



**William Hulme's Grammar School**

The best in everyone™

A member of United Learning Trust

# **Mental Calculation Policy**

## **September 2020-2021**

## MENTAL CALCULATION POLICY

Stage 1	Stage 2	Stage 3
<ul style="list-style-type: none"><li>➤ count on or back in ones;</li><li>➤ reorder numbers in a calculation;</li><li>➤ begin to bridge through 10, and later 20, when adding a single-digit number;</li><li>➤ use known number facts and place value to add or subtract pairs of single-digit numbers;</li><li>➤ add 9 to single-digit numbers by adding 10 then subtracting 1;</li><li>➤ identify near doubles, using doubles already known; use patterns of similar calculations.</li></ul>	<ul style="list-style-type: none"><li>➤ count on or back in tens or ones;</li><li>➤ find a small difference by counting up from the smaller to the larger number;</li><li>➤ reorder numbers in a calculation;</li><li>➤ add three small numbers by putting the largest number first and/or find a pair totalling 10;</li><li>➤ partition additions into tens and units then recombine;</li><li>➤ bridge through 10 or 20;</li><li>➤ use known number facts and place value to add or subtract pairs of numbers;</li><li>➤ partition into '5 and a bit' when adding 6, 7, 8 or 9, then recombine;</li><li>➤ add or subtract 9, 19, 11 or 21 by rounding and compensating;</li><li>➤ identify near doubles;</li><li>➤ use patterns of similar calculations;</li><li>➤ use the relationship between addition and subtraction;</li><li>➤ use knowledge of number facts and place value to multiply or divide by 2, 5 or 10;</li><li>➤ use doubles and halves and halving as the inverse of doubling.</li></ul>	<ul style="list-style-type: none"><li>➤ count on or back in tens or ones;</li><li>➤ find a small difference by counting up from the smaller to the larger number;</li><li>➤ reorder numbers in a calculation;</li><li>➤ add three or four small numbers by putting the largest number first and/or by finding pairs totalling 9, 10 or 11;</li><li>➤ partition into tens and units then recombine;</li><li>➤ bridge through a multiple of 10, then adjust;</li><li>➤ use knowledge of number facts and place value to add or subtract pairs of numbers;</li><li>➤ partition into '5 and a bit' when adding 6, 7, 8 or 9</li><li>➤ add or subtract mentally a 'near multiple of 10' to or from a two-digit number;</li><li>➤ identify near doubles;</li><li>➤ use patterns of similar calculations;</li><li>➤ say or write a subtraction statement corresponding to a given addition statement;</li><li>➤ to multiply a number by 10/100, shift its digits one/two places to the left;</li><li>➤ use knowledge of number facts and place value to multiply or divide by 2, 5, 10, 100;</li><li>➤ use doubling or halving;</li><li>➤ say or write a division statement corresponding to a given multiplication statement.</li></ul>

## MENTAL CALCULATION POLICY

Stage 4	Stage 5	Stage 6
<ul style="list-style-type: none"><li>➤ count on or back in repeated steps of 1, 10 and 100;</li><li>➤ count up through the next multiple of 10, 100 or 1000;</li><li>➤ reorder numbers in a calculation;</li><li>➤ add 3 or 4 small numbers, finding pairs totalling 10;</li><li>➤ add three two-digit multiples of 10;</li><li>➤ partition into tens and units, adding the tens first;</li><li>➤ bridge through 100;</li><li>➤ use knowledge of number facts and place value to add or subtract any pair of two-digit numbers;</li><li>➤ add or subtract 9, 19, 29, 11, 21 or 31 by rounding and compensating;</li><li>➤ add or subtract the nearest multiple of 10 then adjust;</li><li>➤ identify near doubles;</li><li>➤ continue to use the relationship between addition and subtraction;</li><li>➤ double any two-digit number by doubling tens first;</li><li>➤ use known number facts and place value to multiply or divide, including multiplying and dividing by 10 and then 100;</li><li>➤ partition to carry out multiplication;</li><li>➤ use doubling or halving;</li><li>➤ use closely related facts to carry out multiplication and division;</li><li>➤ use the relationship between multiplication and division.</li></ul>	<ul style="list-style-type: none"><li>➤ count up through the next multiple of 10, 100 or 1000;</li><li>➤ reorder numbers in a calculation;</li><li>➤ partition into hundreds, tens and units, adding the most significant digit first;</li><li>➤ use known number facts and place value to add or subtract pairs of three-digit multiples of 10 and two-digit numbers with one decimal place;</li><li>➤ add or subtract the nearest multiple of 10 or 100 then adjust;</li><li>➤ identify near doubles;</li><li>➤ add several numbers;</li><li>➤ develop further the relationship between addition and subtraction;</li><li>➤ use factors;</li><li>➤ partition to carry out multiplication;</li><li>➤ use doubling and halving;</li><li>➤ use closely related facts to carry out multiplication and division;</li><li>➤ use the relationship between multiplication and division;</li><li>➤ use knowledge of number facts and place value to multiply or divide.</li></ul>	<ul style="list-style-type: none"><li>➤ consolidate all strategies from previous years;</li><li>➤ use knowledge of number facts and place value to add or subtract pairs of three-digit multiples of 10 and two-digit numbers with one decimal place;</li><li>➤ add or subtract the nearest multiple of 10, 100 or 1000, then adjust;</li><li>➤ continue to use the relationship between addition and subtraction;</li><li>➤ use factors;</li><li>➤ partition to carry out multiplication;</li><li>➤ use doubling and halving;</li><li>➤ use closely related facts to carry out multiplication and division;</li><li>➤ use the relationship between multiplication and division;</li><li>➤ use knowledge of number facts and place value to multiply or divide</li></ul>