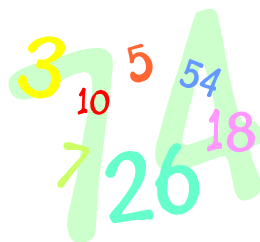**Christ Church, Church of England (VC) Primary School**

Aspire, celebrate and learn in an inclusive community

NATIONAL CURRICULUM 2014

A parent's guide to

Year 3

Maths

Objectives children need to achieve by the end of Year 3

Learning objectives	Success criteria
1.Y3 MATHS ADDITION SUBTRACTION Add and subtract numbers mentally, including three-digit number and ones.	*I can add and subtract numbers in my head, including questions such as 432 - 7.*
2.Y3 MATHS ADDITION SUBTRACTION Add and subtract numbers mentally, including three-digit number and tens.	*I can add and subtract numbers in my head, including questions such as 432 - 70.*
3.Y3 MATHS ADDITION SUBTRACTION Add and subtract numbers mentally, including three-digit number and hundreds.	*I can add and subtract numbers in my head, including questions such as 432 - 300.*
4.Y3 MATHS ADDITION SUBTRACTION Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	*I can use written methods to add or subtract two three-digit numbers.*
5.Y3 MATHS ADDITION SUBTRACTION Estimate the answer to a calculation and use inverse operations to check answers.	*I can estimate the answer to a question before I work it out and then use inverse operations to check the answer when I have finished.*
6.Y3 MATHS ADDITION SUBTRACTION Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	*I solve problems such as missing numbers (for example, 452 - ? = 122) using my knowledge of number facts and methods of addition and subtraction.*
7.Y3 MATHS FRACTIONS DECIMALS Count up and down in tenths.	*I can count up and down in tenths.*
8.Y3 MATHS FRACTIONS DECIMALS Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.	*I know that tenths can be found by dividing an object or shape into ten equal parts or by dividing numbers by 10.*
9.Y3 MATHS FRACTIONS DECIMALS Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.	*I can find a fraction (such as 2/5 or 3/4) of a set of objects.*
10.Y3 MATHS FRACTIONS DECIMALS Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.	*I know how to find fractions of a number or shape - such as 3/5 ,1/4 or 4/6.*
11.Y3 MATHS FRACTIONS DECIMALS Recognise and show, using diagrams, equivalent fractions with small denominators.	*I can show that some fractions have the same value - such as 1/2, 3/6 and 5/10 or 1/3 and 3/9.*
12.Y3 MATHS FRACTIONS DECIMALS Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7].	*I can add and subtract fractions with the same denominator [for example, 5/7 + 1/7 = 6/7].*
13.Y3 MATHS FRACTIONS DECIMALS Compare and order unit fractions, and fractions with the same denominators.	*I can compare and order unit fractions, and fractions with the same denominators.*
14.Y3 MATHS FRACTIONS DECIMALS Solve problems that involve my understanding of fractions.	*I solve problems that finding, ordering or comparing fractions.*
15.Y3 MATHS MEASUREMENT Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	*I can measure and compare in these units: lengths (m/cm/mm), weight (kg/g) and capacity (l/ml).*
16.Y3 MATHS MEASUREMENT Measure the perimeter of simple 2-D shapes.	*I can measure the perimeter od a 2-D shape such as a square or triangle.*
17.Y3 MATHS MEASUREMENT Add and subtract amounts of money to give change, using both £ and p	*I can work on money problems, adding and subtracting amounts of money and working out how much change is*

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in practical contexts.	left. I use both £ and p in my problems.
18.Y3 MATHS MEASUREMENT Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.	*I can tell and write the time from a clock with numbers or Roman numerals or using 12 and 24 hour clocks.*
19.Y3 MATHS MEASUREMENT Estimate and read time with increasing accuracy to the nearest minute.	*I can tell the time accurately to the nearest minute.*
20.Y3 MATHS MEASUREMENT Record and compare time in terms of seconds, minutes and hours.	*I can measure and record time passing in seconds, minutes and hours.*
21.Y3 MATHS MEASUREMENT Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.	*I know and use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight in my maths work.*
22.Y3 MATHS MEASUREMENT Know the number of seconds in a minute and the number of days in each month, year and leap year.	*I know the number of seconds in a minute and the number of days in each month, year and leap year.*
23.Y3 MATHS MEASUREMENT Compare durations of events [for example to calculate the time taken by particular events or tasks].	*I can calculate how long an event or task took to complete.*
24.Y3 MATHS MULTIPLICATION DIVISION Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	*I know my 3, 4 and 8 times tables.*
25.Y3 MATHS MULTIPLICATION DIVISION Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.	*I can answer multiplication and division questions such as 16 x 5 or 45 divided by 9.*
26.Y3 MATHS MULTIPLICATION DIVISION Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	*I can solve more complex problems and missing number questions involving multiplication and division.*
27.Y3 MATHS NUMBER PLACE VALUE Count from 0 in multiples of 4, 8, 50 and 100.	*I can count from 0 in steps of 4, 8, 50 and 100.*
28.Y3 MATHS NUMBER PLACE VALUE Find 10 or 100 more or less than a given number.	*I can find 10 or 100 more or less than a given number.*
29.Y3 MATHS NUMBER PLACE VALUE Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).	*I know what each digit means in Hundred Tens and Unit numbers such as 204.*
30.Y3 MATHS NUMBER PLACE VALUE Compare and order numbers up to 1000.	*I can compare and order numbers up to 1000.*
31.Y3 MATHS NUMBER PLACE VALUE Identify, represent and estimate numbers using different representations.	*I can identify and estimate numbers in different units such as length (mm and m) and weight (g and kg).*
32.Y3 MATHS NUMBER PLACE VALUE Read and write numbers up to 1000 in numerals and in words.	*I read and write numbers up to 1000 in numerals and in words.*
33.Y3 MATHS NUMBER PLACE VALUE Solve number problems and practical problems involving working with and estimating numbers up to 1000 in a variety of units.	*I can solve number problems, working with numbers up to 1000 and in different units of measurement.*
34.Y3 MATHS SHAPE Draw 2-D shapes and make 3-D shapes using modelling materials.	*I draw 2-D shapes and make 3-D shapes using modelling materials.*
35.Y3 MATHS SHAPE Recognise 3-D shapes in	*I recognise and can describe 3-D shapes even when*

different orientations and describe them.	*they have been turned about in different ways.*
36.Y3 MATHS SHAPE Recognise angles as a property of shape or a description of a turn.	*I know an angle is used to measure how far something turns. An angle is also the point in a 2-D shape.*
37.Y3 MATHS SHAPE Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn .	*I know what a right angles is and I know that two right angles make a half-turn, three make three quarters of a turn and four right angles make a complete turn.*
38.Y3 MATHS SHAPE Identify whether angles are greater than or less than a right angle.	*I can tell whether an angle is greater than or less than a right angle.*
39.Y3 MATHS SHAPE Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	*I know when a line is horizontal or vertical or when two lines are perpendicular or parallel.*
40.Y3 MATHS STATISTICS Interpret and present data using bar charts, pictograms and tables.	*I can answer questions about bar charts, pictograms and tables and make my own bar charts, pictograms and tables.*
41.Y3 MATHS STATISTICS Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	*I can answer maths problems such as 'How many more?' and 'How many fewer?' by finding the information in bar charts, pictograms and tables.*

Strategies my child will be learning throughout the year

Multiplication

We consolidated understanding of multiplication using repeated addition on a number line:

$3 \times 4 = 12$
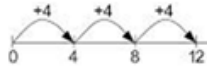
Next, we introduced the grid method starting with counters:

$24 \times 3 = 72$
This means, 24 three times =

We progressed to working with a grid alongside the counters:

x	20	4
3	60	12

$60 + 12 = 72$

Next, we worked with bigger numbers but stuck to 2-digit x 1-digit:

$43 \times 6 = 258$

x	40	3
6	240	18

$240 + 18 = 258$

Some children progressed to 3-digit x 1-digit:

$564 \times 3 = 1692$

x	500	60	4
3	1500	180	12

$1500 + 180 + 12 = 1692$

Note:
Times tables skills are fundamental to developing confidence with multiplication. Please keep practising over the summer.

Division

We consolidated understanding of division as grouping on a number line:

$15 \div 5 = 3$
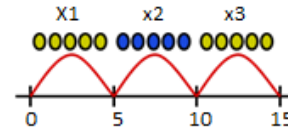
We progressed to division calculations of 2-digit by 1-digit numbers, using a number line:

$97 \div 6 = 16 \, r1$
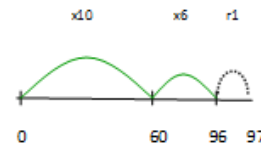
Most children progressed to short division (bus stop method) where appropriate:

progressing to

Answer: 14

Addition

We encouraged the children to partition in different ways when adding, to encourage dexterity:

$$35 + 47 = 82$$
$$40 + 30 = 70$$
$$7 + 5 = 12$$

$$70 + 12 = 82$$

We introduced the column method using place value columns and counters: 34 + 45 = 79

T	U
●●●	●●●●
●●●●	●●●●●
70	9

We introduced expanded column addition:
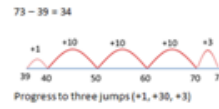67 + 32 = 99

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  T  U
  60 + 7
+ 30 + 2
  90 + 9
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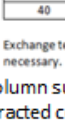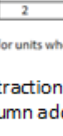We progressed with some children to contracted column addition:

64 + 88 = 152

```
   64
   88
  152
   1
```

Subtraction

We started with a blank number line, subtracting by counting on.

73 − 39 = 34

Progress to three jumps (+1, +30, +3)

We introduced the column method using place value columns and counters: 68- 26 = 42

T	U
40	2

Exchange tens for units where necessary.

We introduced expanded column subtraction and some children progressed to contracted column addition where no exchange is needed:
48 − 23 = 25

```
   40 + 8        48
 - 20 + 3      - 23
   20 + 5 = 25   25
```

Some children progressed to expanded then contracted column subtraction with exchange:

63 − 29 = 34

```
 50 60 + 13          5 1
  - 20 +  9          63
    30 +  4 = 34     29
                     34
```

Games help to support your child at home with maths

Number game 3

Use three dice.
If you have only one dice, roll it 3 times.

- Make three-digit numbers, e.g. if you roll 2, 4 and 6, you could make 246, 264, 426, 462, 624 and 642.
- Ask your child to round the three-digit number to the nearest multiple of 10. Check whether it is correct, e.g.
  - 76 to the nearest multiple of 10 is 80.
  - 134 to the nearest multiple of 10 is 130.
  - (A number ending in a **5** always **rounds up**.)
- Roll again. This time round three-digit numbers to the nearest 100.

Tables

Practise the 3x, 4x and 5x tables. Say them forwards and backwards.
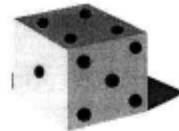Ask your child questions like:

What are five threes?	What is 15 divided by 5?
Seven times three?	How many threes in 21?

$$8 \times 3 = 24 \qquad 24 \div 3 = 8$$

Dicey tens

For this game you need a 1–100 square (a snakes and ladders board will do), 20 counters or coins, and a dice.

- Take turns.
- Choose a two-digit number on the board e.g. 24.
- Roll the dice. If you roll a 6, miss that turn.
- Multiply the dice number by 10, e.g. if you roll a 4, it becomes 40.
- Either add or subtract this number to or from your two-digit number on the board, e.g. 24 + 40 = 64.
- If you are right, put a coin on the answer.

The first to get 10 coins on the board wins.

Pairs to 100

This is a game for two players.

- Each draw 10 circles. Write a different two-digit number in each circle – but not a 'tens' number (10, 20, 30, 40...).
- In turn, choose one of the other player's numbers.
- The other player must then say what to add to that number to make 100, e.g. choose 64, add 36.
- If the other player is right, she crosses out the chosen number.
- The first to cross out 6 numbers wins.

Mugs

You need a 1 litre measuring jug and
a selection of different mugs, cups or beakers.

- Ask your child to fill a mug with water.
- Pour the water carefully into the jug.
- Read the measurement to the nearest 10 millilitres.
- Write the measurement on a piece of paper.
- Do this for each mug or cup.
- Now ask your child to write all the measurements in order.

Left overs

- Take turns to choose a two-digit number less than 50.
- Write it down. Now count up to it in fours. What number is left over?
- The number left is the number of points you score, e.g.

    Choose 27.
    Count: *4, 8, 12, 16, 20, 24.*
    3 left over to get to 27.
    So you score 3 points.

- The first person to get 12 or more points wins.

Now try the same game counting in threes, or in fives.
Can you spot which numbers will score you points?

4 8 12 16 20 24 28 32 36 40

Out and about
- Choose a three-digit car number, e.g. 569.
- Make a subtraction from this, e.g. 56 – 9.
- Work it out in your head. Say the answer.
- If you are right, score a point.

The first to get 10 points wins.

Secret sums
- Ask your child to say a number, e.g. 43.
- Secretly do something to it (e.g. add 30). Say the answer, e.g. 73.
- The child then says another number to you, e.g. 61.
- Do the same to that number and say the answer.
- The child has to guess what you are doing to the number each time!
- Then they can have a turn at secretly adding or subtracting something to each number that you say to them.

Fractions
Use 12 buttons, or paper clips or dried beans or...
- Ask your child to find **half** of the 12 things.
- Now find one **quarter** of the same group.
- Find one **third** of the whole group.

Repeat with other numbers.