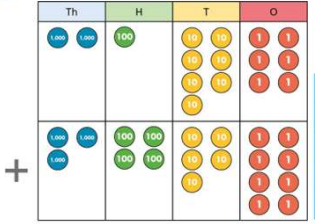
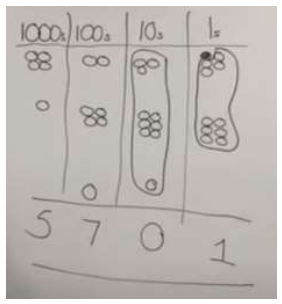
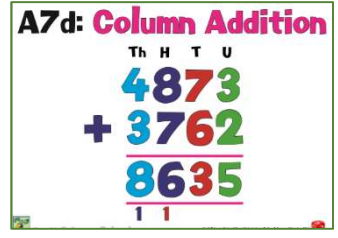
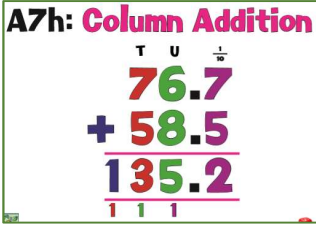


# Calculation Policy

## Year 4 Addition

|        | Mental Strategies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Concrete                                                                                                                                               | Pictorial                                                                                                          | Abstract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Vocabulary                                                                                                                                                                                                                                                  | Models, Images and resources                                                                                                                                                                                                                      |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year 4 | <p>Practise mental methods with increasingly large numbers to aid fluency<br/>Add numbers mentally, including:<br/>A 3-digit number and hundreds</p> <p><b>MA2a: Counting On</b><br/><i>Year 4</i><br/><b>Hundreds</b><br/><math>837 + 500 = 1337</math></p>  <p>A 4-digit number and thousands</p> <p><b>MA2b: Counting On</b><br/><i>Year 4</i><br/><b>Hundreds</b><br/><math>4837 + 3000 = 7837</math></p>  <p>Add any pair of two-digit numbers, including crossing the tens and 100 boundary, e.g. <math>47 + 58</math></p> <p>Add a near multiple of 10, e.g. <math>45 + 39</math></p> <p><b>MA5: Round &amp; Adjust</b><br/><math>45 + 39 = 84</math><br/><math>45 + 40 - 1</math><br/><math>85 - 1 = 84</math></p> | <p>Use of place value counters to add TH H T O and also money to</p>  | <p>Use of place value grid</p>  | <p>TH H T O + TH H T O</p> <p><b>A7d: Column Addition</b><br/><b>TH H T U</b><br/><math>4873 + 3762 = 8635</math></p>  <p>Decimals - same number of digits</p> <p><b>A7h: Column Addition</b><br/><b>T U 1/10</b><br/><math>76.7 + 58.5 = 135.2</math></p>  <p>Money up to 4 digits</p> <p><b>A7i: Column Addition</b><br/><b>With Money</b><br/><math>£38.25 + £27.46 = £65.71</math></p>  | <p>Add</p> <p>Sum</p> <p>More than</p> <p>Total</p> <p>Altogether</p> <p>Plus</p> <p>Partition into tens and ones</p> <p>Empty number line</p> <p>Count on</p> <p>Carry ten</p> <p>Carry 100</p> <p>Two digit three digit</p> <p>Crossing tens boundary</p> | <p>100 square</p> <p>Number lines</p> <p>Number tracks</p> <p>Bead strings ( for children )</p> <p>Bead bar</p> <p>Tens Frame</p> <p>Numicon</p> <p>Place Value Disks</p> <p>Cuisenaire</p> <p>Base hundreds tens and ones</p> <p>Arrow Cards</p> |

Add near doubles of two-digit numbers,  
e.g.  $38 + 37$

**MA4: Double & Adjust**  
Year 4

$$37 + 38 = 75$$

$$37 + 37 + 1$$

$$74 + 1 = 75$$

Understand addition as inverse of subtraction

Know the related vocabulary for addition

addend      sum

$$6 + 4 = 10$$

addend

|             |             |
|-------------|-------------|
| sum 10      |             |
| addend<br>4 | addend<br>6 |

addend  
plus  
addend  
is equal to the  
sum

$$22 + 78 = 100$$

Compact columnar addition

Add numbers with up to 4 digits using the efficient written column method. Practise with increasingly large numbers to aid fluency.

Estimate and use inverse operations to check answers

Solve addition two-step problems in contexts, deciding which operations and methods to use and why. Include problems involving decimals in money or measures eg.  $6.3\text{m} + 3.7\text{m} = 10\text{m}$

Where there are more than 2 addends in a column – add up the digits efficiently

$$416 + 223 + 184 = 823$$

$$15 + 57 + 27 = 99$$

$$172 + 234 + 54 = 460$$

Inverse  
addend

Useful IWB links for  
manipulatives

<https://www.coolmath4kids.com/manipulatives/base-ten-blocks>  
<https://mathsbot.com/manipulatives/placeValueCounters>  
<https://mathsbot.com/manipulatives/bar>  
<https://classroomsecrets.co.uk/free-year-1-part-whole-model-iwb-addition-and-subtraction-activity/>  
<https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Ten-Frame/>  
<http://www.ictgames.com/mobilePage/tenFrame/index.html>