CD

Calculation Policy

Contents

<u>Teaching Pupils to calculate</u>

It is vital that all schools have a calculation policy that is followed throughout the school. The calculation policy should allow the methods to build upon prior learning and to complement the expected skills for all four operations.

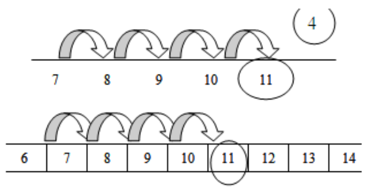
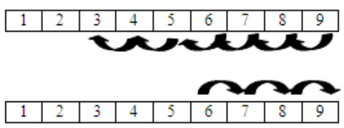
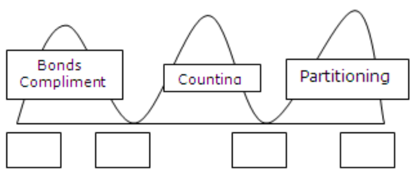
Pupils need specific, planned opportunities to develop both their mental and written methods and the recall of facts. The recall of facts should be monitored as poor progress in this area can create a barrier to progression in mathematical calculation.

The acquisition of calculation methods are best supported when medium term planning reflects opportunities to use those methods across the mathematics and wider curriculum. For example, a pupil who is adding 3 digit numbers should have the opportunity to use this method when handling data.

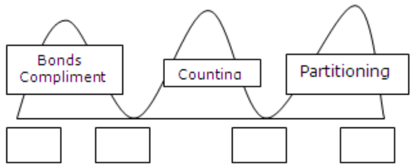
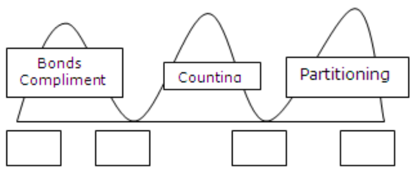
The methods modelled within this policy reflect best practice for the teaching of all four operations.

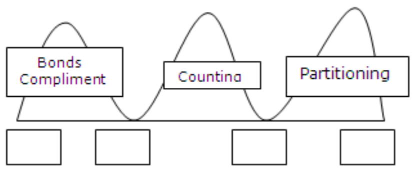
Although there are methods that may be óquickerô in different year groups, the aim of the methods taught across the primary age should be to promote understanding and to develop long term mental cognizance with mathematical calculation, rather than a method that is simply the easiest to teach or the preferred method of an individual.

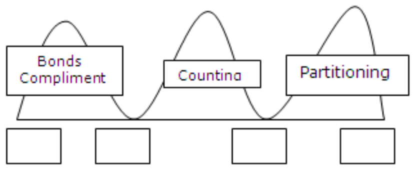
Progression of addition and subtraction

Year Group	Recall	Mental	Written
ONE	number pairs with a total of 10, e.g. 3 + 7, or what to add to a single-digit number to make 10, e.g. 3 + ☐ = 10 addition facts for totals to at least 5, e.g. 2 + 3, 4 + 3 addition doubles for all numbers to at least 10, e.g. 8 + 8	add or subtract a pair of single-digit numbers, e.g. 4 + 5, 8 ï 3 add or subtract a single-digit number to or from a teens number, e.g. 13 + 5, 17 ï 3 add or subtract a single-digit to or from 10, and add a multiple of 10 to a single-digit number, e.g. 10 + 7, 7 + 30 add near doubles, e.g. 6 + 7	I can use a number track or number line to count on from a number less than ten or a multiple of ten  Subtract numbers below 20 by counting on/back, using a completed number line. 
TWO	addition and subtraction facts for all numbers up to at least 10, e.g. 3 + 4, 8 ï 5 number pairs with totals to 20 all pairs of multiples of 10 with totals up to 100, e.g. 30 + 70, or 60 + ☐ = 100 what must be added to any two-digit number to make the next multiple of 10,	add or subtract a pair of single-digit numbers, including crossing 10, e.g. 5 + 8, 12 ï 7 add any single-digit number to or from a multiple of 10, e.g. 60 + 5 subtract any single-digit number from a multiple of 10, e.g. 80 ï 7 add or subtract a single-digit number to or from a two-digit number, including	I can add together 2 or more two-digit numbers 26 + 32=58 20 + 30=50 6 + 2= 8 May lead to 26 + 32=58 50 + 8=58 Subtract any two 2-digit numbers by using an empty number line either by counting on or back. 

	e.g. 52 + ☐ = 60 addition doubles for all numbers to 20, e.g. 17 + 17 and multiples of 10 to 50, e.g. 40 + 40	crossing the tens boundary, e.g. 23 + 5, 57 ï 3, then 28 + 5, 52 ï 7 add or subtract a multiple of 10 to or from any two-digit number, e.g. 27 + 60, 72 ï 50 add 9, 19, 29, é or 11, 21, 31, é add near doubles, e.g. 13 + 14, 39 + 40	
THREE	addition and subtraction facts for all numbers to 20, e.g. 9 + 8, 17 ï 9, drawing on knowledge of inverse operations sums and differences of multiples of 10, e.g. 50 + 80, 120 ï 90 pairs of two-digit numbers with a total of 100, e.g. 32 + 68, or 32 + ☐ = 100 addition doubles for multiples of 10 to 100, e.g. 90 + 90	add and subtract groups of small numbers, e.g. 5 ï 3 + 2 add or subtract a two-digit number to or from a multiple of 10, e.g. 50 + 38, 90 ï 27 add and subtract two-digit numbers e.g. 34 + 65, 68 ï 35 add near doubles, e.g. 18 + 16, 60 + 70	I can add together 2 or more three-digit numbers 261 + 324=585 200 + 300=500 60 + 20= 80 1 + 4= 5 May lead to: 261 + 324=585 500 +80 + 5 =585 May lead to: 324 +261 500 80 5 585 Subtract any two 2-digit numbers (by using an empty number line either by counting on or back) and subtract a 3-digit number from a multiple of 100.

			
FOUR	sums and differences of pairs of multiples of 10, 100 or 1000 addition doubles of numbers 1 to 100, e.g. 38 + 38, and the corresponding halves what must be added to any three-digit number to make the next multiple of 100, e.g. 521 + ☐ = 600 pairs of fractions that total	add or subtract any pair of two-digit numbers, including crossing the tens and 100 boundary, e.g. 47 + 58, 91 ï 35 add or subtract a near multiple of 10, e.g. 56 + 29, 86 ï 38 add near doubles of two-digit numbers, e.g. 38 + 37 add or subtract two-digit or three-digit multiples of 10, e.g. 120 ï 40, 140 + 150, 370 ï 180	I can add together three-digit numbers, including pounds and pence £2.61 + £3.24=£5.85 £2.00 + £3.00=£5 00 .60 + 20= .80 .01 + .04= .05 May lead to: £2.61 + £3.24=£5.85 £5.00 +.80 + .05 =£5.85 May lead to: £3.24 +£2.61 £5.00 .80 .05 £5.85 Subtract a 2-digit number from any 3-digit number, including sums with pounds and pence 
FIVE	sums and differences of decimals, e.g. 6.5 + 2.7, 7.8 ï 1.3 doubles and halves of decimals, e.g.	add or subtract a pair of two-digit numbers or three-digit multiples of 10, e.g. 38 + 86, 620 ï 380, 350+ 360	I can add together four-digit numbers and decimal numbers with the same number of decimal places 2614 + 3243=5857 2000 + 3000=5000 600 + 200= 800 10 + 40= 50 4 + 3= 7

	half of 5.6, double 3.4 what must be added to any four-digit number to make the next multiple of 1000, e.g. 4087 + ☐ = 5000 what must be added to a decimal with units and tenths to make the next whole number, e.g. 7.2 + ☐ = 8	add or subtract a near multiple of 10 or 100 to any two-digit or three-digit number, e.g. 235 + 198 find the difference between near multiples of 100, e.g. 607 ï 588, or of 1000, e.g. 6070 ï 4087 add or subtract any pairs of decimal fractions each with units and tenths, e.g. 5.7 + 2.5, 6.3 ï 4.8	May lead to: 2614 + 3243=5857 5000 +800 + 50 +7 =5857 May lead to: 3243 +2614 5000 800 50 7 5857 May lead to 3243 3247 +2614 +2614 1 5857 5861 Subtract a 3-digit number from a 3-digit number and subtract decimals. 
SIX	addition and subtraction facts for multiples of 10 to 1000 and decimal numbers with one decimal place, e.g. 650 + ☐ = 930, ☐ ï 1.4 = 2.5 what must be added to a decimal with units, tenths and hundredths to make the next whole number, e.g. 7.26	add or subtract pairs of decimals with units, tenths or hundredths, e.g. 0.7 + 3.38 find doubles of decimals each with units and tenths, e.g. 1.6 + 1.6 add near doubles of decimals, e.g. 2.5 + 2.6 add or subtract	I can efficiently add together whole numbers and decimal numbers that do not always have the same number of decimal places 3.16 + 2.4 =5.56 3.00 + 2.00 =5.00 0.10 + 0.40 =0.50 0.06 + 0.00 =0.06 May lead to: 3.16 + 2.4 5.00 0.50 0.06 5.56

		a decimal with units and tenths, that is nearly a whole number, e.g. 4.3 + 2.9, 6.5 ï 3.8	May lead to: $\begin{array}{r} 3.16 \\ +\ 2.4 \\ \hline 5.56 \\ \hline \end{array}$ Subtract a 3-digit number from a 4-digit number and decimal numbers that do not always have the same number of decimal places 

<u>Mental Addition and Subtraction General Strategy</u>

SUMMARY OF METHOD:
Hold the largest number in your head or the number that is harder to add or subtract. Partition the remaining number/s and add the largest part first, jotting down the result of each stage if necessary. At Level One and Level Two a number track or completed numberline may be necessary to support pupils as they continue to develop their understanding of the number system.

Year Group	Example Calculations	Possible Counting Strategy
ONE	4+5	Count on in ones from 5 (but child may choose to count on from 4)
	8-3	Count back in ones from 8
	10+7	Count on in ones from 10
	13+5	Count on in ones from 13
	17-3	Count back in ones from 17
	18-6	Count back in ones from 18 (a child may count back in twos)
TWO	23+5	Count on in ones from 23
	57-3	Count back in ones from 57
	60+5	Count on in ones from 60 (although a child may use place value)
	80-7	Count back in ones from 80 (a child may use their bonds to 10)
	27+60	Count on in 10s from 27 (a child would normally start with the largest number. Therefore develop understanding of why it is easier to count in 10s)
	72-50	Count back in 10s from 72.
THREE	50+38	Count on in tens and then ones from 50 (although it may be easier to count on from 38 this stage is where a child will learn to mentally partition a two digit number and make jottings if necessary)
	90-27	Count back in tens and then ones
	34+65	Count on in tens from 65 and then ones
	87-23	Count back in tens and then ones
	35+15	Count on in tens and then ones
FOUR	73-68	A child should learn to start to look at how close together two numbers are and where appropriate choose to count up from the smaller number in a subtraction.
	47+58	Count on 40 from 58 and then 7 in ones. A child may use their knowledge of compliments to see the sum as 47+53 (100) + 5
	124-47	Subtract 40 in tens and then count back in ones
	570+300	Count on in hundreds from 570
	960-500	Count back in hundreds from 960
FIVE	3.2+0.6	Count on in tenths (same range and strategy for subtraction)
SIX	1.7 + 0.55	Count on in tenths then hundreths (same range and strategy for subtraction)

Mental Addition and Subtraction Special Strategies

Re-Ordering

Sometimes a calculation can be more easily worked out by changing the order of the numbers. The way in which children rearrange numbers in a particular calculation will depend on which number facts they can recall or derive quickly.
It is important for children to know when numbers can be reordered:
e.g. 2 + 5 + 8 = 8 + 2 + 5 or 15 + 8 ï 5 = 15 ï 5 + 8 or 23 ï 9 ï 3 = 23 ï 3 ï 9
and when they canôt be reordered:
e.g. 8 ï 5 ! 5 ï 8
The strategy of changing the order of numbers applies mainly when the question is written down. It is more difficult to reorder numbers if the question is presented orally.

YEAR GROUP	Example Calculations	Possible Re-Ordering Strategy
ONE	2+7	7+2
	5+13	13+5
	10+2+10	10+10+2
TWO	5+34	34+5
	5+7+5	5+5+7
THREE	23+54	54+23
	12-7-2	12-2-7
	13+21+13	13+13+21 (when using double 13)
FOUR	6+13+4+3	6+4+13+3
	17+9-7	17-7+9
	28+75	75+28 (when seeing 28 as 25 and 3)
FIVE	12+17+8+3	12+8+17+3
	25+36+75	25+75+36
	58+47-38	58-38+47
	200+567	567+200
	1.7+2.8+0.3	1.7+0.3+2.8
SIX	3+8+7+6+2	3+7+8+2+6
	34+27+46	46+34+27
	180+650	650+180 (seeing 180 as 150 and 30)
	4.7+5.6-0.7	4.7-0.7+5.6

Compensating

This strategy is useful for adding and subtracting numbers that are close to a multiple of 10, such as numbers that end in 1 or 2, or 8 or 9. The number to be added or subtracted is rounded to a multiple of 10 plus or minus a small number. For example, adding 9 is carried out by adding 10, then subtracting 1; subtracting 18 is carried out by subtracting 20, then adding 2.

A similar strategy works for adding or subtracting decimals that are close to whole numbers. For example:

1.4 + 2.9 = 1.4 + 3 ï 0.1 or 2.45 ï 1.9 = 2.45 ï 2 + 0.1.

YEAR GROUP	Example Calculation	Possible Compensating strategies
TWO	34+9 34+19 34+29 etc	34+10-1 34+20-1 34+30-1 etc Or 33+10 33+20 33+30
	34+11 34+21 34+31	34+10+1 34+20+1 34+30+1
	70-9	70-10+1 Or 71-10
THREE	53+12	53+10+2
	53-12	53-10-2
	53+18	53+20-2 Or 51+20
	53-18	53-20+2 Or 55-20
FOUR	38+68	68+40-2 Or 70+36
	95-78	95-80+2 Or 97-80
FIVE	138+69	138+70-1 Or 137+70
	405-299	405-300+1 Or 406-300
SIX	2 and a 1/2 + 1 and 3/4	2 and a half 1/2+ 2 ï 1/4 or 2 and a 1/4+ 2
	5.7+3.9	5.7+4.0-0.1 Or 5.6+4
	6.8-4.9	6.8-5.0+0.1 Or 6.9 ï 5.0

Partitioning: Bridging through multiples of ten

An important aspect of having an appreciation of number is to know how close a number is to the next or the previous multiple of 10: to recognise, for example, that 47 is 3 away from 50, or that 47 is 7 away from 40.

In mental addition or subtraction, it is often useful to count on or back in two steps, bridging a multiple of 10. The empty number line, with multiples of 10 as 'landmarks', is helpful, since children can visualise jumping to them. For example, 6 + 7 is worked out in two jumps, first to 10, then to 13. The answer is the last point marked on the line, 13.

YEAR GROUP	Example Calculation	Possible Bridging strategies
TWO	5+8 or 12-7	5+5+3 or 12-2-5
	65+7 or 43-6	65+5+2 or 43-3-3
	24-19	19 → +1+4
THREE	49+32	49+1+31
	90-27	27 → +3+30
FOUR	57+34 0r 92-25	57+3+31 or 92-2-20-3
	84-35	35 → +5+40+4
FIVE	607-288	288 → +12+300+7
	6070-4987	4987 → +13+1000+70
SIX	1.4+1.7 or 5.6-3.7	1.7+0.3+1.1 or 5.6-0.6-3-0.1
	0.8+0.35	0.8+0.2+0.15
	8.3-2.8	2.8 → +0.2+5+0.3

Using Near Doubles

If children have instant recall of doubles, they can use this information when adding two numbers that are very close to each other. So, knowing that 6 + 6 = 12, they can be encouraged to use this to help them find 7 + 6, rather than use a counting on strategy or bridging through 10.

YEAR GROUP	Example Calculation	Possible Near Double strategies
ONE	6+7	Is double 6 add 1 Is double seven subtract 1
TWO	13+14	Is double 13 add 1 Is double 14 subtract 1
	39+40	Is double 40 subtract 1
THREE	18+16	Is double 18 subtract 2 Is double 16 add 2
	60+70	Is double 60 add 10 Is double 70 subtract 10
FOUR	76+75	Is double 75 add 1
FIVE	160+170	Is double 150 add 10 add 20 Ia double 160 add 10 Is double 170 subtract 10
SIX	2.5+2.6	Is double 2.5 add 0.1 Is double 2.6 subtract 0.1

Bridging through 60 to calculate time intervals

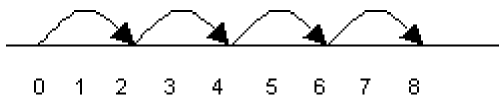
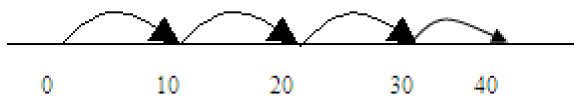
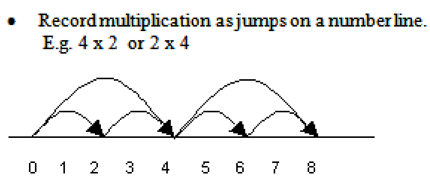
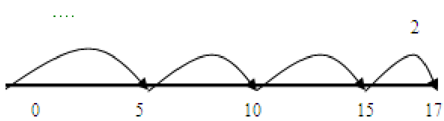
Time is a universal non-metric measure.

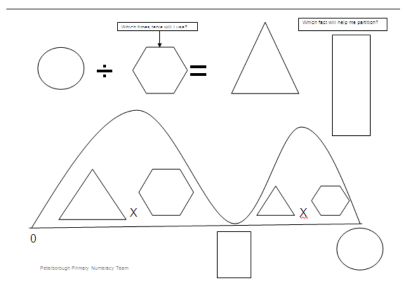
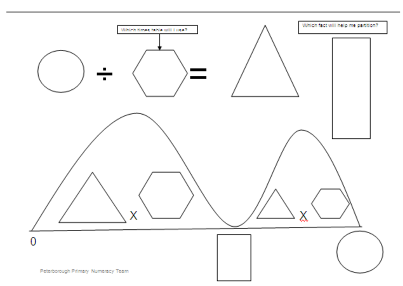
A digital clock displaying 9.59 will, in two minutes time, read 10.01 not 9.61. When children use minutes and hours to calculate time intervals, they have to bridge through 60.

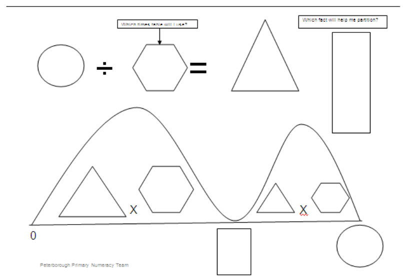
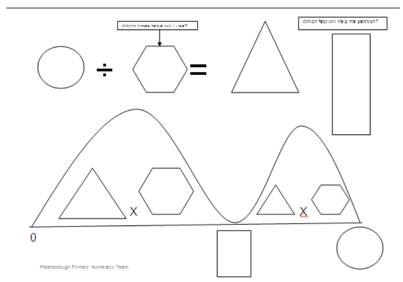
So to find the time 20 minutes after 8.50am, for example, children might say 8.50am plus 10 minutes takes us to 9.00am, then add another 10 minutes.

YEAR GROUP	Examples of Questions
THREE	It is 10:30am. How many minutes to 10:45 am?
	It is 3:45pm. How many minutes to 4:15pm?
FOUR	I get up 40 minutes after 6:30am. What time is that?
	What is the time 50 minutes before 1:10pm?
	It is 4:25pm. How many minutes to 5:05pm?
FIVE	What time will it be 26 minutes after 3:30am?
	What was the time 33 minutes before 2:15pm?
	It is 4:18pm. How many minutes to 5:00pm? 5:26pm?
SIX	It is 08:35. How many minutes is it to 09:15?
	It is 11:45. How many hours and minutes is it to 15:20?
	A train leaves London for Leeds at 22:33. The Journey takes 2 hours and 47 minutes. At what time does the train arrive?

Progression of Multiplication and Division

Year Group	Recall of Facts	Mental Calculations	Written Calculations
One	doubles of all numbers to 10, e.g. double 6 odd and even numbers to 20	Count on from and back to zero in ones, twos, fives and tens Recognise odd and even numbers to 20 Recall the doubles of all numbers to 10	Use a number track to jump in multiples of 2, 5 or 10.  Divide 1 and 2-digit numbers by 2 and 10 (without remainders).  
Two	doubles of all numbers to 20, e.g. double 13, and corresponding halves doubles of multiples of 10 to 50, e.g. double 40, and corresponding halves	Derive and recall doubles of all numbers to 20, and doubles of multiples of 10 to 50, and corresponding halves Derive and recall multiplication facts for the 2, 5 and 10 times-tables and corresponding division facts Recognise odd and even numbers to 100 Recognise multiples of 2, 5 and 10	Use an empty number line to multiply by 2, 5 or 10  Divide 2-digit numbers by 2, 5 and 10 (including with remainders). 

Three	multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables, and corresponding division facts doubles of multiples of 10 to 100, e.g. double 90, and corresponding halves	Derive and recall doubles of multiples of 10 to 100 and corresponding halves Derive and recall multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and corresponding division facts Recognise multiples of 2, 3, 4, 5, 6 and 10 up to the tenth multiple	Multiply a 2-digit number by 2, 5 or 10 using the grid method. (this may be extended to 3,4 and 6 as those facts are acquired) x | 30 | 2 5 | 150 | 10 =160 Divide a 2-digit number by 2, 3,4, 5, 6 or 10 (including with remainders) and round up or down depending on the context 
Four	multiplication facts to 10 × 10 and the corresponding division facts doubles of numbers 1 to 100, e.g. double 58, and corresponding halves doubles of multiples of 10 and 100 and corresponding halves fraction and decimal equivalents of one-half, quarters, tenths and hundredths, e.g. 310 is 0.3 and 3100 is 0.03 factor pairs for known multiplication	Identify doubles of two-digit numbers and corresponding halves Derive doubles of multiples of 10 and 100 and corresponding halves Derive and recall multiplication facts up to 10 × 10 and corresponding division facts Recognise multiples of 2, 3, 4, 5, 6, 7, 8, 9 and 10 up to the tenth multiple	Multiply a two-digit number by any single digit. x | 2 0 | 3 7 | 1 4 0 | 2 1 =161 Divide a 2-digit number by a single digit number (including with remainders).and round up or down depending on the context 

	facts		
Five	squares to 10 × 10 division facts corresponding to tables up to 10 × 10, and the related unit fractions, e.g. 7 × 9 = 63 so one-ninth of 63 is 7 and one-seventh of 63 is 9 percentage equivalents of one-half, one-quarter, three-quarters, tenths and hundredths factor pairs to 100	Recall squares of numbers to 10 × 10 Use multiplication facts to derive products of pairs of multiples of 10 and 100 and corresponding division facts	Multiply a three-digit number by a single digit and multiply 2 two-digit numbers. × 70 2 30 2100 60 = 2160 8 560 16 = 576 = 2736 Divide a 3-digit number by a single digit (including with remainders) & divide a 2-digit number by a single digit, expressing the quotient as a fraction. 
Six	squares to 12 × 12 squares of the corresponding multiples of 10 prime numbers less than 100 equivalent fractions, decimals and percentages for hundredths, e.g. 35% is equivalent to 0.35 or 35100	Recall squares of numbers to 12 × 12 and derive corresponding squares of multiples of 10 Use place value and multiplication facts to derive related multiplication and division facts involving decimals (e.g. 0.8 × 7, 4.8 ÷ 6) Identify factor pairs of two-digit numbers Identify prime numbers less than 100	Multiply a four-digit number by a single digit, a three-digit number by a two-digit number and multiply a decimal with one decimal place by a single digit. X 4000 300 40 6 8 32000 2400 320 48 = 34768 Divide a 3-digit number by a 2- digit number. 

Acquiring Multiplication Facts

The acquisition of multiplication facts is a key development in mathematical knowledge. Once pupils are able to recall the facts for the 2x, 5x and 10x tables there are only 21 facts left to acquire.

As this knowledge is of such high value, teachers should plan units of mathematics that are focussed on increasing the number of facts that pupils can recall. Using oral mental starters as the sole time to practice and acquire multiplication facts will often not be sufficient for pupils to make the progress required with the acquisition of these facts.

Although repeated addition is a useful to start to identify the pattern and to support the use of known facts to find unknown facts it will not, in of itself increase the number of facts that pupils can recall.

Facts should also be learnt as a complete set, so that from a fact family (three numbers) a child is able to make 4 sentences.
E.g. 3, 4 12
3 x 4 is 12
4 x 3 is 12
12 ÷ 3 is 4
12 ÷ 4 is 3

Counting sticks should be used to not only support repeated addition (1 times3 is 3, 2 times 3 is 6 etc), but to also practice the corresponding division facts (3 divided by 3 is 1, 6 divided by 3 is 2 etc).

Games such as tables tennis, ten pin bowling, 3 card snap etc, are an excellent way to acquire multiplication facts.

Medium term planning should then reflect opportunities for pupils to use the multiplication facts that they are currently acquiring. For example the pupil who is acquiring, (6,6,36), (6,7,42), (6,8,48), 6,9,54) should have a focus on finding 1/6s of quantities when working with fractions, when working with area the dimensions of a rectangle should be 6 on one side etc.
When pupils are asked to find unknown facts they should be aware that they do not need to start from 1x to get to the fact efficiently. For example, to find 6 x 7 I can start at 5 x 7 and then count on 7

(the multiarray ITP is useful for this). When a pupil is asked to find a multiplication fact, the modelled thought process should be:

1) Do I know this fact?
2) Is it helpful to flip the fact around?
3) Will I start to count from 2x, 5x, or 10x to get close?

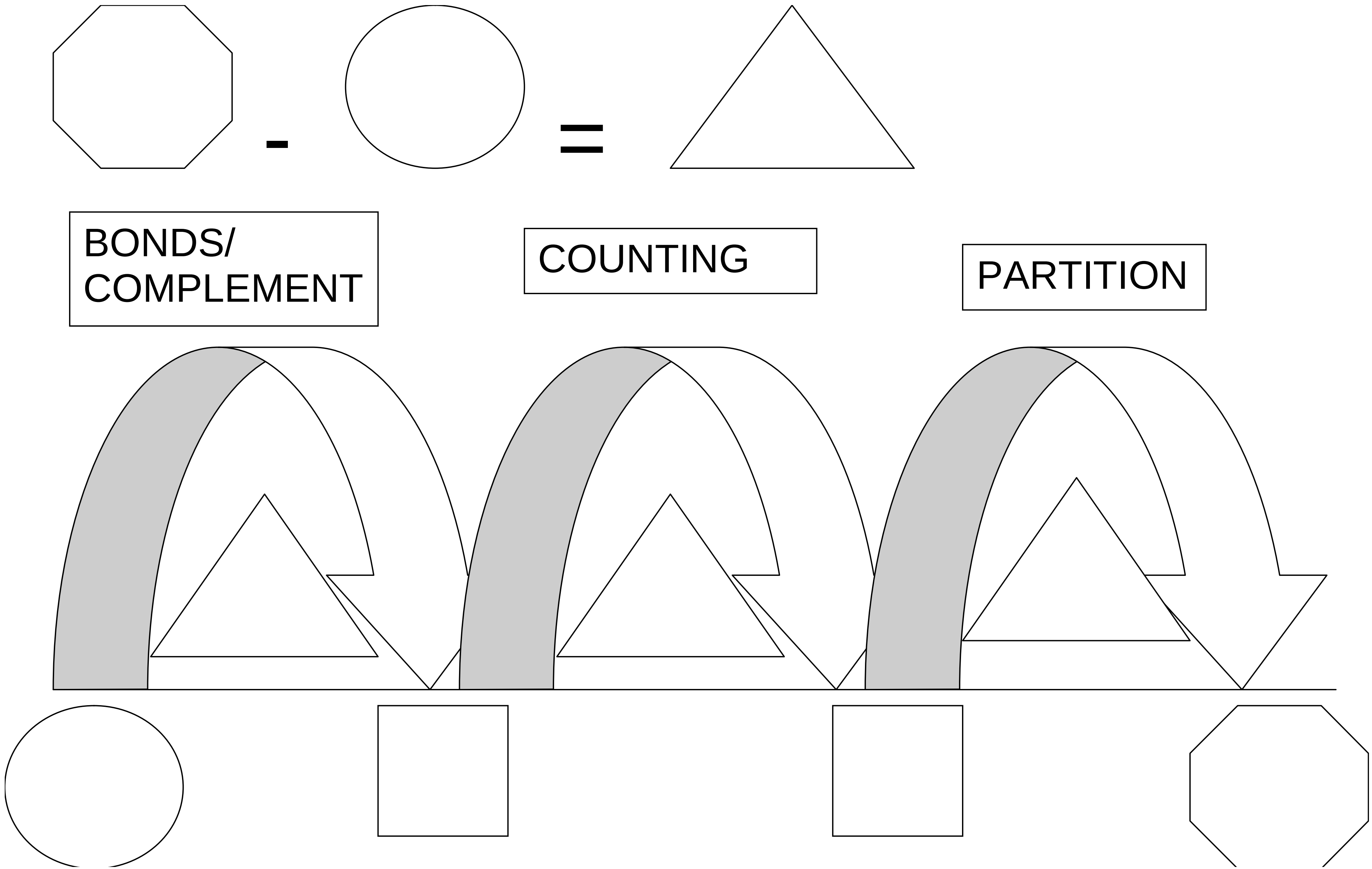
<u>21 facts to be acquired</u>

9 **3 x 3**	**12** **3 x 4**	**18** **3 x 6**
21 **3 x 7**	**24** **3 x 8**	**27** **3 x 9**
16 **4 x 4**	**24** **4 x 6**	**28** **4 x 7**
32 **4 x 8**	**36** **4 x 9**	**36** **6 x 6**
42 **6 x 7**	**48** **6 x 8**	**54** **6 x 9**
49 **7 x 7**	**56** **7 x 8**	**63** **7 x 9**
64 **8 x 8**	**72** **8 x 9**	**81** **9 x 9**

RECALL OF FACTS SUMMARY

Year Group	Addition And Subtraction	Multiplication and Division
1	number pairs with a total of 10, e.g. 3 + 7, or what to add to a single-digit number to make 10, e.g. 3 + ☐ = 10 addition facts for totals to at least 5, e.g. 2 + 3, 4 + 3 addition doubles for all numbers to at least 10, e.g. 8 + 8	doubles of all numbers to 10, e.g. double 6 odd and even numbers to 20
2	addition and subtraction facts for all numbers up to at least 10, e.g. 3 + 4, 8 ï 5 number pairs with totals to 20 all pairs of multiples of 10 with totals up to 100, e.g. 30 + 70, or 60 + ☐ = 100 what must be added to any two-digit number to make the next multiple of 10, e.g. 52 + ☐ = 60 addition doubles for all numbers to 20, e.g. 17 + 17 and multiples of 10 to 50, e.g. 40 + 40	doubles of all numbers to 20, e.g. double 13, and corresponding halves doubles of multiples of 10 to 50, e.g. double 40, and corresponding halves multiplication facts for the 2, 5 and 10 times-tables, and corresponding division facts odd and even numbers to 100
3	addition and subtraction facts for all numbers to 20, e.g. 9 + 8, 17 ï 9, drawing on knowledge of inverse operations sums and differences of multiples of 10, e.g. 50 + 80, 120 ï 90 pairs of two-digit numbers with a total of 100, e.g. 32 + 68, or 32 + ☐ = 100 addition doubles for multiples of 10 to 100, e.g. 90 + 90	multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables, and corresponding division facts doubles of multiples of 10 to 100, e.g. double 90, and corresponding halves

4	sums and differences of pairs of multiples of 10, 100 or 1000 addition doubles of numbers 1 to 100, e.g. 38 + 38, and the corresponding halves what must be added to any three-digit number to make the next multiple of 100, e.g. 521 + ☐ = 600 pairs of fractions that total	multiplication facts to 10 × 10 and the corresponding division facts doubles of numbers 1 to 100, e.g. double 58, and corresponding halves doubles of multiples of 10 and 100 and corresponding halves fraction and decimal equivalents of one-half, quarters, tenths and hundredths, e.g. $\frac{3}{10}$ is 0.3 and $\frac{3}{100}$ is 0.03 factor pairs for known multiplication facts
5	sums and differences of decimals, e.g. 6.5 + 2.7, 7.8 ï 1.3 doubles and halves of decimals, e.g. half of 5.6, double 3.4 what must be added to any four-digit number to make the next multiple of 1000, e.g. 4087 + ☐ = 5000 what must be added to a decimal with units and tenths to make the next whole number, e.g. 7.2 + ☐ = 8	squares to 10 × 10 division facts corresponding to tables up to 10 × 10, and the related unit fractions, e.g. 7 × 9 = 63 so one-ninth of 63 is 7 and one-seventh of 63 is 9 percentage equivalents of one-half, one-quarter, three-quarters, tenths and hundredths factor pairs to 100
6	addition and subtraction facts for multiples of 10 to 1000 and decimal numbers with one decimal place, e.g. 650 + ☐ = 930, ☐ ï 1.4 = 2.5 what must be added to a decimal with units, tenths and hundredths to make the next whole number, e.g. 7.26	squares to 12 × 12 squares of the corresponding multiples of 10 prime numbers less than 100 equivalent fractions, decimals and percentages for hundredths, e.g. 35% is equivalent to 0.35 or $\frac{35}{100}$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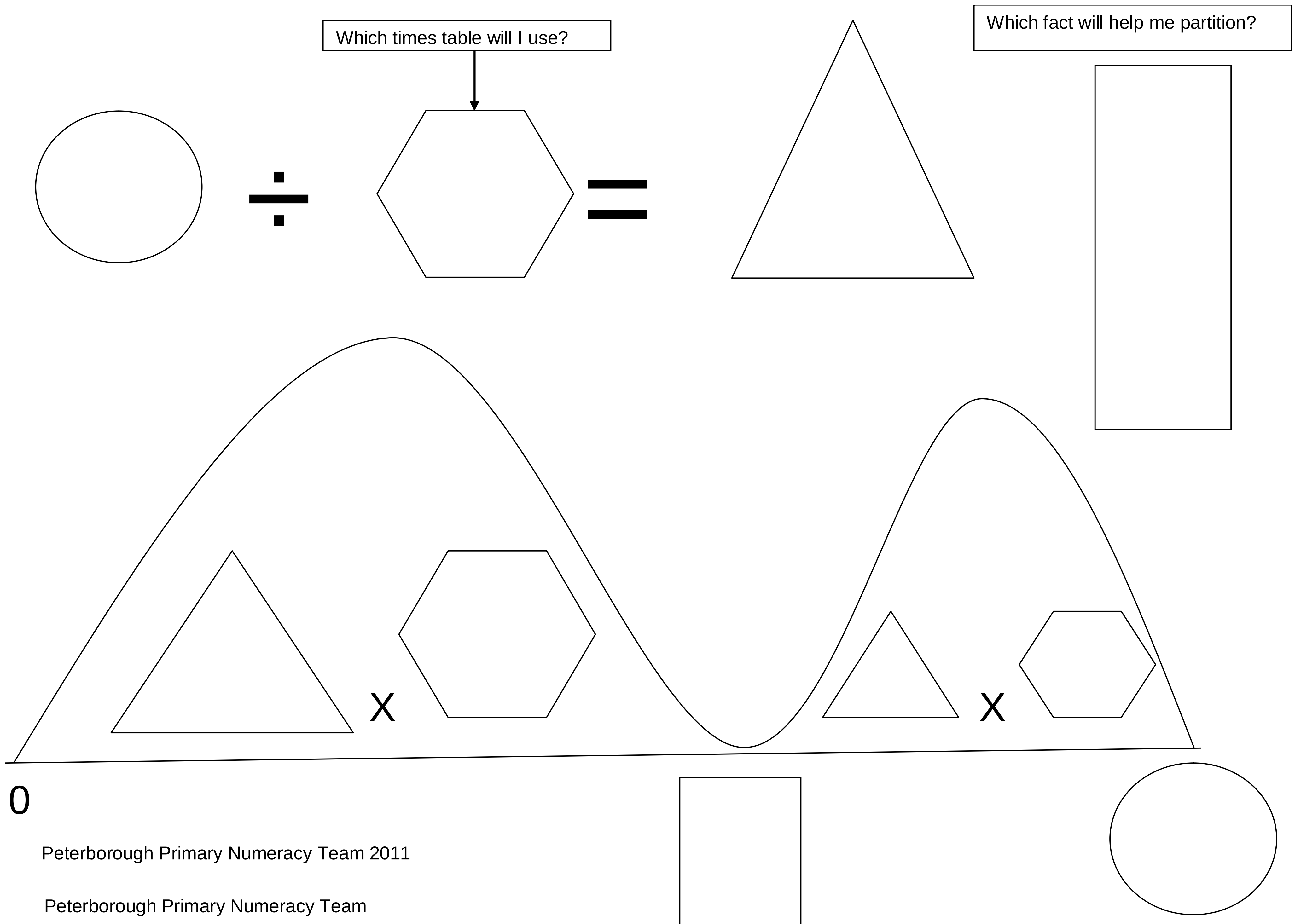
Which times table will I use?
Which fact will help me partition?
÷
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x
x
0