



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 2 Maths**

**By the end of Year 2 children should be able to...**

<b>Learning objectives</b>	<b>Success criteria</b>
<b>1.</b> Y2 MATHS ADDITION SUBTRACTION Using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	I answer addition and subtraction maths problems using objects to help me work it out.
<b>2.</b> Y2 MATHS ADDITION SUBTRACTION Applying their increasing knowledge of mental and written methods.	I can solve addition and subtraction problems and work out how I answer it on paper or show you how I did it in my head by explaining step by step.
<b>3.</b> Y2 MATHS ADDITION SUBTRACTION Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.	I answer problems with addition and subtraction using my number facts to 20 and other number facts up to 100.
<b>4.</b> Y2 MATHS ADDITION SUBTRACTION Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones.	I can add and subtract numbers such as $34 - 8$ or $52 + 5$ using objects or pictures to help.
<b>5.</b> Y2 MATHS ADDITION SUBTRACTION Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and tens.	I add and subtract two-digit numbers using objects to help me.
<b>6.</b> Y2 MATHS ADDITION SUBTRACTION Add and subtract numbers using concrete objects, pictorial representations, and mentally, including two two-digit numbers.	I can add or subtract numbers such as $42 - 22$ or $56 + 29$ using objects or pictures to help me.
<b>7.</b> Y2 MATHS ADDITION SUBTRACTION Add and subtract numbers using concrete objects, pictorial representations, and mentally, including adding three one-digit numbers.	I can add or subtract three numbers such as $2 + 5 + 9$ .
<b>8.</b> Y2 MATHS ADDITION SUBTRACTION Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	I know that adding to numbers together can be done in any order but subtracting numbers can only be done in one order.
<b>9.</b> Y2 MATHS ADDITION SUBTRACTION Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	I can check my answers or solve missing number problems by doing an inverse check.
<b>10.</b> Y2 MATHS FRACTIONS DECIMALS Recognise, find, name and write fractions $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.	I can find $\frac{1}{3}$ or $\frac{1}{4}$ or $\frac{2}{4}$ or $\frac{3}{4}$ of a shape, length or set of objects.
<b>11.</b> Y2 MATHS FRACTIONS DECIMALS Write simple fractions for example, $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ .	I can write simple fractions sentences such as $\frac{1}{2}$ of $6 = 3$ and know that $\frac{2}{4}$ equals $\frac{1}{2}$ .

<p><b>12.</b> Y2 MATHS MEASUREMENT Choose and use appropriate standard units to estimate and measure length/ height in any direction (m/cm); mass (kg/g); temperature (<math>^{\circ}\text{C}</math>); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.</p>	<p>I can choose, use and measure the correct unit to measure length or height in any direction (m/cm); weight (kg/g); temperature (<math>^{\circ}\text{C}</math>); or capacity (litres/ml).</p>
<p><b>13.</b> Y2 MATHS MEASUREMENT Compare and order lengths, mass, volume/capacity and record the results using symbols for greater than, less than and =.</p>	<p>I can compare and order lengths, weight and capacity and then record the results using symbols for greater than, less than and equals.</p>
<p><b>14.</b> Y2 MATHS MEASUREMENT Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.</p>	<p>I know and use the symbols for pounds (£) and pence (p) and can add together different amounts of money, such as 253p and £2.</p>
<p><b>15.</b> Y2 MATHS MEASUREMENT Find different combinations of coins that equal the same amounts of money.</p>	<p>I can find different combinations of coins that equal the same amounts of money.</p>
<p><b>16.</b> Y2 MATHS MEASUREMENT Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p>	<p>I have solved money problems such as how much change do I get from 50p if I buy an apple for 35p?</p>
<p><b>17.</b> Y2 MATHS MEASUREMENT Compare and sequence intervals of time.</p>	<p>I can put the time of events in order.</p>
<p><b>18.</b> Y2 MATHS MEASUREMENT Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.</p>	<p>I can tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.</p>
<p><b>19.</b> Y2 MATHS MEASUREMENT Know the number of minutes in an hour and the number of hours in a day.</p>	<p>I know there are 60 minutes in an hour and 24 hours in a day.</p>
<p><b>20.</b> Y2 MATHS MULTIPLICATION DIVISION Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p>	<p>I know my 2 and 5 and 10 times tables by heart and can tell whether a number is odd or even.</p>
<p><b>21.</b> Y2 MATHS MULTIPLICATION DIVISION Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (=) signs.</p>	<p>I use multiplication (<math>\times</math>), division (<math>\div</math>) and equals (=) signs when writing out my times tables.</p>
<p><b>22.</b> Y2 MATHS MULTIPLICATION DIVISION Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p>	<p>I know that the multiplication of two numbers can be done in any order, but that the division of numbers can only be done in one order.</p>

<b>23.</b> Y2 MATHS MULTIPLICATION DIVISION Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	I can solve multiplication and division problems using times table facts and objects or pictures to help me.
<b>24.</b> Y2 MATHS NUMBER PLACE VALUE Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.	I can count forward and backward in steps of 2, 3, and 5 from 0, and make jumps in tens from any number.
<b>25.</b> Y2 MATHS NUMBER PLACE VALUE Recognise the place value of each digit in a two-digit number (tens, ones).	I know what each digit means in Tens and Unit numbers such as 24.
<b>26.</b> Y2 MATHS NUMBER PLACE VALUE Identify, represent and estimate numbers using different representations, including the number line.	I can find and show numbers on a number line.
<b>27.</b> Y2 MATHS NUMBER PLACE VALUE Compare and order numbers from 0 up to 100.	I can order numbers up to 100 and tell you which numbers are bigger or smaller.
<b>28.</b> Y2 MATHS NUMBER PLACE VALUE Use greater than, less than and = signs.	I use the greater than, less than and equals signs in maths and know what they mean.
<b>29.</b> Y2 MATHS NUMBER PLACE VALUE Read and write numbers to at least 100 in numerals and in words.	I can read and write numbers to 100 in digits and words.
<b>30.</b> Y2 MATHS NUMBER PLACE VALUE Use place value and number facts to solve problems.	I solve problems using number facts such as $18+2=20$ and what I know about the value of digits in a number.
<b>31.</b> Y2 MATHS POSITION Order and arrange combinations of mathematical objects in patterns and sequences.	I can order combinations of mathematical objects in patterns and sequences.
<b>32.</b> Y2 MATHS POSITION Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	I can describe my position, direction and movement, including describing turns as quarter, half and three-quarter turns in clockwise and anti-clockwise directions.
<b>33.</b> Y2 MATHS SHAPE Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	I can describe the properties of some 2-D shapes, including the number of sides they have and facts about their symmetry.
<b>34.</b> Y2 MATHS SHAPE Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	I can describe the properties of some 3-D shapes, including the number of edges, faces and vertices they have.
<b>35.</b> Y2 MATHS SHAPE Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid].	I can tell you which 2-D shapes appear as the faces on 3-D shapes, such as triangles on a pyramid.
<b>36.</b> Y2 MATHS SHAPE Compare and sort common 2-D and 3-D shapes and everyday objects.	I can compare 2-D and 3-D shapes with everyday objects around me.

<p><b>37.</b> <small>Y2 MATHS STATISTICS</small> Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.</p>	<p>I can read and construct picture graphs, tally charts and tables.</p>
<p><b>38.</b> <small>Y2 MATHS STATISTICS</small> Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p>	<p>I can sort objects into categories and tell you how many objects are in each category and show which category has the most.</p>
<p><b>39.</b> <small>Y2 MATHS STATISTICS</small> Ask and answer questions about totalling and comparing categorical data.</p>	<p>I work on sorting objects and can answer questions about the groups of objects I have sorted.</p>

**Strategies my child will be learning throughout the year**

### Multiplication

Along side practical work children will begin to record in the following ways

Repeated addition – number line  
 $3 \times 4 = 12$



Arrays with number sentence and symbols

$2 \times 4 = 8$  can be seen as two rows of four columns



or  $4 \times 2 = 8$

four rows of two columns



Children will also begin to learn their multiplication tables.

### Division

- Solve problems involving division using a range of practical equipment; arrays (practically only); grouping and sharing strategies; mental methods and division facts.

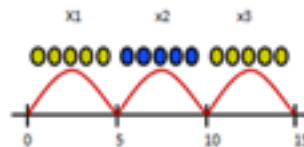
Drawing representations and grouping own pictorial representations

Four eggs fit in a box. How many boxes would you need to pack 20 eggs?



Grouping on a number line

$$15 \div 5 = 3$$



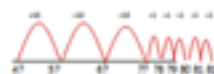
- Children will progress onto grouping using a number line.

### Addition

Blank number line (starting with the largest number) adding tens, then ones making individual jumps

Number line

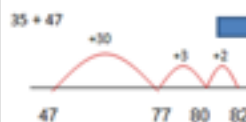
$$35 + 47$$



Children will begin by using a blank number line to add.

Blank number line (starting with the largest number) adding tens, then ones in efficient blocked jumps

Number line (efficient jumps)



Partition in different ways to encourage dexterity  
 e.g.  $25 + 14 =$   
 $20 + 10 = 30$   
 $5 + 4 = 9$   
 $30 + 9 = 39$

Moving onto using the number line but using larger jumps to be more efficient. Children will also be encouraged to partition numbers in different ways.

Practical introduction to column method using place value columns and straws, progressing to Dienes and counters

$$34 + 45 = 79$$

T	U
79	9

Children will then be practically introduced to column addition with the use of practical equipment.

## Subtraction

Children will consolidate work from year 1 and still use lots of practical equipment for calculating.

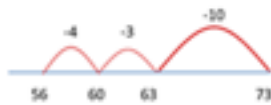
Draw symbols to represent objects



Children will start by counting back using a number line

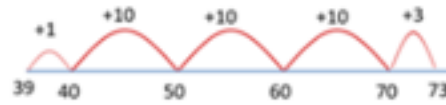
Blank number line – subtraction by counting back (where the difference between the numbers is relatively small)

$$73 - 17 = 56$$



Once they are confident with the concept of subtraction children will begin to use a blank number line - subtraction by counting on (where the difference between the numbers is bigger)

$$73 - 39 = 34$$



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

Some children will be introduced the column method using place value columns and counters:

$$66 - 26 = 40$$

T	U
60	6

Exchange tens for units where necessary.

## Games to play to support your child at home with maths

### Secret numbers

0123456789

- ◆ Write the numbers 0 to 20 on a sheet of paper.
- ◆ Ask your child secretly to choose a number on the paper. Then ask him / her some questions to find out what the secret number is, e.g.

Is it less than 10?

Is it between 10 and 20?

Does it have a 5 in it?

He / she may answer only yes or no.

- ◆ Once you have guessed the number, it is your turn to choose a number. Your child asks the questions.

For an easier game, use numbers up to 10. For a harder game, use only 5 questions, or use bigger numbers.

### Speedy pairs to 10

Make a set of 12 cards showing the numbers 0 to 10, but with two 5s. If you wish, you could use playing cards.

- ◆ Shuffle the cards and give them to your child.
- ◆ Time how long it takes to find all the pairs to 10.



Repeat later in the week. See if your child can beat his / her time.



## Board Games

Make a board like this.  
The numbers are arranged differently from usual, but the games will still work if you use a normal snakes and ladders board.

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

- ◆ Roll a dice twice. Add the two numbers.
- ◆ Move along that number of spaces. Before you move, you must work out what number you will land on.
- ◆ If you are wrong, you don't move!
- ◆ The first to the end of the board wins.

For a change, you could roll the dice and move backwards. Or you could roll the dice once, then move the number that goes with your dice number to make 10, e.g. throw a 3, move 7.

## Straight lines

Choose 4 toys and lay them on the table in order of length. Use a ruler to measure each toy to the nearest cm.

## Car number bingo

- ◆ Each person chooses a target number, e.g. 10. Think about which pairs of numbers add to make your target.
- ◆ You have to see a car that has two numbers that add up to your target number.

**K456 XWL**

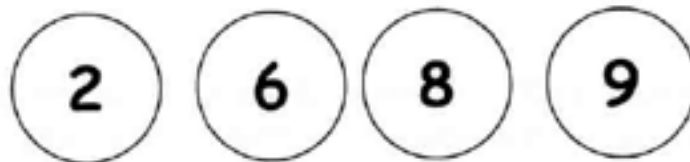
- ◆ Say:  $4 + 6 = 10$ , *bingo!*
- ◆ Change the target number each week.

You can extend this activity by looking for three numbers which add up to your target number.

## Adding circles

For this game, you need a dice and pencil and paper.

- ◆ Each of you should draw four circles on your piece of paper. Write a different number between 2 and 12 in each circle.



- ◆ Roll the dice twice. Add the two numbers.
- ◆ If the total is one of the numbers in your circles then you may cross it out.
- ◆ The first person to cross out all four circles wins.

### Guess my shape

- ◆ Think of a 2-D shape (triangle, circle, rectangle, square, pentagon or hexagon). Ask your child to ask questions to try and guess what it is.
- ◆ You can only answer *Yes* or *No*. For example, your child could ask: *Does it have 3 sides?* or: *Are its sides straight?*
- ◆ See if he can guess your shape using fewer than five questions.
- ◆ Now ask them to choose a shape so you can ask questions.

