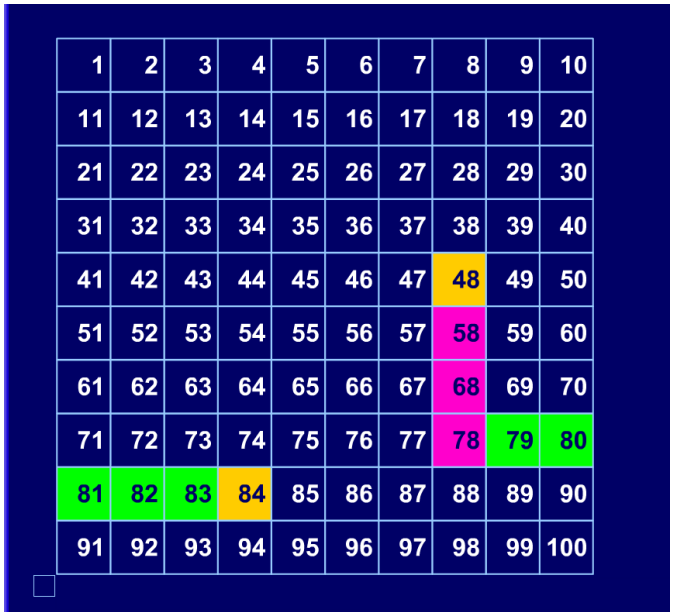
Recording addition calculations using numberline method (with numbers on)

5+3=



Number square

48+36=



Larger numbers +ing 10s and 20s.

Partitioning

Written calculations, operations. All horizontal recording.
Graphical representation.
Algebra – missing numbers in calculations.

<20 L/A
No carrying A
>100 with carrying M/A
464 + 175 = 639
(400+100)(60+70) (4+6)
500 + 130 + 9 = 639

Independent writing of calculations.

<u>Progressing to:</u>

Vertical expanded method:

43 + 25 =

43
+ 25
8
60
68

<u>Followed by:</u>
Addition vertical compact method. Carrying into the next column must be under the lower line NOT above the top line.

43
+ 25
68

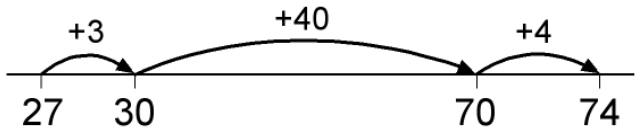
Adding and subtracting fractions with the same denominator.
Count up and down in tenths.

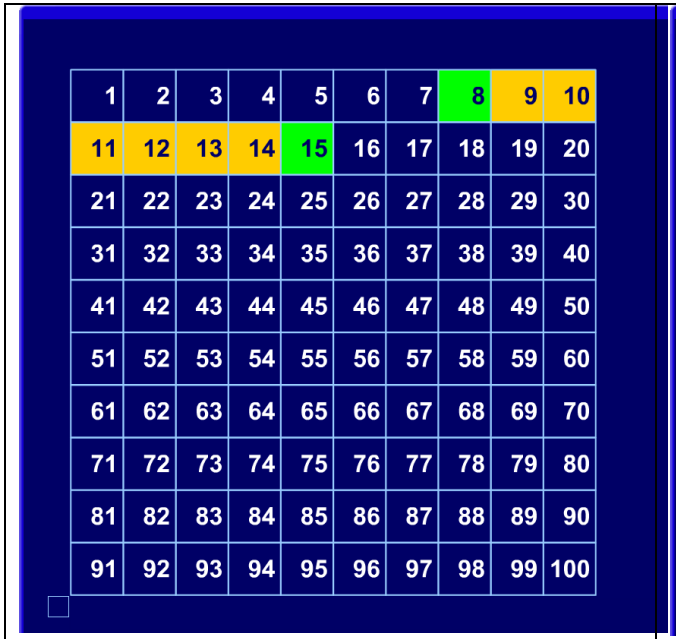
Year 4	Year 5	Year 6
Use of 4 digit numbers Continue to gain fluency in vertical compact methods of addition. Extend to addition of decimals Convert fractions to decimals and back.	Use of numbers up to 1,000,000 including negative numbers Continue to use formal written methods of addition on increasingly large numbers.	Use of numbers up to 10,000,000 Multistep word problems

Subtraction (-)

Reception

Number rhymes / songs
Looking at 1 less
Counting backwards
Introduce 'take away' vocabulary.
Practice 'take-away' with tangible apparatus.

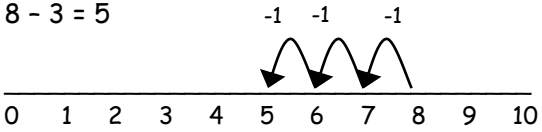
Year 1	Year 2	Year 3
Physical recapping – taking objects away. Use of – sign for subtraction **Number square** 15-7=8	Using objects physically taking away. Subtraction by jumping up in 10s. Partitioning using objects. **Number square** 74-27=47	Partitioning. Numberline blank (jumps 10 or match digits). Horizontal recording. Counting on or back 74 – 27= 47  15 – 7 = 8



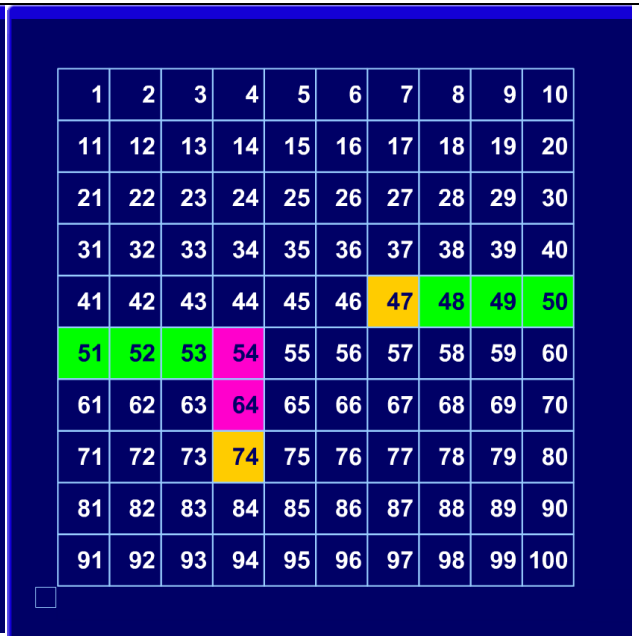
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Count back on a numberline – 2 digit numbers

8 - 3 = 5



Subtraction number sentences (12-5=)
Start with bigger number and count back in ones.

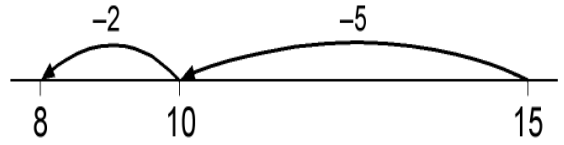


1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

By end of year children are using numbers >100

Numberline blank (jumps 10 or match digits).

Subtraction as the inverse of addition.



Vertical recording.

46 – 23 =

40 + 6
- 20 + 3
20 + 3 = 23

Progressing to:

Vertical recording.

46 – 23 =

40 + 6
20 + 3
20 + 3 = 23

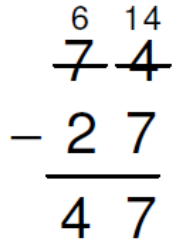
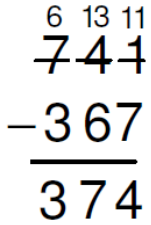
Vertical recording into 3 digit numbers and 'carrying'

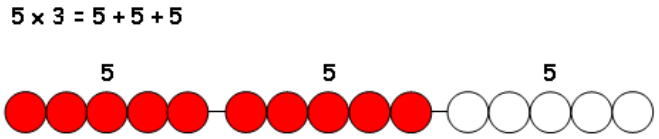
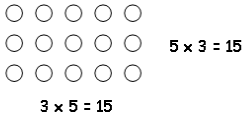
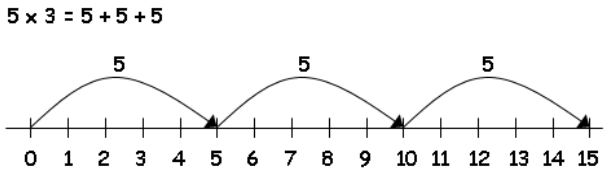
784 – 35 =

700 80 4
- 30 5
700 40 9

Followed by:

Compact method of subtraction, with 'carrying'

		(only if children are fully conversant with previous methods). 
Year 4	**Year 5**	**Year 6**
Continue to gain fluency in vertical compact methods of subtraction.  Extend to subtracting decimals	Continue to gain fluency in vertical compact methods of subtraction on increasingly large numbers. Ensuring vertical methods have been taught in year 5 if not before.	Multi step word problems
Multiplication (x)		
Reception		
Repeated addition Chanting in 2s, 5s, 10s		
Year 1	**Year 2**	**Year 3**

Look at numbers on a numberline to see the pattern. Chanting in 2s,5s and 10s Record as repeated addition 2+2+2 = 6 Introduce ‘x’ sign & ‘lots of’. One step problems using objects and pictorial representations.	Chanting 2s, 3s, 5s, 10s time-tables Groups of objects. Recording dots on a whiteboard. Written use of X sign Use of a bead bar:  Repeated addition - use of pictures. Finger counting. Arrays - model a multiplication calculation using an array.  **Commutativity** Children should know that 3 x 5 has the same answer as 5 x 3. This can also be shown on the number line.	Times-tables = 2s, 5, 10s, 3s, 4s, 6s, 7s, 8s, 9s. Repeated addition on a number line. 3 times 5 is 5 + 5 + 5 = 15 or 3 lots of 5 or 5 x3  Multiplication square Partitioning. 26 x 4 = 104 (20x4) (6x4) 80 + 24 = <u>Progressing to:</u> Grid method of multiplication. Two digits x one digit = Three digits x one digit = 23 x 7 is approximately 20 x 10 = 200 x | 20 | 3 7 | 140 | 21 = 161

Year 4	**Year 5**	**Year 6**
Continue to gain fluency in grid method of multiplication. Expanded vertical method of multiplication starting with units column. HTU 38 X 7 56 210 266 <u>Progressing to:</u> Compact vertical method of multiplication. HTU 38 X 7 266 5 Know all times tables and division facts.	Continue to gain fluency in vertical compact methods of multiplication. Ensuring this is taught in year 5 if not before. Understanding of prime numbers	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

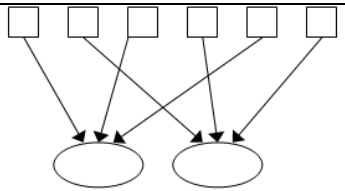
Multiply 2 and 3 digit numbers by 1 digit number using formal written methods. Recognise factor pairs		

Division (÷)

Reception

Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s.

Year 1	Year 2	Year 3
The children will recognise and write the division symbol (÷) in mathematical statements, calculating the answer with the teacher using concrete objects. One step problems using objects and pictorial representations. Halves and quarters as fractions of a whole.	Inverse operations. Drawing picture. Sharing things out. Horizontal or pictorial recording. Remainders. Written use of ÷ sign Children will develop their understanding of division and use jottings to support calculation **Sharing equally** 6 sweets shared between 2 people, how many do they each get?	Tangible sharing. Grouping. Multiplication square. Inverse operations. Recognition of fractions and decimals as the result of division. Horizontal recording on a numberline. Number lines are used in both addition and subtraction, so use of them in division as well can be confusing. If using a number line for division, children need to remember to start the line at zero. Remainders can be recorded underneath the line.



Grouping or repeated subtraction
There are 6 sweets, how many people can have 2 sweets each?

Repeated subtraction using a number line or bead bar
12 ÷ 3 = 4

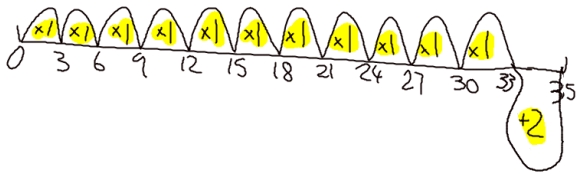
The bead bar will help children with interpreting division calculations such as 10 ÷ 5 as 'how many 5s make 10?'

Using symbols to stand for unknown numbers to complete equations using inverse operations

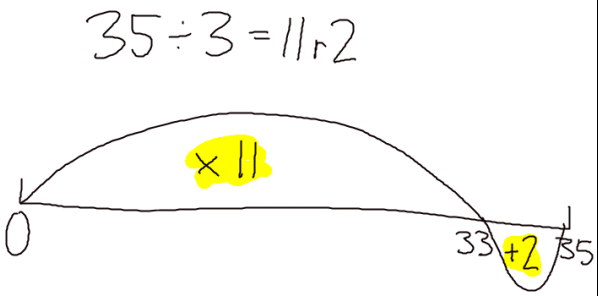
□ ÷ 2 = 4 20 ÷ △ = 4 □ ÷ △ = 4

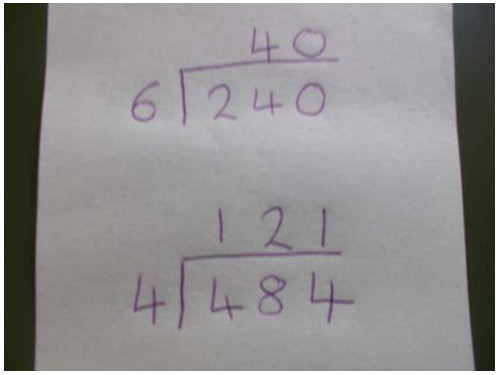
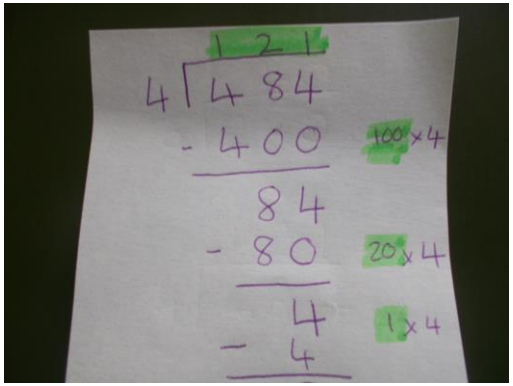
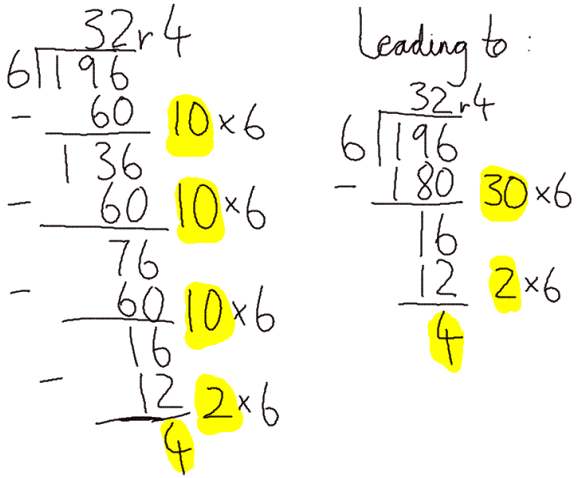
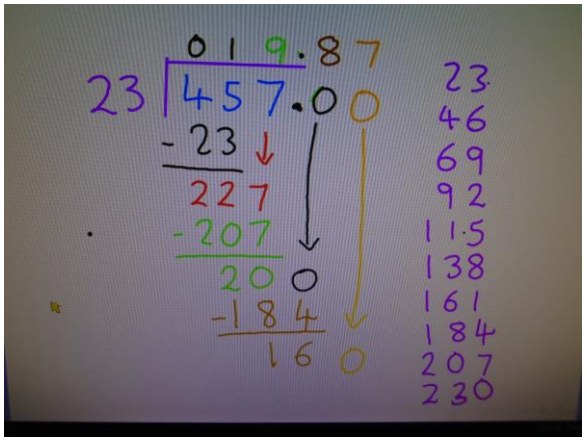
Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$

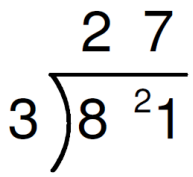
35 ÷ 3 = 11 r 2



Chunking using a numberline



Year 4	Year 5	Year 6
<u>Progressing to :</u> Using the vertical method of recording from the chunking method on a numberline.  Using the compact vertical 'bus-stop' method without remainders.  Short division of HTO ÷ O can be introduced as an alternative, more compact	Continue to gain fluency with formal written methods of division, including division with remainders and interpret them for context. Divide whole numbers by 10 100 1000 Calculate percentages Work with fractions with different denominators.  	Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context  Divide proper fractions by a whole number Progressing to decimal remainders.

recording method than chunking, but only when children are secure in the other methods. 		

The skill of questioning

Children cannot learn the meanings of words in isolation. The use of questions is crucial in helping them to understand mathematical ideas and use mathematical terms correctly.
It is important to ask questions in different ways so that children who do not understand the first time may pick up the meaning subsequently. Pupils for whom English is an additional language benefit and so will others who are not always familiar with the vocabulary and grammatical structures used in school.
It is easy to use certain types of questions — those that ask the listener to recall and apply facts — more often than those that require a higher level of thinking. If you can use the full range of question types you will find that children begin to give more complex answers in which they explain their thinking.

Recalling facts
What is 3 add 7?
How many days are there in a week?
How many centimetres are there in a metre?
Is 31 a prime number?

Applying facts
Tell me two numbers that have a difference of 12.
What unit would you choose to measure the width of the table?
What are the factors of 42?

Hypothesising or predicting
Estimate the number of marbles in this jar.
If we did our survey again on Friday, how likely is it that our graph would be the same?
Roughly, what is 51 times 47?
How many rectangles in the next diagram?
And the next?

Designing and comparing procedures
How might we count this pile of sticks?
How could you subtract 37 from 82?
How could we test a number to see if it is divisible by 6?
How could we find the 20th triangular number?
Are there other ways of doing it?

Interpreting results
So what does that tell us about numbers that end in 5 or 0?
What does the graph tell us about the most common shoe size?
So what can we say about the sum of the angles in a triangle?

Applying reasoning
The seven coins in my purse total 23p. What could they be?
In how many different ways can four children sit at a round table?
Why is the sum of two odd numbers always even?

Ask children who are getting started with a piece of work:	**Ask children who are stuck:**
How are you going to tackle this? What information do you have? What do you need to find out or do? What operation/s are you going to use? Will you do it mentally, with pencil and paper, using a number line, with a calculator…? Why?	Can you describe the problem in your own words? Can you talk me through what you have done so far? What did you do last time? What is different this time? Is there something that you already know that might help? Could you try it with simpler numbers… fewer numbers… using a number line…? What about putting things in order?

What method are you going to use? Why? What equipment will you need? What questions will you need to ask? How are you going to record what you are doing? What do you think the answer or result will be? Can you estimate or predict?	Would a table help, or a picture/diagram/graph? Why not make a guess and check if it works? Have you compared your work with anyone else's?
Make positive interventions to check progress while children are working, by asking: Can you explain what you have done so far? What else is there to do? Why did you decide to use this method or do it this way? Can you think of another method that might have worked? Could there be a quicker way of doing this? What do you mean by…? What did you notice when…? Why did you decide to organise your results like that? Are you beginning to see a pattern or a rule? Do you think that this would work with other numbers? Have you thought of all the possibilities? How can you be sure?	**Throughout the lesson ask:** How did you get your answer? Can you describe your method/pattern/rule to us all? Can you explain why it works? What could you try next? Would it work with different numbers? What if you had started with… rather than…? What if you could only use…? Is it a reasonable answer/result? What makes you say so? How did you check it? What have you learned or found out today? If you were doing it again, what would you do differently? Having done this, when could you use this method/information/idea again? Did you use any new words today? What do they mean? How do you spell them? What are the key points or ideas that you need to remember for the next lesson?

Vocabulary

Reception	Year 1	Year 2	Year 3
Counting and recognising numbers	**Numbers and the number system**	**Numbers and the number system**	**Numbers and the number system**
COUNTING number zero, one, two, three… to twenty and beyond zero, ten, twenty… one hundred none how many…? count, count (up) to, count on (from, to) count back (from, to), count in ones, twos… tens… more, less, many, few, odd, even every other how many times? pattern, pair guess how many, estimate, nearly, close to, about the same as just over, just under too many, too few, enough, not enough **COMPARING AND ORDERING NUMBERS** the same number as, as many as Of **two** objects/amounts: greater, more, larger, bigger	**COUNTING, PROPERTIES OF NUMBERS AND NUMBER SEQUENCES** number zero, one, two, three… to twenty and beyond zero, ten, twenty… one hundred none how many…? count, count (up) to count on (from, to) count back (from, to) count in ones, twos… tens… more, less, many, few odd, even every other how many times? pattern, pair **PLACE VALUE AND ORDERING** units, ones tens exchange digit	**COUNTING, PROPERTIES OF NUMBERS AND NUMBER SEQUENCES** number zero, one, two, three… to twenty and beyond zero, ten, twenty… one hundred zero, one hundred, two hundred… one thousand none how many…? count, count (up) to count on (from, to) count back (from, to) count in ones, twos, threes, fours, fives… count in tens more, less, many, few tally odd, even every other how many times? multiple of	**COUNTING, PROPERTIES OF NUMBERS AND NUMBER SEQUENCES** number zero, one, two, three… to twenty and beyond zero, ten, twenty… one hundred zero, one hundred, two hundred… one thousand none how many…? count, count (up) to count on (from, to) count back (from, to) count in ones, twos, threes, fours, fives… count in tens, hundreds more, less, many, few tally odd, even every other how many times? multiple of

less, fewer, smaller
Of **three** or more objects/amounts:
greatest, most, biggest, largest
least, fewest, smallest
one more, ten more
one less, ten less
compare, order, size
first, second, third… tenth
last, last but one
before, after, next, between, above, below

Adding and subtracting

add, more, and, make, sum, total
altogether, score, double, one more, two more, ten more…
how many more to make… ?
how many more is… than…?
take (away), leave
how many are left/left over?
how many have gone?
one less, two less… ten less…
how many fewer is… than…?
difference between
is the same as

Solving problems

REASONING ABOUT NUMBERS OR SHAPES
pattern, puzzle, answer, right, wrong
what could we try next?
how did you work it out?
count, sort, group, set, match, same, different, list
PROBLEMS INVOLVING 'REAL LIFE' OR MONEY
compare
double
half, halve
pair
count out, share out
left, left over
money
coin
penny, pence, pound

'teens' number
the same number as, as many as
equal to
Of **two** objects/amounts:
greater, more, larger, bigger
less, fewer, smaller
Of **three** or more objects/amounts:
greatest, most, biggest, largest
least, fewest, smallest
one more, ten more
one less, ten less
compare
order
size
first, second, third… tenth, eleventh… 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

Calculations

ADDITION AND SUBTRACTION
+, add, more, plus
make, sum, total
altogether
score
double, near double
one more, two more… ten more
how many more to make…?
how many more is… than…?
how much more is…?
-, subtract, take (away), minus
leave
how many are left/left over?
how many have gone?
one less, two less, ten less…
how many fewer is… than…?

sequence
continue
predict
pattern, pair, rule
PLACE VALUE AND ORDERING
units, ones
tens, hundreds
digit
one-, two- or three-digit number
'teens' number
place, place value
stands for, represents
exchange
the same number as, as many as
equal to
Of **two** objects/amounts:
greater, more, larger, bigger
less, fewer, smaller
Of **three** or more objects/amounts:
greatest, most, biggest, largest
least, fewest, smallest
one more, ten more
one less, ten less
compare
order
size
first, second, third… tenth… twentieth
twenty-first, twenty-second…
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
exact, exactly
too many, too few, enough, not enough
round, nearest, round to the nearest ten
FRACTIONS
part, equal parts
fraction

sequence
continue
predict
pattern, pair, rule
relationship
PLACE VALUE AND ORDERING
units, ones
tens, hundreds
digit
one-, two- or three-digit number
'teens' number
place, place value
stands for, represents
exchange
the same number as, as many as
equal to
Of **two** objects/amounts:
greater, more, larger, bigger
less, fewer, smaller
Of **three** or more objects/amounts:
greatest, most, biggest, largest
least, fewest, smallest
one more, ten more, one hundred more
one less, ten less, one hundred less
compare
order
size
first, second, third… tenth… twentieth
twenty-first, twenty-second…
last, last but one
before, after
next
between, half-way 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 (up or down)
nearest, round to the nearest ten

price
cost
buy
sell
spend, spent
pay
change
dear, costs more
cheap, costs less, cheaper
costs the same as
how much…? how many…?
total

Measures, shape and space

MEASURES (GENERAL)
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
length, width, height, depth
long, short, tall
high, low
wide, narrow
deep, shallow
thick, thin
longer, shorter, taller, higher… and so on
longest, shortest, tallest, highest… and so on
far, near, close

MASS
weigh, weighs, balances
heavy/light, heavier/lighter, heaviest/lightest
balance, scales, weight

CAPACITY
full
how much less is…?
difference between
half, halve
=, equals, sign, is the same as

Solving problems

MAKING DECISIONS AND REASONING
pattern
puzzle
answer
right, wrong
what could we try next?
how did you work it out?
count out, share out, left, left over
number sentence
sign, operation

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

Organising and using data

count, sort, vote
group, set
list
same, different
table

Measures, shape and space

MEASURES (GENERAL)
measure
size
one whole
one half, two halves
one quarter, two… three… four quarters

Calculations

ADDITION AND SUBTRACTION
+, add, addition, more, plus
make, sum, total
altogether
score
double, near double
one more, two more... ten more... one hundred more
how many more to make…?
how many more is… than…?
how much more is…?
-, subtract, subtraction, take (away), minus
leave, how many are left/left over?
one less, two less… ten less… one hundred less
how many fewer is… than…?
how much less is…?
difference between
half, halve
=, equals, sign, is the same as
tens boundary

MULTIPLICATION AND DIVISION
lots of, groups of
´, times, multiply, multiplied by
multiple of
once, twice, three times… ten times…
times as (big, long, wide… and so on)
repeated addition
array
row, column
double, halve
share, share equally
one each, two each, three each…
group in pairs, threes… tens
equal groups of
‚, divide, divided by, divided into
left, left over

Solving problems

FRACTIONS
part, equal parts
fraction
one whole
one half, two halves
one quarter, two… three… four quarters
one third, two thirds, three thirds
one tenth

Calculations

ADDITION AND SUBTRACTION
+, add, addition, more, plus
make, sum, total
altogether
score
double, near double
one more, two more... ten more... one hundred more
how many more to make…?
how many more is… than…?
how much more is…?
-, subtract, subtraction, take (away), minus
leave, how many are left/left over?
one less, two less… ten less… one hundred less
how many fewer is… than…?
how much less is…?
difference between
half, halve
=, equals, sign, is the same as
tens boundary, hundreds boundary

MULTIPLICATION AND DIVISION
lots of, groups of
´, times, multiply, multiplication, multiplied by
multiple of, product
once, twice, three times… ten times…
times as (big, long, wide… and so on)
repeated addition
array
row, column
double, halve
share, share equally
one each, two each, three each

half full
empty
holds
container
TIME
time
days of the week: Monday, Tuesday…
day, week
birthday, holiday
morning, afternoon, evening, night
bedtime, dinnertime, 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
EXPLORING PATTERNS, SHAPE AND SPACE
shape, pattern
flat
curved, straight
round
hollow, solid
corner
face, side, edge, end
sort
make, build, draw
3D SHAPES
cube
pyramid
sphere
cone
2D SHAPES
circle
triangle
square
rectangle
star

compare
guess, estimate
enough, not enough
too much, too little
too many, too few
nearly, roughly, close to, about the same as
just over, just under
LENGTH
length, width, height, depth
long, short, tall
high, low
wide, narrow
deep, shallow
thick, thin
longer, shorter, taller, higher… and so on
longest, shortest, tallest, highest… and so on
far, near, close
metre
ruler, metre stick
MASS
weigh, weighs, balances
heavy/light, heavier/lighter, heaviest/lightest
balance, scales, weight
CAPACITY
full
half full
empty
holds
container
TIME
time
days of the week: Monday, Tuesday…
seasons: spring, summer, autumn, winter
day, week, month, year
weekend, birthday, holiday
morning, afternoon, evening
night, midnight
bedtime, dinnertime, playtime
today, yesterday, tomorrow

MAKING DECISIONS AND REASONING
pattern, puzzle
calculate, calculation
mental calculation
jotting
answer
right, correct, wrong
what could we try next?
how did you work it out?
number sentence
sign, operation, symbol
MONEY
money
coin
penny, pence, pound (£)
price, cost
buy, bought, sell, sold
spend, spent
pay
change
dear, costs more
cheap, costs less, cheaper
how much…? how many…?
total

Organising and using data

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

Measures, shape and space

MEASURES (GENERAL)
measure
size
compare
measuring scale
guess, estimate

group in pairs, threes… tens
equal groups of
‚, divide, division, divided by, divided into
left, left over, remainder

Solving problems

MAKING DECISIONS AND REASONING
pattern, puzzle
calculate, calculation
mental calculation
method
jotting
answer
right, correct, wrong
what could we try next?
how did you work it out?
number sentence
sign, operation, symbol, equation
MONEY
money, coin, note, penny, pence, pound (£), price, cost, buy, bought, sell, sold
spend, spent, pay, change
dear, costs more, more/most expensive
cheap, costs less, cheaper, less/least expensive
how much…? how many…?
total, amount
value, worth

Handling data

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

Measures, shape and space

MEASURES (GENERAL)

PATTERNS AND SYMMETRY
size
bigger, larger, smaller
symmetrical
pattern
repeating pattern
match
POSITION, DIRECTION AND MOVEMENT
position
over, under
above, below
top, bottom, side
on, in
outside, inside
around
in front, behind
front, back
before, after
beside, next to
opposite
apart
between
middle, edge
corner
direction
left, right
up, down
forwards, backwards, sideways
across
close, far, near
along
through
to, from, towards, away from
movement
slide
roll
turn
stretch, bend

Instructions

listen
join in
say
think
before, after
next, last
now, soon, early, late
quick, quicker, quickest, quickly
fast, faster, fastest
slow, slower, slowest, slowly
old, older, oldest
new, newer, newest
takes longer, takes less time
hour, o'clock, half past
clock, watch, hands
how long ago?
how long will it be to…?
how long will it take to…?
how often?
always, never, often, sometimes, usually
once, twice
SHAPE AND SPACE
shape, pattern
flat
curved, straight
round
hollow, solid
corner
point, pointed
face, side, edge, end
sort
make, build, draw
3D SHAPES
cube
cuboid
pyramid
sphere
cone
cylinder
2D SHAPES
circle
triangle
square
rectangle
star
PATTERNS AND SYMMETRY
size
bigger, larger, smaller
enough, not enough
too much, too little
too many, too few
nearly, roughly, about, close to, about the same as
just over, just under
LENGTH
length, width, height, depth
long, short, tall, high, low
wide, narrow, deep, shallow, thick, thin
longer, shorter, taller, higher… and so on
longest, shortest, tallest, highest… and so on
far, further, furthest, near, close
metre (*m*), centimetre (*cm*)
ruler, metre stick, tape measure
MASS
weigh, weighs, balances
heavy/light, heavier/lighter, heaviest/lightest
kilogram (*kg*), half-kilogram, gram (*g*)
balance, scales, weight
CAPACITY
capacity
full, half full
empty
holds, contains
litre (*l*), half-litre, millilitre (*ml*)
container
TIME
time
days of the week: Monday, Tuesday…
months of the year: January, February…
seasons: spring, summer, autumn, winter
day, week, fortnight, month, year
weekend, birthday, holiday
morning, afternoon, evening, night, midnight
bedtime, dinnertime, playtime
today, yesterday, tomorrow
before, after
next, last
measure
size
compare
measuring scale, division
guess, estimate
enough, not enough
too much, too little
too many, too few
nearly, roughly, about, close to, about the same as, approximately
just over, just under
LENGTH
length, width, height, depth
long, short, tall, high, low
wide, narrow, deep, shallow, thick, thin
longer, shorter, taller, higher… and so on
longest, shortest, tallest, highest… and so on
far, further, furthest, near, close
distance apart/between, distance to… from…
kilometre (*km*), metre (*m*), centimetre (*cm*)
mile
ruler, metre stick, tape measure
MASS
weigh, weighs, balances
heavy/light, heavier/lighter, heaviest/lightest
kilogram (*kg*), half-kilogram, gram (*g*)
balance, scales, weight
CAPACITY
capacity
full, half full
empty
holds, contains
litre (*l*), half-litre, millilitre (*ml*)
container
TIME
time
days of the week: Monday, Tuesday…
months of the year: January, February…
seasons: spring, summer, autumn,

imagine
remember
start from
start with
start at
look at
point to
show me
put, place
fit
arrange
rearrange
change, change over
split
separate
carry on, continue
repeat
what comes next?
find
choose
collect
use
make
build
tell me
describe
pick out
talk about
explain
show me
read
write
trace
copy
complete
finish, end
fill in
shade
colour

General

same number/s
different number/s
missing number/s
number facts
symmetrical
pattern
repeating pattern
match

POSITION, DIRECTION AND MOVEMENT

position
over, under, underneath
above, below
top, bottom, side
on, in
outside, inside
around
in front, behind
front, back
before, after
beside, next to
opposite
apart
between
middle, edge
centre
corner
direction
journey
left, right
up, down
forwards, backwards, sideways
across
close, far, near
along
through
to, from, towards, away from
movement
slide
roll
turn, whole turn, half turn
stretch, bend

Words new to Year 1 are in red

Instructions

listen, join in, say, think, imagine remember
start from, start with, start at, look at
point to, show me, put, place, fit
now, soon, early, late
quick, quicker, quickest, quickly
fast, faster, fastest
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…?
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
how often?
always, never, often, sometimes, usually
once, twice

SHAPE AND SPACE

shape, pattern
flat, curved, straight
round
hollow, solid
corner
point, pointed
face, side, edge, end
sort
make, build, draw
surface

3D SHAPES

cube
cuboid
pyramid
sphere
cone
cylinder

2D SHAPES

circle, circular
triangle, triangular
square
rectangle, rectangular
star
pentagon
hexagon
octagon
winter
day, week, fortnight, month, year, century
weekend, birthday, holiday
calendar, date
morning, afternoon, evening, night, midnight
am, pm
bedtime, dinnertime, playtime
today, yesterday, tomorrow
before, after
next, last
now, soon, early, late, earliest, latest
quick, quicker, quickest, quickly
fast, faster, fastest
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…?
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
how often?
always, never, often, sometimes, usually
once, twice

SHAPE AND SPACE

shape, pattern
flat, curved, straight
round
hollow, solid
corner
point, pointed
face, side, edge, end
sort
make, build, draw
surface
right-angled
vertex, vertices
layer, diagram

3D SHAPES

number line, number track number square number cards counters, cubes, blocks, rods die, dice dominoes pegs, peg board same way, different way best way, another way in order, in a different order not all, every, each	arrange, rearrange, change, change over, split, separate, carry on, continue repeat what comes next? find, choose, collect, use, make, build tell me, describe, pick out, talk about explain, show me, read, write, record trace, copy, complete, finish, end fill in, shade, colour, tick, cross draw, draw a line between join (up), ring, arrow, cost, count work out, answer, check **General** same number/s different number/s missing number/s number facts number line, number track number square number cards abacus counters, cubes, blocks, rods die, dice dominoes pegs, peg board same way, different way best way, another way in order, in a different order not all, every, each	**PATTERNS AND SYMMETRY** size bigger, larger, smaller symmetrical line of symmetry fold match mirror line, reflection pattern repeating pattern **POSITION, DIRECTION AND MOVEMENT** position over, under, underneath above, below top, bottom, side on, in, outside, inside, around, in front, behind, front, back, before, after, beside, next to, opposite, apart, between middle, edge, centre, corner, direction journey, route, left, right, up, down higher, lower, forwards, backwards, sideways, across, close, far, near along, through, to, from, towards, away from, clockwise, anti-clockwise movement, slide, roll whole turn, half turn, quarter turn right angle, straight line, stretch, bend read, write, record, write in figures present, represent, trace, copy complete, finish, end, fill in, shade, colour, label, tick, cross, draw draw a line between, join (up) ring, arrow, cost, count, tally calculate, work out, solve, answer check **General** same, different missing number/s number facts number pairs number bonds number line, number track number square, hundred square	cube, cuboid, pyramid, sphere, hemi-sphere, cone, cylinder, prism **2D SHAPES** circle, circular, semi-circle triangle, triangular square rectangle, rectangular star pentagon, pentagonal hexagon, hexagonal octagon, octagonal quadrilateral **PATTERNS AND SYMMETRY** size, bigger, larger, smaller symmetrical line of symmetry fold, match mirror line, reflection pattern, repeating pattern **POSITION, DIRECTION AND MOVEMENT** position over, under, underneath, above, below top, bottom, side, on, in, outside, inside around, in front, behind front, back, before, after beside, next to, opposite, apart between, middle, edge, centre corner, direction journey, route, map, plan left, right, up, down, higher, lower forwards, backwards, sideways across, close, far, near along, through to, from, towards, away from ascend, descend grid, row, column clockwise, anti-clockwise compass point north, south, east, west (N, S, E, W) horizontal, vertical diagonal, movement, slide, roll whole turn, half turn, quarter turn angle, …is a greater/smaller angle than

		number cards number grid abacus counters, cubes, blocks, rods die, dice dominoes pegs, peg board geo-strips same way, different way best way, another way in order, in a different order not all, every, each **Instructions** listen, join in, say, recite, think, imagine remember, start from, start with start at, look at, point to, show me put, place, fit, arrange, rearrange change, change over, split separate, carry on, continue repeat what comes next? predict describe the pattern describe the rule find, find all, find different investigate, choose, decide, collect use, make, build, tell me, describe name, pick out, discuss, talk about explain, explain your method explain how you got your answer give an example of… show how you…	right angle, straight line stretch, bend **Instructions** listen, join in, say, recite, think imagine, remember start from, start with, start at look at, point to, show me put, place, fit arrange, rearrange change, change over split, separate carry on, continue, repeat what comes next? predict describe the pattern describe the rule find, find all, find different investigate, choose, decide collect, use, make, build tell me, describe, name pick out, discuss, talk about explain, explain your method explain how you got your answer give an example of… show how you… show your working read, write, record write in figures present, represent interpret, trace, copy, complete finish, end, fill in shade, colour, label, tick, cross draw, sketch, draw a line between join (up), ring, arrow, cost, count, tally calculate, work out, solve investigate, question answer, check **General** same, different missing number/s number facts, number pairs, number bonds greatest value, least value

			number line, number track number square, hundred square number cards, number grid, abacus counters, cubes, blocks, rods die, dice dominoes, pegs, peg board, geo-strips same way, different way best way, another way in order, in a different order not, all, every, each
Year 4	**Year 5**	**Year 6**	
Numbers and the number system **PLACE VALUE, ORDERING AND ROUNDING** units, ones tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four-digit number, numeral, 'teens' number place, place value, stands for, represents, exchange the same number as, as many as equal to Of **two** objects/amounts: >, greater than, more than, larger than, bigger than <, less than, fewer than, smaller than Of **three** or more objects/amounts: greatest, most, largest, biggest least, fewest, smallest one… ten… one hundred… one thousand more/less compare, order, size first… tenth… twentieth last, last but one before, after	**Numbers and the number system** **PLACE VALUE, ORDERING AND ROUNDING** units, ones tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four-digit number, numeral 'teens' number, place, place value stands for, represents, exchange the same number as, as many as equal to Of **two** objects/amounts: >, greater than, more than, larger than, bigger than <, less than, fewer than, smaller than ³, greater than or equal to ², less than or equal to Of **three** or more objects/amounts: greatest, most, largest, biggest least, fewest, smallest one… ten… one hundred… one thousand more/less, compare, order, size, ascending/descending order first… tenth… twentieth	**Numbers and the number system** **PLACE VALUE, ORDERING AND ROUNDING** units, ones tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four-digit number numeral 'teens' number place, place value stands for, represents exchange the same number as, as many as equal to Of **two** objects/amounts: >, greater than, more than, larger than, bigger than <, less than, fewer than, smaller than ³, greater than or equal to ², less than or equal to Of **three** or more objects/amounts: greatest, most, largest, biggest least, fewest, smallest one… ten… one hundred… one thousand more/less compare, order, size ascending/descending order first… tenth… twentieth	

next between, half-way between guess how many, estimate nearly, roughly, close to, about the same as approximate, approximately just over, just under exact, exactly too many, too few, enough, not enough round (up or down), nearest round to the nearest ten round to the nearest hundred integer, positive, negative above/below zero, minus **PROPERTIES OF NUMBERS AND NUMBER SEQUENCES** number, count, how many…? odd, even every other how many times? multiple of digit next, consecutive sequence continue predict pattern, pair, rule relationship sort, classify, property **FRACTIONS AND DECIMALS** part, equal parts fraction one whole half, quarter, eighth third, sixth fifth, tenth, twentieth proportion, in every, for every decimal, decimal fraction decimal point, decimal place	last, last but one, before, after, next between, half-way between guess how many, estimate nearly, roughly, close to, about the same as, approximate, approximately Å, is approximately equal to just over, just under, exact, exactly too many, too few, enough, not enough round (up or down), nearest round to the nearest ten/hundred round to the nearest thousand integer, positive, negative above/below zero, minus **PROPERTIES OF NUMBERS AND NUMBER SEQUENCES** number, count, how many…? odd, even, every other, how many times? multiple of, digit, next, consecutive sequence, continue, predict pattern, pair, rule, relationship sort, classify, property formula, divisible (by), divisibility, factor square number one squared, two squared… (1_2, 2_2…) **FRACTIONS, DECIMALS, PERCENTAGES,** **RATIO AND PROPORTION** part, equal parts, fraction, proper/improper fraction mixed number, numerator, denominator equivalent, reduced to, cancel one whole, half, quarter, eighth third, sixth, ninth, twelfth fifth, tenth, twentieth, hundredth proportion, ratio in every, for every, to every, as many as decimal, decimal fraction decimal point, decimal place percentage, per cent, %	last, last but one, before, after next, between, half-way between guess how many, estimate nearly, roughly, close to, about the same as approximate, approximately Å, is approximately equal to just over, just under exact, exactly, too many, too few, enough, not enough round (up or down), nearest round to the nearest ten/hundred/thousand integer, positive, negative, above/below zero, minus **PROPERTIES OF NUMBERS AND NUMBER SEQUENCES** number, count, how many…? odd, even, every other how many times? multiple of, digit, next, consecutive, sequence continue, predict, pattern, pair, rule, relationship sort, classify, property, formula divisible (by), divisibility, factor, factorise square number, one squared, two squared… (1_2, 2_2…) prime, prime factor **FRACTIONS, DECIMALS, PERCENTAGES,** **RATIO AND PROPORTION** part, equal parts, fraction, proper/improper fraction mixed number, numerator, denominator equivalent, reduced to, cancel one whole, half, quarter, eighth, third, sixth, ninth, twelfth fifth, tenth, twentieth, hundredth, thousandth proportion, ratio, in every, for every, to every, as many as decimal, decimal fraction, decimal point, decimal place percentage, per cent, %
Calculations **ADDITION AND SUBTRACTION** add, addition, more, plus, increase sum, total, altogether score	**Calculations** **ADDITION AND SUBTRACTION** add, addition, more, plus, increase sum, total, altogether, score	**Calculations** **ADDITION AND SUBTRACTION** add, addition, more, plus, increase sum, total, altogether, score double, near double, how many more to make…? subtract, subtraction, take (away), minus, decrease leave, how many are left/left over? difference between, half, halve how many more/fewer is… than…? how much more/less is…? equals, sign, is the same as tens boundary, hundreds boundary

double, near double
how many more to make…?
subtract, subtraction, take (away), minus, decrease
leave, how many are left/left over?
difference between
half, halve
how many more/fewer is… than…?
how much more/less is…?
equals, sign, is the same as
tens boundary, hundreds boundary
inverse

MULTIPLICATION AND DIVISION

lots of, groups of
times, multiply, multiplication, multiplied by
multiple of, product
once, twice, three times… ten times…
times as (big, long, wide… and so on)
repeated addition
array
row, column
double, halve
share, share equally
one each, two each, three each…
group in pairs, threes… tens
equal groups of
divide, division, divided by, divided into
remainder
factor, quotient, divisible by
inverse

Solving problems

MAKING DECISIONS AND REASONING

pattern, puzzle
calculate, calculation
mental calculation
method
jotting
answer
right, correct, wrong
what could we try next?
how did you work it out?
number sentence

double, near double
how many more to make…?
subtract, subtraction, take (away), minus, decrease, leave, how many are left/left over?
difference between
half, halve
how many more/fewer is… than…?
how much more/less is…?
equals, sign, is the same as
tens boundary, hundreds boundary
units boundary, tenths boundary
inverse

MULTIPLICATION AND DIVISION

lots of, groups of
times, multiply, multiplication, multiplied by, multiple of, product
once, twice, three times… ten times…
times as (big, long, wide… and so on)
repeated addition, array, row, column, double, halve, share, share equally
one each, two each, three each…
group in pairs, threes… tens
equal groups of
divide, division, divided by, divided into
remainder, factor, quotient, divisible by
inverse

USING A CALCULATOR

calculator, display, key, enter, clear
constant

Solving problems

MAKING DECISIONS AND REASONING

pattern, puzzle, calculate, calculation
mental calculation, method, strategy
jotting, answer, right, correct, wrong
what could we try next?
how did you work it out?
number sentence, sign, operation, symbol, equation

MONEY

money, coin, note, penny, pence, pound (£), price, cost, buy, bought, sell, sold
spend, spent, pay, change

units boundary, tenths boundary
inverse

MULTIPLICATION AND DIVISION

lots of, groups of
times, multiply, multiplication, multiplied by
multiple of, product
once, twice, three times… ten times…
times as (big, long, wide… and so on)
repeated addition
array, row, column, double, halve
share, share equally, one each, two each, three each…
group in pairs, threes… tens
equal groups of, divide, division, divided by, divided into
remainder, factor, quotient, divisible by
inverse

USING A CALCULATOR

calculator, display, key
enter, clear, sign change
constant, recurring, memory, operation key

Solving problems

MAKING DECISIONS AND REASONING

pattern, puzzle
calculate, calculation
mental calculation
method, strategy
jotting
answer
right, correct, wrong
what could we try next?
how did you work it out?
number sentence
sign, operation, symbol, equation

MONEY

money
coin, note
penny, pence, pound (£)
price, cost
buy, bought, sell, sold
spend, spent
pay
change
dear, costs more, more/most expensive
cheap, costs less, cheaper, less/least expensive
how much…? how many…?

sign, operation, symbol, equation

MONEY

money
coin, note
penny, pence, pound (£)
price, cost
buy, bought, sell, sold
spend, spent
pay
change
dear, costs more, more/most expensive
cheap, costs less, cheaper, less/least expensive
how much…? how many…?
total, amount
value, worth

Handling data

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

Measures, shape and space

MEASURES (GENERAL)

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, roughly, about, close to
dear, costs more, more/most expensive
cheap, costs less, cheaper, less/least expensive
how much…? how many…?
total, amount, value, worth
discount, currency

Handling data

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

PROBABILITY

fair, unfair, likely, unlikely, likelihood
certain, uncertain
probable, possible, impossible
chance, good chance, poor chance, no chance, risk, doubt,

Measures, shape and space

MEASURES (GENERAL)

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, roughly, about, close to
about the same as, approximately
just over, just under

LENGTH

length, width, height, depth, breadth
long, short, tall, high, low, wide, narrow, deep, shallow, thick, thin, longer, shorter, taller, higher… and so on
total, amount, value, worth
discount, profit, loss
currency

Handling data

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

PROBABILITY

fair, unfair
likely, unlikely, likelihood, equally likely
certain, uncertain
probable, possible, impossible
chance, good chance,
poor chance, no chance
equal chance, even chance, fifty-fifty chance
risk, doubt
biased, random

Measures, shape and space

MEASURES (GENERAL)

measure, measurement
size
compare
unit, standard unit
metric unit, imperial unit
measuring scale, division
guess, estimate
enough, not enough

about the same as, approximately just over, just under **LENGTH** length, width, height, depth, breadth long, short, tall, high, low wide, narrow, deep, shallow, thick, thin longer, shorter, taller, higher… and so on longest, shortest, tallest, highest… and so on far, further, furthest, near, close distance apart/between, distance to… from… edge, perimeter kilometre (*km*), metre (*m*) centimetre (*cm*), millimetre (*mm*) mile ruler, metre stick, tape measure **MASS** mass: big, bigger, small, smaller, balances weight: heavy/light, heavier/lighter, heaviest/lightest weigh, weighs kilogram (*kg*), half-kilogram, gram (*g*) balance, scales **CAPACITY** capacity full, half full empty holds, contains litre (*l*), half-litre, millilitre (*ml*) pint container, measuring cylinder **AREA** area, covers, surface square centimetre (cm^2) **TIME** time days of the week: Monday, Tuesday… months of the year: January, February… seasons: spring, summer, autumn, winter day, week, fortnight, month	longest, shortest, tallest, highest… and so on, far, further, furthest, near, close distance apart/between, distance to… from… edge, perimeter kilometre (*km*), metre (*m*) centimetre (*cm*), millimetre (*mm*) mile ruler, metre stick, tape measure **MASS** mass: big, bigger, small, smaller, balances weight: heavy/light, heavier/lighter, heaviest/lightest weigh, weighs kilogram (*kg*), half-kilogram, gram (*g*) balance, scales **CAPACITY** capacity, full, half full, empty holds, contains, litre (*l*), half-litre, millilitre (*ml*), pint, gallon container, measuring cylinder **AREA** area, covers, surface square centimetre (cm^2), square metre (m^2) square millimetre (mm^2) **TIME** time days of the week: Monday, Tuesday… months of the year: January, February… seasons: spring, summer, autumn, winter day, week, fortnight, month year, leap year, century, millennium weekend, birthday, holiday calendar, date, date of birth morning, afternoon, evening, night am, pm, noon, midnight today, yesterday, tomorrow before, after, next, last now, soon, early, late, earliest, latest quick, quicker, quickest, quickly fast, faster, fastest, slow, slower,	too much, too little too many, too few nearly, roughly, about, close to about the same as, approximately just over, just under **LENGTH** length, width, height, depth, breadth long, short, tall, high, low wide, narrow, deep, shallow, thick, thin longer, shorter, taller, higher… and so on longest, shortest, tallest, highest… and so on far, further, furthest, near, close distance apart/between, distance to… from… edge, perimeter, circumference kilometre (*km*), metre (*m*) centimetre (*cm*), millimetre (*mm*) mile, yard, feet, foot, inches, inch ruler, metre stick, tape measure, compasses **MASS** mass: big, bigger, small, smaller, balances weight: heavy/light, heavier/lighter, heaviest/lightest weigh, weighs tonne, kilogram (*kg*), half-kilogram, gram (*g*) pound (*lb*), ounce (*oz*) balance, scales **CAPACITY** capacity full, half full, empty holds, contains litre (*l*), half-litre, centilitre (*cl*), millilitre (*ml*) pint, gallon container, measuring cylinder **AREA** area, covers, surface square centimetre (cm^2), square metre (m^2) square millimetre (mm^2) **TIME** time days of the week: Monday, Tuesday… months of the year: January, February… seasons: spring, summer, autumn, winter day, week, fortnight, month year, leap year, century, millennium weekend, birthday, holiday

year, leap year, century, millennium
weekend, birthday, holiday
calendar, date, date of birth
morning, afternoon, evening, night
am, pm, noon, midnight
today, yesterday, tomorrow
before, after, next, last
now, soon, early, late, earliest, latest
quick, quicker, quickest, quickly
fast, faster, fastest, 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…?
timetable, arrive, depart
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
how often?
always, never, often, sometimes, usually

SHAPE AND SPACE

shape, pattern, flat, line, curved, straight
round, hollow, solid, corner
point, pointed, face, side, edge, end
sort, make, build, construct, draw, sketch, centre, radius, diameter
net, surface, angle, right-angled
base, square-based, vertex, vertices
layer, diagram, regular, irregular
concave, convex, open, closed

3D SHAPES

3D, three-dimensional, cube
cuboid, pyramid, sphere, hemi-sphere, spherical, cone, cylinder, cylindrical
prism, tetrahedron, polyhedron

2D SHAPES

2D, two-dimensional, circle, circular, semi-circle, triangle, triangular
equilateral triangle, isosceles triangle
square, rectangle, rectangular, oblong
pentagon, pentagonal

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…?
timetable, arrive, depart
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
24-hour clock, 12-hour clock
how often?
always, never, often, sometimes, usually

SHAPE AND SPACE

shape, pattern, flat, line, curved, straight
round, hollow, solid, corner
point, pointed, face, side, edge, end
sort, make, build, construct, draw, sketch, centre, radius, diameter
net, surface
angle, right-angled, congruent
base, square-based, vertex, vertices
layer, diagram, regular, irregular
concave, convex, open, closed

3D SHAPES

3D, three-dimensional, cube, cuboid
pyramid, sphere, hemi-sphere, spherical
cone, cylinder, cylindrical
prism, tetrahedron, polyhedron, octahedron

2D SHAPES

2D, two-dimensional, circle, circular, semi-circle, triangle, triangular, equilateral triangle, isosceles triangle, scalene triangle, square
rectangle, rectangular, oblong
pentagon, pentagonal, hexagon, hexagonal, heptagon, octagon, octagonal, polygon, quadrilateral

PATTERNS AND SYMMETRY

size, bigger, larger, smaller
symmetrical, line of symmetry, axis of symmetry, line symmetry, reflective

calendar, date, date of birth
morning, afternoon, evening, night
am, pm, noon, midnight
today, yesterday, tomorrow
before, after, next, last
now, soon, early, late, earliest, latest
quick, quicker, quickest, quickly
fast, faster, fastest, 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…?
timetable, arrive, depart
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
24-hour clock, 12-hour clock
Greenwich Mean Time, British Summer Time
International Date Line
how often?
always, never, often, sometimes, usually

SHAPE AND SPACE

shape, pattern
flat, line
curved, straight
round
hollow, solid
corner
point, pointed
face, side, edge, end
sort
make, build, construct, draw, sketch
centre, radius, diameter
circumference, concentric, arc
net
surface
angle, right-angled
congruent
intersecting, intersection
plane
base, square-based
vertex, vertices
layer, diagram

hexagon, hexagonal heptagon, octagon, octagonal polygon, quadrilateral **PATTERNS AND SYMMETRY** size, bigger, larger, smaller symmetrical, line of symmetry, line symmetry, fold, match mirror line, reflection, reflect pattern, repeating pattern, translation **POSITION, DIRECTION AND MOVEMENT** position, over, under, underneath above, below, top, bottom, side on, in, outside, inside, around in front, behind, front, back before, after, beside, next to, opposite, apart, between, middle, edge, centre corner, direction, journey, route, map, plan, left, right up, down, higher, lower forwards, backwards, sideways, across close, far, near along, through, to, from, towards, away from, ascend, descend grid, row, column, origin, coordinates clockwise, anti-clockwise 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 movement, slide, roll whole turn, half turn, quarter turn, rotate angle, …is a greater/smaller angle than right angle, degree, straight line stretch, bend, ruler, set square angle measurer, compasses **Instructions** listen, join in, say, recite think, imagine, remember start from, start with, start at look at, point to, show me put, place arrange, rearrange	symmetry, fold, match mirror line, reflection, reflect pattern, repeating pattern, translation **POSITION, DIRECTION AND MOVEMENT** position, over, under, underneath above, below, top, bottom, side on, in, outside, inside, around in front, behind, front, back before, after, beside, next to opposite, apart, between, middle, edge, centre, corner, direction journey, route, map, plan left, right, up, down, higher, lower forwards, backwards, sideways, across close, far, near along, through, to, from, towards, away from, ascend, descend grid, row, column origin, coordinates clockwise, anti-clockwise 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 parallel, perpendicular x-axis, y-axis, quadrant movement, slide, roll whole turn, half turn, quarter turn rotate, rotation angle, …is a greater/smaller angle than right angle, acute, obtuse degree straight line stretch, bend ruler, set square angle measurer, compasses, protractor **Instructions** listen, join in, say, recite think, imagine, remember start from, start with, start at look at, point to, show me, put, place arrange, rearrange, change, change	regular, irregular concave, convex open, closed tangram **3D SHAPES** 3D, three-dimensional cube, cuboid pyramid sphere, hemi-sphere, spherical cone cylinder, cylindrical prism tetrahedron, polyhedron, octahedron, dodecahedron **2D SHAPES** 2D, two-dimensional circle, circular, semi-circle triangle, triangular equilateral triangle, isosceles triangle, scalene triangle square, rhombus rectangle, rectangular, oblong pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal polygon quadrilateral kite parallelogram, trapezium **PATTERNS AND SYMMETRY** size, bigger, larger, smaller symmetrical, line of symmetry, axis of symmetry line symmetry, reflective symmetry fold, match, mirror line, reflection, reflect pattern, repeating pattern, translation **POSITION, DIRECTION AND MOVEMENT** position over, under, underneath, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, before, after, beside, next to opposite, apart, between, middle, edge, centre, corner, direction journey, route, map, plan, left, right, up, down, higher, lower forwards, backwards, sideways, across, close, far, near along, through, to, from, towards, away from, ascend, descend grid, row, column, origin, coordinates clockwise, anti-clockwise, compass point, north, south, east, west (N, S, E, W)

change, change over
split, separate
carry on, continue, repeat
what comes next? predict
describe the pattern, describe the rule
find, find all, find different
investigate
choose, decide
collect
use, make, build, construct
tell me, describe, name, pick out
discuss, talk about
explain
explain your method
explain how you got your answer
give an example of…
show how you…
show your working
justify
make a statement
read, write, record
write in figures
present, represent
interpret
trace, copy
complete, finish, end
fill in, shade, colour
label, plot
tick, cross
draw, sketch
draw a line between, join (up), ring, arrow
cost, count, tally
calculate, work out, solve
investigate, question
answer
check

General

same, different
missing number/s
number facts, number pairs, number bonds
greatest value, least value
number line, number track
over, split, separate
carry on, continue, repeat
what comes next? predict
describe the pattern, describe the rule
find, find all, find different
investigate, choose, decide
collect, use, make, build, construct,
bisect, tell me, describe, name, pick out,
identify, discuss, talk about
explain, explain your
method/answer/reasoning
give an example of…
show how you…
show your working
justify, make a statement, read, write,
record, write in figures, present,
represent, interpret
trace, copy, complete, finish, end
fill in, shade, colour, label, plot
tick, cross, draw, sketch
draw a line between, join (up), ring,
arrow, cost, count, tally
calculate, work out, solve, convert
investigate, question, answer
check

General

same, different
missing number/s
number facts, number pairs, number bonds
greatest value, least value
number line, number track
number square, hundred square
number cards, number grid
abacus
counters, cubes, blocks, rods
die, dice, spinner
dominoes
pegs, peg board, pin board
geo-strips
same way, different way
best way, another way
in order, in a different order
not
north-east, north-west, south-east, south-west
(NE, NW, SE, SW)
horizontal, vertical, diagonal, parallel, perpendicular
x-axis, y-axis, quadrant, movement
slide, roll, whole turn, half turn, quarter turn, rotate, rotation
angle, …is a greater/smaller angle than
right angle, acute, obtuse, reflex
degree, straight line, stretch, bend, ruler, set square
angle measurer, compasses, protractor

Instructions

listen, join in, say, recite, think, imagine, remember
start from, start with, start at, look at, point to, show me
put, place, arrange, rearrange
change, change over, adjusting, adjust, split, separate
carry on, continue, repeat, what comes next? predict
describe the pattern, describe the rule, find, find all, find different
investigate, choose, decide, collect, use, make, build, construct, bisect
tell me, define, describe, name, pick out, identify
discuss, talk about, explain
explain your method/answer/reasoning
give an example of…
show how you…
show your working
justify, make a statement, read, write, record, write in figures
present, represent, interpret, trace, copy
complete, finish, end, fill in, shade, colour
label, plot, tick, cross
draw, sketch, draw a line between, join (up), ring, arrow
cost, count, tally, calculate, work out, solve, convert
investigate, interrogate (data), question, prove, answer, check

General

same, identical, different
missing number/s
number facts, number pairs, number bonds
greatest value, least value
number line, number track
number square, hundred square
number cards, number grid
abacus
counters, cubes, blocks, rods
die, dice, spinner
dominoes

number square, hundred square number cards, number grid abacus counters, cubes, blocks, rods die, dice dominoes pegs, peg board, pin board geo-strips same way, different way best way, another way in order, in a different order not all, every, each	all, every, each	pegs, peg board, pin board geo-strips same way, different way best way, another way in order, in a different order not all, every, each