Shoreham Beach Primary School



Calculations Policy

Revised: October 2018 Next revision: October 2020

Contents:

- Introduction
- Progression in the teaching of the 4 operations from YR to Y6
- Questioning

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	Year 2	Year 3
1 more.7 and 1 more is 87 add 1 equals 8 0 0 12345678910Numberlines 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.	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 100Commutative law Inverses of addition/subtraction	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 = +30 $+2$ $+448$ 78 80 $84Partitioning with brackets34 + 25 = 59(30+20)$ $(4+6)50 + 9 =$

1	2	3	4				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
	1					I	I]
Recording addition calculations using numberline method (with numbers on) +3= $1 2 3 4 5 6 7 8 9 10$									

<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.

Progressing to:

Vertical expanded method:

43 + 25 =	=
43	
<u>+ 25</u>	
8	
<u>60</u>	
<u>68</u>	

Followed by:

Addition vertical compact method. Carrying into the next column must be under the lower line NOT above the top line.

43 <u>+ 25</u> <u>68</u>

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

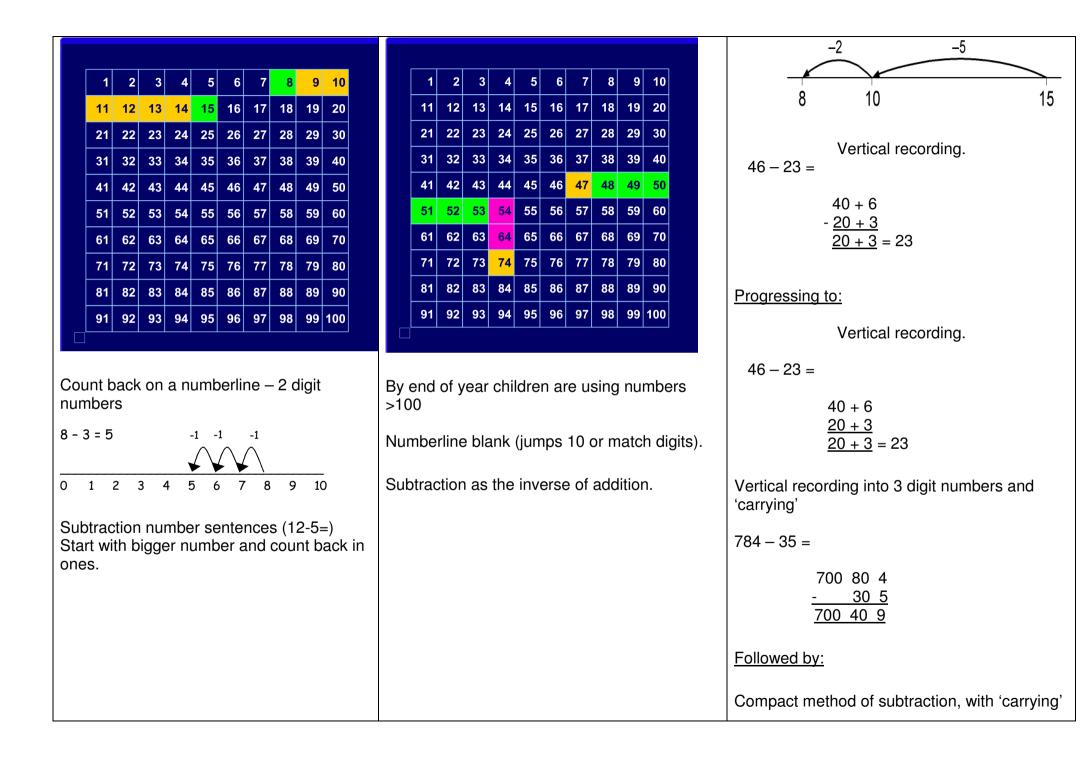
Year 4	Year 5	Year 6
Use of 4 digit numbers Continue to gain fluency in vertical compact	Use of numbers up to 1,000,000 including negative numbers	Use of numbers up to 10,000,000
methods of addition.	Continue to use formal written methods of addition on increasingly large numbers.	Multistep word problems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

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	Using objects physically taking away. Subtraction by jumping up in 10s. Partitioning using objects.	Partitioning. Numberline blank (jumps 10 or match digits). Horizontal recording. Counting on or back
Number square 15-7=8	Number square 74-27=47	74 – 27= 47 +3 +40 +4
		27 30 70 74
		15 – 7 = 8

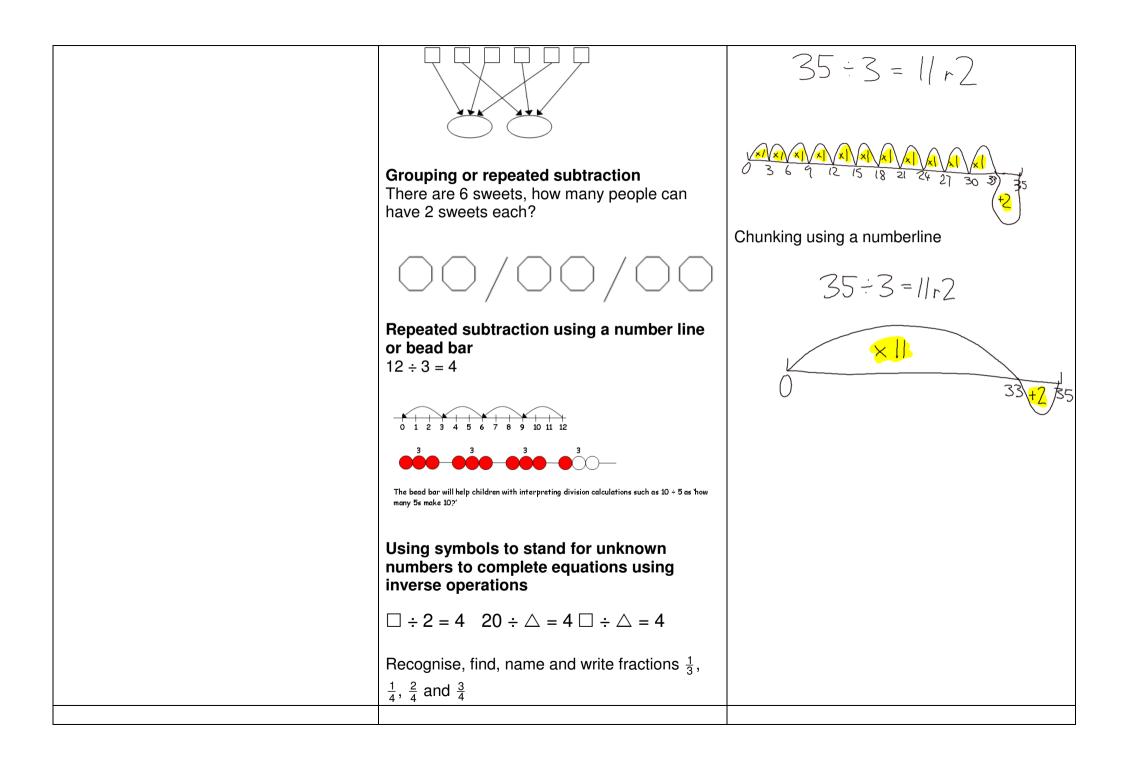


Year 4Year 5Year 6Continue to gain fluency in vertical compact methods of subtraction.Continue to gain fluency in vertical compact methods of subtraction on increasingly large numbers. Ensuring vertical methods have been taught in year 5 if not before.Multi step word problems	ontinue to gain fluency in vertical compact ethods of subtraction on increasingly large umbers. Ensuring vertical methods have			
374	en taugnt in year 5 if not before.	Continue to gain fluency in vertical compact methods of subtraction.	ontinue to gain fluency in vertical compact ethods of subtraction on increasingly large umbers. Ensuring vertical methods have	
Extend to subtracting decimals Multiplication (x)		Enternal ter exclution ethnological sub-		

Look at numbers on a numberline to see	Chanting 2s, 3s, 5s, 10s time-tables	Times-tables = 2s, 5, 10s, 3s, 4s, 6s,
the pattern.	Groups of objects.	7s, 8s, 9s.
Chanting in 2s,5s and 10s	Recording dots on a whiteboard.	Repeated addition on a number line.
Record as repeated addition	Written use of X sign	3 times 5 is $5+5+5=15$ or
2+2+2 = 6	Use of a bead bar:	3 lots of 5 or
Introduce 'x' sign & 'lots of'.	5 x 3 = 5 + 5 + 5	5×3
One step problems using objects and pictorial representations.	 5 5 6 7 7<	$5 \times 3 = 5 + 5 + 5$ 5 5 5 5 5 5 5 5 5

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

Multiply 2 and 3 digit numbers by 1 digit number using formal written methods.		
Recognise factor pairs		
	Division (÷)	
Reception		
	nare items out in play and problem solving. They	will count in 2s and 10s and later in 5s.
$\begin{pmatrix} 00\\ 00\\ 00\\ 00\\ 00\\ 00\\ 00\\ 00\\ 00\\ 00$		
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.



Year 4	Year 5	Year 6
Progressing to : Using the vertical method of recording from the chunking method on a numberline.	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	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
$ \frac{40}{6\sqrt{240}} $ $ \frac{121}{4\sqrt{484}} $	Calculate percentages Work with fractions with different denominators. $\frac{32r4}{6\pi96} + \frac{10}{6} \times 6 + \frac{32r4}{6\pi96} + \frac{32r4}{136} + \frac{32r4}{16} = \frac{32r4}{16} = \frac{32r4}{16} = \frac{30}{16} \times 6 + \frac{30}{16} $	$\frac{23_{r}8}{24560}$ $- 480 20 \times 24$ $= 72 3 \times 24$
Using the compact vertical 'bus-stop' method without remainders.	$-\frac{16}{16} \frac{12}{10} \times 6 + \frac{12}{4} \frac{2}{16} \times 6$	$\frac{12}{8}$ $\xrightarrow{3}$ \times 27 Divide proper fractions by a whole number
$4 \boxed{4} \\ 84 \\ -400 \\ 84 \\ -80 \\ 20x4 \\ -4 \\ -4 \\ -4 \\ -4 \\ -4 \\ -4 \\ -4 \\ $		Progressing to decimal remainders.
Short division of HTO ÷ O can be introduced as an alternative, more compact		

recording method than chunking, but only when children are secure in the other methods.	
$3) 8^{2} 1$	

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:
	Can you describe the problem in your own words?
How are you going to tackle this?	Can you talk me through what you have done so far?
What information do you have? What do you need to find out or	What did you do last time? What is different this time?
do?	Is there something that you already know that might help?
What operation/s are you going to use?	Could you try it with simpler numbers fewer numbers using
Will you do it mentally, with pencil and paper, using a number	a number line?
line, with a calculator? Why?	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?	During the plenary session of a 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 and the	Numbers and the	Numbers and the
numbers	number system	number system	number system
COUNTING	COUNTING, PROPERTIES OF	COUNTING, PROPERTIES OF	COUNTING, PROPERTIES OF
number	NUMBERS AND NUMBER	NUMBERS AND NUMBER	NUMBERS AND NUMBER
zero, one, two, three to twenty and	SEQUENCES	SEQUENCES	SEQUENCES
beyond	number	number	number
zero, ten, twenty one hundred	zero, one, two, three to twenty and	zero, one, two, three to twenty and	zero, one, two, three to twenty and
none	beyond	beyond	beyond
how many?	zero, ten, twenty one hundred	zero, ten, twenty one hundred	zero, ten, twenty one hundred
count, count (up) to, count on (from, to)	none	zero, one hundred, two hundred one	zero, one hundred, two hundred one
count back (from, to), count in ones,	how many?	thousand	thousand
twos tens	count, count (up) to	none	none
more, less, many, few, odd, even every	count on (from, to)	how many?	how many?
other	count back (from, to)	count, count (up) to	count, count (up) to
how many times?	count in ones, twos tens	count on (from, to)	count on (from, to)
pattern, pair	more, less, many, few	count back (from, to)	count back (from, to)
guess how many, estimate, nearly, close	odd, even	count in ones, twos, threes, fours,	count in ones, twos, threes, fours,
to, about the same as	every other	fives	fives
just over, just under	how many times?	count in tens	count in tens, hundreds
too many, too few, enough, not enough	pattern, pair	more, less, many, few	more, less, many, few
COMPARING AND ORDERING	PLACE VALUE AND ORDERING	tally	tally
NUMBERS	units, ones	odd, even	odd, even
the same number as, as many as	tens	every other	every other
Of two objects/amounts:	exchange	how many times?	how many times?

	. P. 9	and the large f	
greater, more, larger, bigger	digit	multiple of	multiple of
less, fewer, smaller	'teens' number	sequence	sequence
Of three or more objects/amounts:	the same number as, as many as	continue	continue
greatest, most, biggest, largest	equal to	predict	predict
least, fewest, smallest	Of two objects/amounts:	pattern, pair, rule	pattern, pair, rule
one more, ten more	greater, more, larger, bigger	PLACE VALUE AND ORDERING	relationship
one less, ten less	less, fewer, smaller	units, ones	PLACE VALUE AND ORDERING
compare, order, size	Of three or more objects/amounts:	tens, hundreds	units, ones
first, second, third tenth	greatest, most, biggest, largest	digit	tens, hundreds
last, last but one	least, fewest, smallest	one-, two- or three-digit number	digit
before, after, next, between, above,	one more, ten more	'teens' number	one-, two- or three-digit number
below	one less, ten less	place, place value	'teens' number
Adding and subtracting	compare	stands for, represents	place, place value
add, more, and, make, sum, total	order	exchange	stands for, represents
altogether, score, double, one more, two	size	the same number as, as many as	exchange
more, ten more	first, second, third tenth, eleventh	equal to	the same number as, as many as
how many more to make?	twentieth	Of two objects/amounts:	equal to
how many more is than?	last, last but one	greater, more, larger, bigger	Of two objects/amounts:
take (away), leave	before, after	less, fewer, smaller	greater, more, larger, bigger
how many are left/left over?	next	Of three or more objects/amounts:	less, fewer, smaller
how many have gone?	between, half-way between	greatest, most, biggest, largest	Of three or more objects/amounts:
one less, two less ten less	above, below	least, fewest, smallest	greatest, most, biggest, largest
how many fewer is than?	ESTIMATING	one more, ten more	least, fewest, smallest
difference between	guess how many, estimate	one less, ten less	one more, ten more, one hundred more
is the same as	nearly, roughly, close to	compare	one less, ten less, one hundred less
	about the same as	order	compare
Solving problems	just over, just under	size	order
REASONING ABOUT NUMBERS OR	too many, too few, enough, not enough	first, second, third tenth twentieth	size
SHAPES	Calculations	twenty-first, twenty-second	first, second, third tenth twentieth
pattern, puzzle, answer, right, wrong	ADDITION AND SUBTRACTION	last, last but one	twenty-first, twenty-second
what could we try next?	+, add, more, plus	before, after	last, last but one
how did you work it out?	make, sum, total	next	before, after
count, sort, group, set, match, same,	altogether	between, half-way between	next
different, list	score	above, below	between, half-way between
PROBLEMS INVOLVING 'REAL LIFE'	double, near double	ESTIMATING	above, below
OR MONEY	one more, two more ten more	guess how many, estimate	ESTIMATING
compare	how many more to make?	nearly, roughly, close to	guess how many, estimate
double	how many more is than?	about the same as	nearly, roughly, close to
half, halve	how much more is?	just over, just under	approximate, approximately
pair	-, subtract, take (away), minus	exact, exactly	about the same as
count out, share out	leave	too many, too few, enough, not enough	just over, just under
left, left over	how many are left/left over?	round, nearest, round to the nearest ten	exact, exactly
money	how many have gone?	FRACTIONS	too many, too few, enough, not enough
coin	one less, two less, ten less	part, equal parts	round (up or down)

how many fewer is... than ...? fraction nearest, round to the nearest ten penny, pence, pound price how much less is...? one whole FRACTIONS cost difference between one half, two halves part, equal parts one quarter, two... three... four quarters buv half. halve fraction sell =, equals, sign, is the same as Calculations one whole one half, two halves spend, spent Solving problems ADDITION AND SUBTRACTION one guarter, two... three... four guarters pay MAKING DECISIONS AND +, add, addition, more, plus change one third, two thirds, three thirds **REASONING** make, sum, total dear, costs more one tenth altogether pattern cheap, costs less, cheaper **Calculations** puzzle score costs the same as ADDITION AND SUBTRACTION double, near double answer how much...? how many...? right, wrong one more, two more... ten more... one +, add, addition, more, plus total what could we try next? hundred more make, sum, total Measures, shape how did vou work it out? how many more to make ...? altogether count out, share out, left, left over how many more is... than ...? score and space number sentence how much more is...? double, near double MEASURES (GENERAL) -, subtract, subtraction, take (away), one more, two more... ten more... one sign, operation measure MONEY minus hundred more size leave, how many are left/left over? how many more to make ...? monev compare one less, two less... ten less... one how many more is... than ...? coin quess. estimate how much more is...? penny, pence, pound hundred less enough, not enough how many fewer is... than ...? -, subtract, subtraction, take (away), price too much. too little cost how much less is...? minus too many, too few buy difference between leave, how many are left/left over? nearly, close to, about the same as sell half, halve one less, two less... ten less... one just over, just under =, equals, sign, is the same as spend, spent hundred less LENGTH how many fewer is... than ...? pay tens boundary length, width, height, depth MULTIPLICATION AND DIVISION change how much less is...? long, short, tall dear. costs more lots of, groups of difference between high, low cheap, costs less, cheaper , times, multiply, multiplied by half, halve wide, narrow costs the same as multiple of =, equals, sign, is the same as deep, shallow how much ...? how many ...? once, twice, three times... ten times... tens boundary, hundreds boundary thick. thin MULTIPLICATION AND DIVISION times as (big, long, wide... and so on) total longer, shorter, taller, higher... and so repeated addition lots of, aroups of Organising and using data on , times, multiply, multiplication, array count, sort, vote longest, shortest, tallest, highest... and row. column multiplied by group, set so on double. halve multiple of, product far. near. close list once, twice, three times... ten times... share. share equally MASS same, different times as (big, long, wide... and so on) one each, two each, three each... weigh, weighs, balances table group in pairs, threes... tens repeated addition heavy/light, heavier/lighter, Measures, shape equal groups of array heaviest/lightest , divide, divided by, divided into and space row, column balance, scales, weight **MEASURES (GENERAL)** left. left over double, halve CAPACITY share, share equally measure

full	size		one each, two each, three each
half full	compare	Solving problems	group in pairs, threes tens
	guess, estimate	MAKING DECISIONS AND	equal groups of
empty holds	0	REASONING	, divide, division, divided by, divided into
	enough, not enough	pattern, puzzle	
container	too much, too little	calculate, calculation	left, left over, remainder
TIME	too many, too few	mental calculation	Solving problems
time	nearly, roughly, close to, about the same	jotting	MAKING DECISIONS AND
days of the week: Monday, Tuesday	as	answer	REASONING
day, week	just over, just under	right, correct, wrong	pattern, puzzle
birthday, holiday	LENGTH	what could we try next?	calculate, calculation
morning, afternoon, evening, night	length, width, height, depth	how did you work it out?	mental calculation
bedtime, dinnertime, playtime	long, short, tall	number sentence	method
today, yesterday, tomorrow	high, low	sign, operation, symbol	jotting
before, after	wide, narrow	MONEY	answer
next, last	deep, shallow	money	right, correct, wrong
now, soon, early, late	thick, thin	coin	what could we try next?
quick, quicker, quickest, quickly	longer, shorter, taller, higher and so	penny, pence, pound (£)	how did you work it out?
slow, slower, slowest, slowly	on	price, cost	number sentence
old, older, oldest	longest, shortest, tallest, highest and	buy, bought, sell, sold	sign, operation, symbol, equation
new, newer, newest	so on	spend, spent	MONEY
takes longer, takes less time	far, near, close	pay	money, coin, note, penny, pence, pound
hour, o'clock	metre	change	(£), price, cost, buy, bought, sell, sold
clock, watch, hands	ruler, metre stick	dear, costs more	spend, spent, pay, change
EXPLORING PATTERNS, SHAPE AND	MASS	cheap, costs less, cheaper	dear, costs more, more/most expensive
SPACE	weigh, weighs, balances	how much? how many?	
shape, pattern	heavy/light, heavier/lighter,	total	cheap, costs less, cheaper, less/least
flat	heaviest/lightest		expensive
curved, straight	balance, scales, weight	Organising and using data	how much? how many?
round	CAPACITY	count, tally, sort, vote	total, amount
hollow, solid	full	graph, block graph, pictogram	value, worth
corner	half full	represent	Handling data
face, side, edge, end	empty	group, set	count, tally, sort, vote
sort	holds	same, different	graph, block graph, pictogram
make, build, draw	container	list, table	represent
3D SHAPES	TIME	label, title	group, set
cube	time	most popular, most common	list, chart, bar chart
pyramid	days of the week: Monday, Tuesday	least popular, least common	table, frequency table
sphere	seasons: spring, summer, autumn,	Measures, shape	Carroll diagram, Venn diagram
cone	winter	· •	label, title, axis, axes
2D SHAPES	day, week, month, year	and space	diagram
circle	weekend, birthday, holiday	MEASURES (GENERAL)	most popular, most common
triangle	morning, afternoon, evening	measure	least popular, least common
-	night, midnight	size	
square	bedtime, dinnertime, playtime	compare	Measures, shape
rectangle		measuring scale	and space

star	today, yesterday, tomorrow	guess, estimate	MEASURES (GENERAL)
PATTERNS AND SYMMETRY	before, after	enough, not enough	measure
size	next, last	too much, too little	size
bigger, larger, smaller	now, soon, early, late	too many, too few	compare
symmetrical	quick, quicker, quickest, quickly	nearly, roughly, about, close to, about	measuring scale, division
pattern	fast, faster, fastest	the same as	guess, estimate
repeating pattern	slow, slower, slowest, slowly	just over, just under	enough, not enough
match	old, older, oldest	LENGTH	too much, too little
POSITION, DIRECTION AND	new, newer, newest	length, width, height, depth	too many, too few
MOVEMENT	takes longer, takes less time	long, short, tall, high, low	nearly, roughly, about, close to,
position	hour, o'clock, half past	wide, narrow, deep, shallow, thick, thin	about the same as, approximately
over, under	clock, watch, hands	longer, shorter, taller, higher and so	just over, just under
above, below	how long ago?	on	LENGTH
top, bottom, side	how long will it be to?	longest, shortest, tallest, highest and	length, width, height, depth
on, in	how long will it take to?	so on	long, short, tall, high, low
outside, inside	how often?	far, further, furthest, near, close	wide, narrow, deep, shallow, thick, thin
around	always, never, often, sometimes, usually	metre (<i>m</i>), centimetre (<i>cm</i>)	longer, shorter, taller, higher and so
in front, behind	once, twice	ruler, metre stick, tape measure	on
front, back	SHAPE AND SPACE	MASS	longest, shortest, tallest, highest and
before, after	shape, pattern	weigh, weighs, balances	so on
beside, next to	flat	heavy/light, heavier/lighter,	far, further, furthest, near, close
opposite	curved, straight	heaviest/lightest	distance apart/between, distance to
apart	round	kilogram (kg), half-kilogram, gram (g)	from
between	hollow, solid	balance, scales, weight	kilometre (<i>km</i>), metre (<i>m</i>), centimetre
middle, edge	corner	CAPACITY	(<i>cm</i>)
corner	point, pointed	capacity	mile
direction	face, side, edge, end	full, half full	ruler, metre stick, tape measure
left, right	sort	empty	MASS
up, down	make, build, draw	holds, contains	weigh, weighs, balances
forwards, backwards, sideways	3D SHAPES	litre (1), half-litre, millilitre (<i>ml</i>)	heavy/light, heavier/lighter,
across	cube	container TIME	heaviest/lightest
close, far, near	cuboid	time	kilogram (<i>kg</i>), half-kilogram, gram (<i>g</i>) balance, scales, weight
along	pyramid	days of the week: Monday, Tuesday	CAPACITY
through to, from, towards, away from	sphere cone	months of the year: January, February	capacity
movement	cylinder	seasons: spring, summer, autumn,	full, half full
slide	2D SHAPES	winter	empty
roll	circle	day, week, fortnight, month, year	holds, contains
turn	triangle	weekend, birthday, holiday	litre (1), half-litre, millilitre (<i>ml</i>)
stretch, bend	square	morning, afternoon, evening, night,	container
	rectangle	midnight	
Instructions	star	bedtime, dinnertime, playtime	time
listen	PATTERNS AND SYMMETRY	today, yesterday, tomorrow	days of the week: Monday, Tuesday
join in	size	before, after	months of the year: January, February
say			interior of the year bandary, i bondarym

think	bigger, larger, smaller	next, last	seasons: spring, summer, autumn,
imagine	symmetrical	now, soon, early, late	winter
remember	pattern	quick, quicker, quickest, quickly	day, week, fortnight, month, year,
start from	repeating pattern	fast, faster, fastest	century
start with	match	slow, slower, slowest, slowly	weekend, birthday, holiday
start at	POSITION, DIRECTION AND	old, older, oldest	calendar, date
look at	MOVEMENT	new, newer, newest	morning, afternoon, evening, night,
point to	position	takes longer, takes less time	midnight
show me	over, under, underneath	how long ago? how long will it be to?	am, pm
put, place	above, below	how long will it take to?	bedtime, dinnertime, playtime
fit	top, bottom, side	hour, minute, second	today, yesterday, tomorrow
arrange	on, in	o'clock, half past, quarter to, quarter	before, after
rearrange	outside, inside	past	next, last
change, change over	around	clock, watch, hands	now, soon, early, late, earliest, latest
split	in front, behind	digital/analogue clock/watch, timer	quick, quicker, quickest, quickly
separate	front, back	how often?	fast, faster, fastest
carry on, continue	before, after	always, never, often, sometimes, usually	slow, slower, slowest, slowly
repeat	beside, next to	once, twice	old, older, oldest
what comes next?	opposite	SHAPE AND SPACE	new, newer, newest
find	apart	shape, pattern	takes longer, takes less time
choose	between	flat, curved, straight	how long ago? how long will it be to?
collect	middle, edge	round	how long will it take to?
use	centre	hollow, solid	hour, minute, second
make	corner	corner	o'clock, half past, quarter to, quarter
build	direction	point, pointed	past
tell me	journey	face, side, edge, end	clock, watch, hands
describe	left, right	sort	digital/analogue clock/watch, timer
pick out	up, down	make, build, draw	how often?
talk about	forwards, backwards, sideways	surface	always, never, often, sometimes, usually
explain	across	3D SHAPES	once, twice
show me	close, far, near	cube	SHAPE AND SPACE
read	along	cuboid	shape, pattern
write	through	pyramid	flat, curved, straight
trace	to, from, towards, away from	sphere	round
сору	movement	cone	hollow, solid
complete	slide	cylinder	corner
finish, end	roll	2D SHAPES	point, pointed
fill in	turn, whole turn, half turn	circle, circular	face, side, edge, end
shade	stretch, bend	triangle, triangular	sort
colour	Words new to Year 1 are in red	square	make, build, draw
General	Instructions	rectangle, rectangular	surface
	listen, join in, say, think, imagine	star	right-angled
same number/s	remember	pentagon	vertex, vertices
different number/s	start from, start with, start at, look at	hexagon	layer, diagram
missing number/s	Start nom, start with, start at, ioon at		

number facts 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 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, 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

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

octagon

PATTERNS AND SYMMETRY

General

same, different missing number/s number facts number pairs number bonds number line, number track

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

cube, cuboid, pyramid, sphere, hemi-

sphere, cone, cylinder, prism

3D SHAPES

2D SHAPES

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 arid. 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, guarter turn

	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 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	angle,is a greater/smaller angle than 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 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	Numbers	Nun	nbers
and the number system	and the number system	and the nu	mber system
PLACE VALUE, ORDERING AND	PLACE VALUE, ORDERING AND	PLACE VALUE, ORDERING AND ROU	
ROUNDING	ROUNDING	units, ones	
units, ones	units, ones	tens, hundreds, thousands	
tens, hundreds, thousands	tens, hundreds, thousands	ten thousand, hundred thousand, million	
ten thousand, hundred thousand, million	ten thousand, hundred thousand, million	digit, one-, two-, three- or four-digit numb	er
digit, one-, two-, three- or four-digit	digit, one-, two-, three- or four-digit	numeral	
number, numeral, 'teens' number	number, numeral	'teens' number	
place, place value, stands for,	'teens' number, place, place value	place, place value	
represents, exchange	stands for, represents, exchange	stands for, represents	
the same number as, as many as	the same number as, as many as	exchange	
equal to	equal to	the same number as, as many as	
Of two objects/amounts:	Of two objects/amounts:	equal to	
>, greater than, more than, larger than,	>, greater than, more than, larger than,	Of two objects/amounts:	
bigger than	bigger than	>, greater than, more than, larger than, b	igger than
<, less than, fewer than, smaller than	<, less than, fewer than, smaller than	<, less than, fewer than, smaller than	
Of three or more objects/amounts:	³ , greater than or equal to	³ , greater than or equal to	
greatest, most, largest, biggest	² , less than or equal to	² , less than or equal to	
least, fewest, smallest	Of three or more objects/amounts:	Of three or more objects/amounts:	
one ten one hundred one	greatest, most, largest, biggest	greatest, most, largest, biggest	
thousand more/less	least, fewest, smallest	least, fewest, smallest	
compare, order, size	one ten one hundred one	one ten one hundred one thousan	d more/less
first tenth twentieth	thousand more/less, compare, order,	compare, order, size	
last, last but one	size, ascending/descending order	ascending/descending order	

before, after	first tenth twentieth	first tenth twentieth
next	last, last but one, before, after, next	last, last but one, before, after
between, half-way between	between, half-way between	next, between, half-way between
guess how many, estimate	guess how many, estimate	guess how many, estimate
nearly, roughly, close to, about the same	nearly, roughly, close to, about the same	nearly, roughly, close to, about the same as
as	as, approximate, approximately	approximate, approximately
approximate, approximately	Å, is approximately equal to	Å, is approximately equal to
just over, just under	just over, just under, exact, exactly	just over, just under
exact, exactly	too many, too few, enough, not enough	exact, exactly, too many, too few, enough, not enough
too many, too few, enough, not enough	round (up or down), nearest	round (up or down), nearest
round (up or down), nearest	round to the nearest ten/hundred	round to the nearest ten/hundred/thousand
round to the nearest ten	round to the nearest thousand	integer, positive, negative, above/below zero, minus
round to the nearest hundred	integer, positive, negative	PROPERTIES OF NUMBERS AND NUMBER
integer, positive, negative	above/below zero, minus	SEQUENCES
above/below zero, minus	PROPERTIES OF NUMBERS AND	number, count, how many?
PROPERTIES OF NUMBERS AND	NUMBER SEQUENCES	odd, even, every other
NUMBER SEQUENCES	number, count, how many?	how many times?
number, count, how many?	odd, even, every other, how many	multiple of, digit, next, consecutive, sequence
odd, even	times?	continue, predict, pattern, pair, rule, relationship
every other	multiple of, digit, next, consecutive	sort, classify, property, formula
how many times?	sequence, continue, predict	divisible (by), divisibility, factor, factorise
multiple of	pattern, pair, rule, relationship	square number, one squared, two squared (12, 22)
digit	sort, classify, property	prime, prime factor
next, consecutive	formula, divisible (by), divisibility, factor	FRACTIONS, DECIMALS, PERCENTAGES,
sequence	square number	RATIO AND PROPORTION
continue	one squared, two squared (12, 22)	part, equal parts, fraction, proper/improper fraction
predict	FRACTIONS, DECIMALS,	mixed number, numerator, denominator
pattern, pair, rule	PERCENTAGES,	equivalent, reduced to, cancel
relationship	RATIO AND PROPORTION	one whole, half, quarter, eighth, third, sixth, ninth, twelfth
sort, classify, property	part, equal parts, fraction,	fifth, tenth, twentieth, hundredth, thousandth
FRACTIONS AND DECIMALS	proper/improper fraction	proportion, ratio, in every, for every, to every, as many as
part, equal parts	mixed number, numerator, denominator	decimal, decimal fraction, decimal point, decimal place
fraction	equivalent, reduced to, cancel	percentage, per cent, %
one whole	one whole, half, quarter, eighth	Calculations
half, quarter, eighth	third, sixth, ninth, twelfth	ADDITION AND SUBTRACTION
third, sixth	fifth, tenth, twentieth, hundredth	add, addition, more, plus, increase
fifth, tenth, twentieth	proportion, ratio	sum, total, altogether, score
proportion, in every, for every	in every, for every, to every, as many as	double, near double, how many more to make?
decimal, decimal fraction	decimal, decimal fraction	subtract, subtraction, take (away), minus, decrease
decimal point, decimal place	decimal point, decimal place	leave, how many are left/left over?
Calculations	percentage, per cent, %	difference between, half, halve
ADDITION AND SUBTRACTION	Calculations	how many more/fewer is than?
add, addition, more, plus, increase	ADDITION AND SUBTRACTION	how much more/less is?
sum, total, altogether	add, addition, more, plus, increase	equals, sign, is the same as

score double, near double how many more to make? subtract, subtraction, take (away), minus, decrease, leave, how many are leave, how many more to make? subtract, subtract, su			
how many more to make? inverse inverse inverse			
subtract, subtraction, take (away), minus, decreases leave, how many are let/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 tens boundary, hundreds boundary inverse multiple of, groups of dist of, groups of dist of, groups of 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 repeated addition, array, row, column, array row, column divide, division, divided by, divided into repated addition, array, row, column, array row, column divide, division, divided by, divided into repated addition, array, row, column array row, column divide, division, divided by, divided into remainder, factor, quotient, divisible by inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculater, divisible by inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculater, divisible by inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculater, divisible by inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculater, divisible by inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculater, divisible by inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculater, divide wr, rept, correct, wrong what could we try next? MONEY morey, cost to divis, ee			units boundary, tenths boundary
minus, decrease minus, decrease, leave, how many are lefternec between Ibs of, groups of haft, halve how many more/fever is than? how many more/fever is than? how many more/fever is than? how many more/fever is than? equals, sign, is the same as tens boundary, hundreds boundary inverse multiple of, product once, twice, three times ten times how many more/fever is than? how many more/fever is than? how many more/fever is than? how many more/fever is than? how many more/fever is than? how many more/fever is than? how many more/fever is than? how many more/fever is than? how many more/fever is than? imas so to, groups of intres source to the source to	how many more to make?	how many more to make?	inverse
leave, how many are letivited over? difference between half, halve how many moreflewer is than? how much morefless is? equals.sign. is the same as tens boundary, hundreds boundary inverse multiple of, product once, twice, three times ten times times, multiply, multiplication, multiplied by multiple of, product once, twice, three times ten times times as (bg), long, wide and so on) repeated addition repeated addition, array, row, column double, halve share, share equally, one each, two each, three each group in pairs, threes tens equalls groups of times, multiply, multiplication, multiplied by multiple of, product once, twice, three times ten times times as (bg, long, wide and so on) repeated addition, array, row, column 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 repeated addition, array, row, column array row, column divide, division, divided by, divided into repeated addition, array, row, column array row, column divide, division, divided by, divided into repeated addition, array, row, column array row, column divide, division, divided by, divided into remainder, ractor, quotlent, divisible by inverse Solving problems MaKING DECISIONS AND REASONING pattern, puzzle calculater, calculation, divided by, divided into remainder, ractor, quotlent, divisible by inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculater, calculation mental calcul	subtract, subtraction, take (away),	subtract, subtraction, take (away),	MULTIPLICATION AND DIVISION
difference between haft, halve haft, halve how much moreless is?difference between haft, halve haft, halve haft, halve how much moreless is?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 group in pairs, threes tens equal group in pairs, threes times as (big, long, wide and so on) repeated addition array to 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 repeated addition. array tow, 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 inversemultiple of, product once, twice, three times times as (big, long, wide and so on) repeated addition. array trow, 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 inversemultiple of, product once, twice, three times tens as (big, long, wide and so on)MULTPLCATION AND DIVISON once, twice, three times three seach group in pairs, threes ten times tens as (big, long, wide and so on)multiple division, divided by, divided into remainder, factor, quotient, divisible by inversemultiple division, divide, division, divided by, divided into remainder, factor, quotient, divisible by inverse<	minus, decrease	minus, decrease, leave, how many are	lots of, groups of
half, halvehalf, halvehalf, halvehow much more/less is?equals, sign, is the same asequals, sign, is the same asequals, sign, is the same astens boundary, hundreds boundaryinverseMULTIPLICATION AND DIVISIONlots of, groups oftimes, multiplication, multiplicationbybymultiple of, productonce, twice, three times ten timesonce, twice, three times ten timesonce, twice, three times ten timesinversemultiple of, productonce, twice, three times ten timesonce, twice, three times ten timesonce, twice, three times ten timesines as (big, long, wide and so on)repeated additionarrayrow, columndouble, halveone each, two each, three eachgroup in pairs, threes tensequal groups ofdivide, division, divided by, divided intodivide, division, divided by, divided intoremainderfactor, quotient, divisible byinverseSolving problemsMAKING DECISIONS ANDREASONINGREASONINGRetasoningpattern, puzzlecalculator, display, key, enter, clearcalculatorcalculatorpattern, puzzlecalculatorgaluationmental calculationmental calculationmental calculationmainderfactor, quotient, divisible by	leave, how many are left/left over?	left/left over?	times, multiply, multiplication, multiplied by
how many more/fess is?how many more/fess is?times as (big, long, wide and so on)how much more/fess is?equals, sign, is the same astimes, multiple,	difference between	difference between	multiple of, product
how much more/less is? equals, sign, is the same as tens boundary, hundreds boundary inverse how much more/less is? requals, sign, is the same as tens boundary, hundreds boundary units boundary, the same satura, row, column, double, halve repeated addition MULTPLICATION AND DIVISION tens boundary, hundreds boundary units boundary, units b	half, halve	half, halve	once, twice, three times ten times
how much more/less is? equals, sign, is the same as tens boundary, hundreds boundary inverse how much more/less is? requals, sign, is the same as tens boundary, hundreds boundary units boundary, the same satura, row, column, double, halve repeated addition MULTPLICATION AND DIVISION tens boundary, hundreds boundary units boundary, units b	how many more/fewer is than?	how many more/fewer is than?	times as (big, long, wide and so on)
equals, sign, is the same as tens boundary, hundreds boundary inverseequals, sign, is the same as tens boundary, hundreds boundary units boundary, hundreds boundary inversearray tens boundary, hundreds boundary units boundary, tenths boundary units boundary, tenths boundary inversearray, row. column, double, halve array 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 times, 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 inversecolumn tense tense tensecolumn tense tense tense tensecolumn tense tense tense tenseSolving problems matinder factor, quotient, divisible by inverseSolving problems maxing factor, quotient, divisible by inverseMAKING DECISIONS AND REASONING pattern, puzzle calculator, display, key, enter, clear constantSolving problems making tense tense tenseMAKING DECISIONS AND restence inversepattern, puzzle, calculation, method ipting, answer, right, correct, wrong what could we try next?Solving problems method ipting, answer, right, correct, wrong what could we try next?MAKING DECISIONS and method ipting, answer, right, correct, wrong what could we try next?MAKING DECISIONS A			
tens boundary, hundreds boundary inverse MULTIPLICATION AND DIVISION lots of, groups of times, multiple, multiplication, multiplied by multiple of, product once, twice, three times ten times times as (big, long, wide and so on) repeated addition, array raray raray raray 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 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 calculater, calculation method joting method joting method joting method joting method joting method joting method joting method joting method joting method joting method joting method joting method joting method meth		equals, sign, is the same as	
inverse invers			
MULTIPLICATION AND DIVISION Iots of, groups of times, multiply, multiplication, multiplied by inverse equal groups of, divide, division, divided by, divided into remainder, factor, quotient, divisible by inverse multiple of, product once, twice, three times ten times times as (big, long, wide and so on) repeated addition array 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, 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 calculatio			
Iots of, groups of times, multiple, multiple of, product once, twice, three timestent mies times as (big, long, wide and so on) repeated addition array row, column double, halve, 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 inverseMULTIPLICATION AND DIVISION times, multiple, multiplication, multiple dots of, groups of divide, thave, 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 inverseMAKING DECISIONS AND REASONING method, strategy joiting answerMAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation method answer right, correct, wrong what could we try next?Solving problems MAKING DECISIONS AND REASONING pattern, puzzle, calculate, calculation method joiting answer right, correct, wrong what could we try next?MULTIPLICATION AND DIVISION inversememainder, factor, quotient, divisible by inverseNotice inverseSolving problems MAKING DECISIONS AND REASONING pattern, puzzle, calculation method joiting answer right, correct, wrong what could we try next?MONEY money cost how did you work it out? how did			
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 calculator, display, key, enter, clear constant Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculation mental calculation mental calculation me			
by multiple of, product once, twice, three times ten times times as (big, long, wide and so on) array 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 inverseUSING A CALCULATOR calculator, display, key enter, clear, sign change constant, recurring, memory, operation key USING A CALCULATOR calculator, display, key, enter, clear inverse USING A CALCULATOR calculator, display, key enter, clear, quotient, divisible by inverse USING A CALCULATOR calculator, display, key, enter, clear inverse Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculator, display, key, enter, clear constant USING A CALCULATOR calculate, calculation mental calculation mental calculation, method, strategy jotting answer right, correct, wrong what could we try next? USING A CALCULATOR calculate, calculator, display, key, enter, clear constant Solving problems MAKING DECISIONS AND REASONING mental calculation mental calculation ment			
multiple of, product once, twice, three times ten times trepeated addition arrayby, multiple of, product once, twice, three times ten times torce, twice, three times tens equal groups of divide, division, divided by, divided into remainder remainder factor, quotient, divisible by inverseby, multiple of, product once, twice, three times tens equal groups of divide, division, divided by, divided into remainder, factor, quotient, divisible by inversecalculator, display, key enter, clear, sign change constant, recurring, memory, operation keySolving problems MAKING DECISIONS AND REASONING pattern, puzzle calculation mental calculation mental calcul			
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 inverseonce, twice, three times ten times times as (big, long, wide and so on) repeated addition arrayenter, clear, sign change constant, recurring, memory, operation keySolving problems MAKING DECISIONS AND remainder factor, quotient, divisible by inverseonce, twice, three times ten times times as (big, long, wide and so on) re each 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 inverseenter, clear, sign change constantSolving problems mAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation <br< td=""><td></td><td></td><td></td></br<>			
times as (big, long, wide and so on) repeated addition arraytimes 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 inversetimes as (big, long, wide and so on) repeated addition, array, row, column, double, halve group in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inversetimes 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 inversetimes 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 inversetoms 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 inversetoms as (big, long, wide and so on) repeated addition, array, row, column, dualtor, display, key, enter, clear calculator, display, key, enter, clear calculator, display, key, enter, clear pattern, puzzle, calculation mental calculation mental calculation method jotting answer right, correct, wrong what could w			
repeated addition arrayrepeated 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 inverserepeated 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 inverseSolving problems method, strategy inverseMAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation mental calculation mental calculation method pattern, puzzle calculate, calculate, calculation mental calculation mental calculation method pitting answer right, correct, wrong what could we try next?Solving problems method, strategy poting, answer, right, correct, wrong what could we try next? how did you work it out? number sentence sign, operation, symbol, equationMaking DECISIONS AND method, strategy poting, answer, right, correct, wrong what could we try next?Money coin, note penny, pence, pound (£) price, cost bow did you work it out? number sentence, sign, operation, symbol, equationMoney coin, note, penny, pence, pound dear, costs more, more/most expensive			
arraydouble, halve, share, share equally one each, two ea			
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 inverseImattern, puzzle calculation mental calculation mental calculation mental calculation money calculate, calculation moneyImattern, puzzle calculation mental calculation mental calculation mental calculation mental calculation mental calculation mental calculation mental calculation mental calculation money calculate, calculation mental calculation money mental calculation mental calculation mental			
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 inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder, factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder, factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder, factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inversegroup in pairs, threes tens equal groups of calculate, calculator, display, key, enter, clear constantgroup in pairs, threes tens calculate, calculation mental calculator, display, key, enter, clear rumber sentence sign, operation, symbol, equat			
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 inverseCalculaton mental calculation method, strategy joting answerdivide, division, divided by, divided into remainder factor, quotient, divisible by inverseUSING A CALCULATOR calculator, display, key, enter, clear constantUSING A CALCULATOR calculator, display, key, enter, clear constantmental calculation method, strategy joting answerSolving problems MAKING DECISIONS AND REASONING pattern, puzzle calculationMAKING DECISIONS AND REASONING pattern, puzzle, calculation mental calculation mental calculation mental calculation method jotting answerDatabase divide, division, divided by, divided into remainder, factor, quotient, divisible by inverseDatabase mental calculation method, strategy pattern, puzzle, calculate, calculation mental calculation mental calculation method jotting answer right, correct, wrong what could we try next?Database money coin, note penny, pence, pound (£) price, costMaker money calculationmoney money, coin, note, penny, pence, pound MONEYDatabase money/coin, note, penny, pence, pound pay change dear, costs more, more/most expensive			
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 inversedivide, division, divided by, divided into remainder, factor, quotient, divisible by inverseInterfact calculation method, strategy jotting answer right, correct, wrong what could we try next?Interfact calculation method inverseSolving problems MAKING DECISIONS AND REASONING pattern, puzzle calculationMAKING DECISIONS AND REASONING pattern, puzzle, calculation, method, strategy jotting answer, right, correct, wrong what could we try next?Interfact calculation method inversemethod jotting answerpattern, puzzle, calculation, method, strategy price, costmoney coin, note peration, symbol, equationmethod ipting answernumber sentence, sign, operation, symbol, equationspend, spent pay changemethod ipting answernumber sentence, sign, operation, symbol, equationspend, spent pay changemoney could we try next?money, coin, note, penny, pence, poundspend, spent pay change			
group in pairs, threes tens equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inverseremainder, factor, clear induct, divisible by inverseremainder, factor, clear induct, divisible by inv			
equal groups of divide, division, divided by, divided into remainder factor, quotient, divisible by inverseinversejourng answer right, correct, wrong what could we try next?Solving problems MAKING DECISIONS AND pattern, puzzle calculation mental calculation interseMAKING DECISIONS AND REASONING pattern, puzzle, calculate, calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?Journg method pattern, puzzle, calculate, calculate, calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?Journg method pattern, puzzle, calculate, calculate, calculate, calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?Journg method pattern, puzzle, calculate, calculate, calculate, calculate, calculate, calculate, calculate, sign, operation, symbol, equationMoney porter, corect, wrong pay porter, corect, wrong what could we try next?Journg money, coin, note, penny, pence, pound (£)mothod ipotting answer right, correct, wrong what could we try next?money, coin, note, penny, pence, pound dear, costs more, more/most expensiveSolving pattern, puzzle pattern, puzzle, calculate, cal			•••
divide, division, divided by, divided into remainder factor, quotient, divisible by inverseUSING A CALCULATOR calculator, display, key, enter, clear constantanswer right, correct, wrongSolving problems MAKING DECISIONS AND REASONING pattern, puzzle calculatonUSING A CALCULATOR calculator, display, key, enter, clear constantright, correct, wrong what could we try next?MAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation jotting answer right, correct, wrong what could we try next?USING A CALCULATOR calculator, display, key, enter, clear constantright, correct, wrong what could we try next?MAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation ipotting answerUSING A CALCULATOR calculator, display, key, enter, clear constantright, correct, wrong what could we try next?method jotting answer right, correct, wrong what could we try next?USING A CALCULATOR calculator, display, key, enter, clear constantright, correct, wrong pattern, puzzle, calculate, calculation, method, strategy jotting, answer, right, correct, wrong what could we try next?money penny, pence, pound (£) price, costmethod jotting answer right, correct, wrong what could we try next?number sentence, sign, operation, symbol, equationspent pay changemoney, coin, note, penny, pence, pound what could we try next?money costs more, more/most expensive			
remainder factor, quotient, divisible by inversecalculator, display, key, enter, clear constantmultiplit, conlect, wrong what could we try next?Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculation mental calculation method jotting answer right, correct, wrong what could we try next?Solving problems method bow di you work it out?multiplit, conlect, wrong what could we try next?method jotting answer right, correct, wrong what could we try next?money pattern, puzzle, calculate, calculation mental calculation method potting answer right, correct, wrong what could we try next?money pottern, puzzle, calculate, calculation mental calculation method potting answer right, correct, wrong what could we try next?money pottern, puzzle, calculate, calculation mental calculation mental calculation method potting answer right, correct, wrong what could we try next?money pottern, puzzle, calculate, calculate, calculation mental calculation, method, strategy pottern, puzzle, cost pottern, puzzle, cost potter			
factor, quotient, divisible by inverseconstantWhat could we fry hext? how did you work it out? number sentenceSolving problems MAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?What could we fry hext? how did you work it out? number sentence sign, operation, symbol, equation MONEYmathematical inverseSolving problems MAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?What could we fry hext? how did you work it out? money coin, note penny, pence, pound (£) price, cost buy, bought, sell, sold spend, spent pay change dear, costs more, more/most expensive			
inverseSolving problems MAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?Solving problems monetal calculation, method, strategy potting, answer, right, correct, wrong what could we try next?Inw dud you work it out? number sentence sign, operation, penny, pence, pound (£)inverseNoney colon, note penny, pence, pound (£)Noney penny, pence, pound (£)inverseNoney colon, note penny, pence, pound (£)Noney penny, pence, pound (£)inverseNoney colon, note penny, pence, pound (£)Noney price, costinverseNoney penny, pence, pound (£)Noney price, costinverseNoney price, costNoney price, costinverseNoney price, costSpend, spent pay changeinverseNoney price, costNoney price, costinverseNoney price, corect, wrong wh			
Solving problems MAKING DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?Nation Decisions and reasoning pattern, puzzle, calculate, calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?Intimber sentence sign, operation, symbol, equation money coin, note penny, pence, pound (£)Naking DECISIONS AND REASONING pattern, puzzle calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next?Naking DECISIONS AND REASONING pattern, puzzle, calculate, calculation method, strategy price, costmoney coin, note penny, pence, pound (£) py bought, sell, sold spend, spent pay changenumber sentence, sign, operation, what could we try next?spend, spent pay changespend, spent pay changewhat could we try next?money, coin, note, penny, pence, pound dear, costs more, more/most expensivedear, costs more, more/most expensive			
MAKING DECISIONS ANDREASONINGMONEYREASONINGpattern, puzzle, calculate, calculationmoneypattern, puzzlemental calculation, method, strategycoin, notecalculate, calculationjotting, answer, right, correct, wrongpenny, pence, pound (£)mental calculationwhat could we try next?buy, bought, sell, soldiottingnumber sentence, sign, operation,spend, spentanswersymbol, equationpayright, correct, wrongMONEYchangewhat could we try next?dear, costs more, more/most expensive			
REASONING pattern, puzzlepattern, puzzle, calculate, calculation mental calculation, method, strategy jotting, answer, right, correct, wrong methodmoneycalculate, calculation mental calculationjotting, answer, right, correct, wrong what could we try next?penny, pence, pound (£)method jottingnumber sentence, sign, operation, answerspend, spentanswer right, correct, wrongsymbol, equationpayright, correct, wrong what could we try next?pay changewhat could we try next?bay buy, bought, sell, soldwhat could we try next?pay changewhat could we try next?changewhat could we try next?money, coin, note, penny, pence, pounddear, costs more, more/most expensive			
pattern, puzzle calculationmental calculation, method, strategy jotting, answer, right, correct, wrong what could we try next?coin, note penny, pence, pound (£)method jottingwhat could we try next?buy, bought, sell, soldmethod jottingnumber sentence, sign, operation, symbol, equationspend, spent pay changeright, correct, wrong what could we try next?pay changewhat could we try next?change dear, costs more, more/most expensive			
calculate, calculationjotting, answer, right, correct, wrong what could we try next?penny, pence, pound (£)methodwhat could we try next?price, costmethodhow did you work it out?buy, bought, sell, soldjottingnumber sentence, sign, operation, symbol, equationspend, spentright, correct, wrongMONEYpay changewhat could we try next?money, coin, note, penny, pence, pounddear, costs more, more/most expensive			
mental calculationwhat could we try next?price, costmethodhow did you work it out?buy, bought, sell, soldjottingnumber sentence, sign, operation,spend, spentanswersymbol, equationpayright, correct, wrongMONEYchangewhat could we try next?money, coin, note, penny, pence, pounddear, costs more, more/most expensive	•		
methodhow did you work it out?buy, bought, sell, soldjottingnumber sentence, sign, operation,spend, spentanswersymbol, equationpayright, correct, wrongMONEYchangewhat could we try next?money, coin, note, penny, pence, pounddear, costs more, more/most expensive			
jotting answernumber sentence, sign, operation, symbol, equationspend, spent payright, correct, wrong what could we try next?MONEYchange dear, costs more, more/most expensive			
answersymbol, equationpayright, correct, wrongMONEYchangewhat could we try next?money, coin, note, penny, pence, pounddear, costs more, more/most expensive			
right, correct, wrongMONEYchangewhat could we try next?money, coin, note, penny, pence, pounddear, costs more, more/most expensive			
what could we try next? money, coin, note, penny, pence, pound dear, costs more, more/most expensive			
	right, correct, wrond		
now did you work it out? (£), price, cost, buy, bought, sell, sold Cheap, costs less, cheaper, less/least expensive			
	what could we try next?	money, coin, note, penny, pence, pound	dear, costs more, more/most expensive

number sentence	spend, spent, pay, change	how much? how many?
sign, operation, symbol, equation	dear, costs more, more/most expensive	total, amount, value, worth
MONEY	cheap, costs less, cheaper, less/least	discount, profit, loss
money	expensive	currency
coin, note	how much? how many?	Handling data
penny, pence, pound (£)	total, amount, value, worth	5
price, cost	discount, currency	count, tally, sort, vote
buy, bought, sell, sold	Handling data	survey, questionnaire data, database
spend, spent	count, tally, sort, vote	graph, block graph, line graph
pay	survey, questionnaire, data, database	pictogram,
change	graph, block graph, line graph	represent
dear, costs more, more/most expensive	pictogram, represent, group, set	
cheap, costs less, cheaper, less/least	list, chart, bar chart, bar line chart	group, set list, chart, bar chart, bar line chart
expensive	tally chart, table, frequency table	tally chart
how much? how many?	Carroll diagram, Venn diagram	table, frequency table
total, amount	label, title, axis, axes, diagram	Carroll diagram, Venn diagram
value, worth	most popular, most common	label, title, axis, axes
Handling data	least popular, least common	diagram
count, tally, sort, vote	mode, range	most popular, most common
survey, questionnaire, data	maximum/minimum value	least popular, least common
graph, block graph, pictogram	classify, outcome	mode, range, mean, average, median
represent	PROBABILITY	statistics, distribution
group, set	fair, unfair, likely, unlikely, likelihood	maximum/minimum value
list, chart, bar chart, tally chart	certain, uncertain	classify, outcome
table, frequency table	probable, possible, impossible	PROBABILITY
Carroll diagram, Venn diagram	chance, good chance, poor chance, no	fair, unfair
label, title, axis, axes	chance, risk, doubt,	likely, unlikely, likelihood, equally likely
diagram	Measures, shape	certain, uncertain
most popular, most common		probable, possible, impossible
least popular, least common	and space	chance, good chance,
Measures, shape	MEASURES (GENERAL)	poor chance, no chance
,	measure, measurement	equal chance, even chance, fifty-fifty chance
and space	size, compare, unit, standard unit	risk, doubt
MEASURES (GENERAL)	metric unit, imperial unit	biased, random
measure, measurement	measuring scale, division	Measures, shape and space
size	guess, estimate, enough, not enough	MEASURES (GENERAL)
compare	too much, too little, too many, too few	measure, measurement
unit, standard unit	nearly, roughly, about, close to	size
metric unit, imperial unit	about the same as, approximately	compare
measuring scale, division	just over, just under	unit, standard unit
guess, estimate	LENGTH	metric unit, imperial unit
enough, not enough	length, width, height, depth, breadth	measuring scale, division
too much, too little	long, short, tall, high, low, wide, narrow,	guess, estimate
too many, too few	deep, shallow, thick, thin, longer,	geore, commune

nearly, roughly, about, close to	shorter, taller, higher and so on	enough, not enough
about the same as, approximately	longest, shortest, tallest, highest and	too much, too little
just over, just under	so on, far, further, furthest, near, close	too many, too few
LENGTH	distance apart/between, distance to	nearly, roughly, about, close to
length, width, height, depth, breadth	from	about the same as, approximately
long, short, tall, high, low	edge, perimeter	just over, just under
wide, narrow, deep, shallow, thick, thin	kilometre (<i>km</i>), metre (<i>m</i>)	LENGTH
longer, shorter, taller, higher and so	centimetre (<i>cm</i>), millimetre (<i>mm</i>)	length, width, height, depth, breadth
•	mile	long, short, tall, high, low
on longest, shortest, tallest, highest and	ruler, metre stick, tape measure	wide, narrow, deep, shallow, thick, thin
so on	MASS	longer, shorter, taller, higher and so on
far, further, furthest, near, close		longest, shortest, tallest, highest and so on
distance apart/between, distance to	mass: big, bigger, small, smaller, balances	far, further, furthest, near, close
	weight: heavy/light, heavier/lighter,	distance apart/between, distance to from
from	heaviest/lightest	
edge, perimeter		edge, perimeter, circumference
kilometre (<i>km</i>), metre (<i>m</i>)	weigh, weighs	kilometre (<i>km</i>), metre (<i>m</i>)
centimetre (<i>cm</i>), millimetre (<i>mm</i>)	kilogram (kg), half-kilogram, gram (g)	centimetre (<i>cm</i>), millimetre (<i>mm</i>)
mile	balance, scales CAPACITY	mile, yard, feet, foot, inches, inch
ruler, metre stick, tape measure		ruler, metre stick, tape measure, compasses MASS
	capacity, full, half full, empty	
mass: big, bigger, small, smaller,	holds, contains, litre (1), half-litre,	mass: big, bigger, small, smaller, balances
balances	millilitre (<i>ml</i>), pint, gallon	weight: heavy/light, heavier/lighter, heaviest/lightest
weight: heavy/light, heavier/lighter,	container, measuring cylinder	weigh, weighs
heaviest/lightest	AREA	tonne, kilogram (<i>kg</i>), half-kilogram, gram (<i>g</i>)
weigh, weighs	area, covers, surface	pound (<i>lb</i>), ounce (<i>oz</i>)
kilogram (kg), half-kilogram, gram (g)	square centimetre (<i>cm</i> ₂), square metre	balance, scales
balance, scales	(m_2)	CAPACITY
CAPACITY	square millimetre (<i>mm</i> ₂)	capacity
capacity	TIME	full, half full, empty
full, half full	time	holds, contains
empty	days of the week: Monday, Tuesday	litre (1), half-litre, centilitre (<i>cl</i>), millilitre (<i>ml</i>)
holds, contains	months of the year: January, February	pint, gallon
litre (1), half-litre, millilitre (ml)	seasons: spring, summer, autumn,	container, measuring cylinder
pint	winter	AREA
container, measuring cylinder	day, week, fortnight, month	area, covers, surface
AREA	year, leap year, century, millennium	square centimetre (<i>cm</i> ₂), square metre (<i>m</i> ₂)
area, covers, surface	weekend, birthday, holiday	square millimetre (<i>mm</i> ₂)
square centimetre (<i>cm</i> ₂)	calendar, date, date of birth	TIME
TIME	morning, afternoon, evening, night	time
time	am, pm, noon, midnight	days of the week: Monday, Tuesday
days of the week: Monday, Tuesday	today, yesterday, tomorrow	months of the year: January, February
months of the year: January, February	before, after, next, last	seasons: spring, summer, autumn, winter
seasons: spring, summer, autumn,	now, soon, early, late, earliest, latest	day, week, fortnight, month
winter	quick, quicker, quickest, quickly	year, leap year, century, millennium

day, week, fortnight, month	fast, faster, fastest, slow, slower,	weekend, birthday, holiday
year, leap year, century, millennium	slowest, slowly	calendar, date, date of birth
weekend, birthday, holiday	old, older, oldest, new, newer, newest	morning, afternoon, evening, night
calendar, date, date of birth	takes longer, takes less time	am, pm, noon, midnight
morning, afternoon, evening, night	how long ago? how long will it be to?	today, yesterday, tomorrow
am, pm, noon, midnight	how long will it take to?	before, after, next, last
today, yesterday, tomorrow	timetable, arrive, depart	now, soon, early, late, earliest, latest
before, after, next, last	hour, minute, second	quick, quicker, quickest, quickly
now, soon, early, late, earliest, latest	o'clock, half past, quarter to, quarter	fast, faster, fastest, slow, slower, slowest, slowly
quick, quicker, quickest, quickly	past	old, older, oldest, new, newer, newest
fast, faster, fastest, slow, slower,	clock, watch, hands	takes longer, takes less time
slowest, slowly	digital/analogue clock/watch, timer	how long ago? how long will it be to?
old, older, oldest, new, newer, newest	24-hour clock, 12-hour clock	how long will it take to?
takes longer, takes less time	how often?	timetable, arrive, depart
how long ago? how long will it be to?	always, never, often, sometimes, usually	hour, minute, second
how long will it take to?	SHAPE AND SPACE	o'clock, half past, quarter to, quarter past
timetable, arrive, depart	shape, pattern, flat, line, curved, straight	clock, watch, hands
hour, minute, second	round, hollow, solid, corner	digital/analogue clock/watch, timer
o'clock, half past, quarter to, quarter	point, pointed, face, side, edge, end	24-hour clock, 12-hour clock
past	sort, make, build, construct, draw,	Greenwich Mean Time, British Summer Time
clock, watch, hands	sketch, centre, radius, diameter	International Date Line
digital/analogue clock/watch, timer	net, surface	how often?
how often?	angle, right-angled, congruent	always, never, often, sometimes, usually
always, never, often, sometimes, usually	base, square-based, vertex, vertices	SHAPE AND SPACE
SHAPE AND SPACE	layer, diagram, regular, irregular	shape, pattern
shape, pattern, flat, line, curved, straight	concave, convex, open, closed	flat, line
round, hollow, solid, corner	3D SHAPES	curved, straight
point, pointed, face, side, edge, end	3D, three-dimensional, cube, cuboid	round
sort, make, build, construct, draw,	pyramid, sphere, hemi-sphere, spherical	hollow, solid
sketch, centre, radius, diameter	cone, cylinder, cylindrical	corner
net, surface, angle, right-angled	prism, tetrahedron, polyhedron,	point, pointed
base, square-based, vertex, vertices	octahedron	face, side, edge, end
layer, diagram, regular, irregular	2D SHAPES	sort
concave, convex, open, closed	2D, two-dimensional, circle, circular,	make, build, construct, draw, sketch
3D SHAPES	semi-circle, triangle, triangular,	centre, radius, diameter
3D, three-dimensional, cube	equilateral triangle, isosceles triangle,	circumference, concentric, arc
cuboid, pyramid, sphere, hemi-sphere, spherical, cone, cylinder, cylindrical	scalene triangle, square rectangle, rectangular, oblong	net surface
prism, tetrahedron, polyhedron	pentagon, pentagonal, hexagon,	angle, right-angled
2D SHAPES	hexagonal, heptagon, octagon,	congruent
2D, two-dimensional, circle, circular,	octagonal, polygon, quadrilateral	intersecting, intersection
semi-circle, triangle, triangular	PATTERNS AND SYMMETRY	plane
equilateral triangle, isosceles triangle	size, bigger, larger, smaller	base, square-based
square, rectangle, rectangular, oblong	symmetrical, line of symmetry, axis of	vertex, vertices
Square, rectangle, rectangular, upiong	Symmetrical, inte of Symmetry, axis of	VOLICA, VOLIDEO

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

arrange, rearrange	arrange, rearrange, change, change	clockwise, anti-clockwise, compass point, north, south, east, west (N, S, E, W)
change, change over	over, split, separate	north-east, north-west, south-east, south-west
split, separate	carry on, continue, repeat	(NE, NW, SE, SW)
carry on, continue, repeat	what comes next? predict	horizontal, vertical, diagonal, parallel, perpendicular
what comes next? predict	describe the pattern, describe the rule	x-axis, y-axis, quadrant, movement
describe the pattern, describe the rule	find, find all, find different	slide, roll, whole turn, half turn, quarter turn, rotate, rotation
find, find all, find different	investigate, choose, decide	angle, is a greater/smaller angle than
investigate	collect, use, make, build, construct,	right angle, acute, obtuse, reflex
choose, decide	bisect, tell me, describe, name, pick out,	degree, straight line, stretch, bend, ruler, set square
collect	identify, discuss, talk about	angle measurer, compasses, protractor
use, make, build, construct	explain, explain your	Instructions
tell me, describe, name, pick out	method/answer/reasoning	listen, join in, say, recite, think, imagine, remember
discuss, talk about	give an example of	start from, start with, start at, look at, point to, show me
explain	show how you	put, place, arrange, rearrange
explain your method	show your working	change, change over, adjusting, adjust, split, separate
explain how you got your answer	justify, make a statement, read, write,	carry on, continue, repeat, what comes next? predict
give an example of	record, write in figures, present,	describe the pattern, describe the rule, find, find all, find different
show how you	represent, interpret	investigate, choose, decide, collect, use, make, build, construct, bisect
show your working	trace, copy, complete, finish, end	tell me, define, describe, name, pick out, identify
justify	fill in, shade, colour, label, plot	
make a statement	tick, cross, draw, sketch	discuss, talk about, explain
read, write, record	draw a line between, join (up), ring,	explain your method/answer/reasoning
write in figures	arrow, cost, count, tally	give an example of
present, represent	calculate, work out, solve, convert	show how you
interpret	investigate, question, answer	show your working
trace, copy	check	justify, make a statement, read, write, record, write in figures
complete, finish, end	General	present, represent, interpret, trace, copy
fill in, shade, colour		complete, finish, end, fill in, shade, colour
label, plot	same, different	label, plot, tick, cross
tick, cross	missing number/s	draw, sketch, draw a line between, join (up), ring, arrow
draw, sketch	number facts, number pairs, number	cost, count, tally, calculate, work out, solve, convert
draw a line between, join (up), ring,	bonds	investigate, interrogate (data), question, prove, answer, check
arrow	greatest value, least value	
cost, count, tally	number line, number track	General
calculate, work out, solve	number square, hundred square	same, identical, different
investigate, question	number cards, number grid	missing number/s
answer	abacus	number facts, number pairs, number bonds
check	counters, cubes, blocks, rods	greatest value, least value
	die, dice, spinner	number line, number track
General	dominoes	number square, hundred square
same, different	pegs, peg board, pin board	number cards, number grid
missing number/s	geo-strips	abacus
number facts, number pairs, number	same way, different way	counters, cubes, blocks, rods
bonds	best way, another way	die, dice, spinner
greatest value, least value	in order, in a different order	

all, every, each	number line, number track 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	not all, every, each	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
------------------	--	-------------------------	---