



# CASTLETOWN PRIMARY SCHOOL



## Numeracy – Year 2

Children will work towards achieving the following learning outcomes.

NUMBER: NUMBER & PLACE VALUE			
Counting	Comparing Numbers	Reading	Understanding Place Value
1. Count in steps of 2 from 0 forward (KPI)	9. Compare and order numbers from 0 up to 100 (KPI)	12. Read numbers to at least 100 in numerals.	16. Recognise the place value of each digit a two-digit number.
2. Count in steps of 2 backward (KPI)	10. Use <, > and = signs (KPI)	13. Read numbers to at least 100 in words.	
3. Count in steps of 5 from 0 forward (KPI)]			
4. Count in steps of 5 backward (KPI)			
5. Count in steps of 10 from any number forward (KPI)			
6. Count in steps of tens from any number backwards (KPI)	<b>Identifying, representing &amp; estimating</b>	<b>Writing</b>	<b>Problem Solving</b>
7. Count in steps of 3 from 0 forward (KPI)	11. Identify and represent numbers using different representations.	14. Write numbers to at least 100 in numerals.	17. Use place value and number facts to solve problems involving Y2 number criteria.
8. Count in steps of 3 backwards (KPI)		15. Write numbers to at least 100 in words.	

NUMBER: ADDITION & SUBTRACTION			
Number Bonds & Rapid Recall Skills	Mental calculation	Inverse operations, estimating & checking answers	Problem Solving
1. Recall and use addition and subtraction facts to 20 fluently. (KPI) 2. Derive and use related facts up to 100 (KPI) 3. Derive and recall all pairs of multiples of 10 with totals up to 100, 4. Derive and recall what must be added to any two-digit number to make the next multiple of 10. 5. Derive and recall addition doubles for all numbers to 20. 6. Derive and recall addition doubles for multiples of 10 to 100.	7. Add numbers ( a two digit number and ones – crossing boundaries) 8. Add number (a two digit number and tens) 9. Add numbers (two two-digit numbers, without crossing boundaries) 10. Add numbers (two two-digit number – crossing boundaries) 11. Add numbers (adding three one digit numbers – crossing boundaries. 12. Subtract numbers (a two digit number and ones - crossing boundaries). 13. Subtract numbers (a two-digit number and Tens) 14. Subtract numbers (two two-digit numbers, without crossing boundaries. 15. Subtract numbers (two two-digit numbers – crossing boundaries). 16. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. 17. Add near doubles.	18. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	20. Solve problems with addition and subtraction (KPI)  21. Solve simple addition and subtraction problems in a practical context of money.
		<b>Written calculation</b>	
		19. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	

NUMBER: MULTIPLICATION & DIVISION		NUMBER: FRACTIONS	
Multiplication & Division Facts	Written Calculation	Counting in Fractional Steps	Equivalence
1. Recall and use multiplication and division facts for the 2 multiplication tables (KPI). 2. Recall and use multiplication and division facts for the 5 multiplication tables (KPI). 3. Recall and use multiplication and division facts for 10 multiplication tables (KPI) 4. Recognise odd and even numbers.	12. Calculate mathematical statements for multiplication and division within the multiplication tables. 13. Write mathematical statements using the multiplication (x), division and equals (=) signs link to multiplication and division facts.	1. Count in fractions up to 10, starting from any number. 2. Use the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line.	7. Write simple fractions.  8. Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ .
Rapid recall and mental calculation	Problem Solving	Recognising Fractions	
5. Show that multiplication of two numbers can be done in any order (commutative) and division of one numbers by another cannot. 6. Derive and recall doubles of all numbers to 20 and corresponding halves. 7. Derive and recall doubles of all multiples of 10 to 100 and corresponding halves. 8. Double any multiple of 5 to 50. 9. Halve any multiple of 10 up to 100. 10. Find halve of even numbers to 40. 11. Derive and recall odd and even numbers to 100.	14. Solve problems involving multiplication and division (KPI)	3. Recognise, find, name and write fractions $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ , $\frac{3}{4}$ of a length (KPI) 4. Recognise, find, name and write fractions $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ , $\frac{3}{4}$ of a shape (KPI). 5. Recognise, find, name and write fractions $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ , $\frac{3}{4}$ of a set of objects (KPI). 6. Recognise, find, name and write fractions $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ , $\frac{3}{4}$ of a quantity (KPI)	

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<b>MEASUREMENT</b>			
<b>Comparing &amp; Estimating</b>	<b>Measuring &amp; Calculating</b>	<b>Telling the Time</b>	<b>Converting</b>
1. Compare and order <b>lengths</b> and record the results using >, < and = 2. Compare and order <b>mass</b> and record the results using >, < and = 3. Compare and order <b>volume/capacity</b> and record the results using >, < and =. 4. Compare and sequence intervals of time.	5. Choose and use appropriate standard units to estimate and measure length / height in any direction (m/cm) to the nearest appropriate unit, using rulers. 6. Choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit, using scales. 7. Choose and use appropriate standard units to estimate and measure temperature to the nearest appropriate unit, using thermometers. 8. Choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit, using measuring vessels. 9. Recognise and use symbols for pounds (£) and pence (p). 10. Combine amounts to make a particular value. 11. Find different combinations of coins that equal the same amounts of money.	12. Tell the time to quarter past / to the hour. 13. Tell the time to five minutes. 14. Write the time quarter past / to the hour and draw the hands on a clock face to show these times. 15. Write the time to five minutes and draw the hands on a clock face to show these times. 16. Know the number of minutes in an hour, know the number of hours in a day.	17. Know the number of minutes in an hour. 18. Know the number of hours in a day.

<b>GEOMETRY: PROPERTIES OF SHAPE</b>	<b>GEOMETRY: POSITION &amp; DIRECTION</b>	<b>STATISTICS</b>
<b>Identifying their shapes and properties.</b>	<b>Position, direction and movement</b>	<b>Interpreting, constructing &amp; representing data.</b>
1. Identify and describe the properties of 2D shapes. 2. Identify and describe the properties of 3D shapes. 3. Identify 2D shapes on the surface of 3D shapes.	1. Use mathematical vocabulary to describe position, direction and movement (movement in a straight line, distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns clockwise and anti-clockwise).	1. Interpret simple pictograms. 2. Interpret tally charts. 3. Interpret block diagrams. 4. Interpret simple tables. 5. Construct simple pictograms 6. Construct tally charts 7. Construct block diagrams. 8. Construct simple tables 9. Ask and answer simple questions by counting the number of objects in each category 10. Sorting the categories by quantity 11. Ask and answer questions about totalling and comparing categorical data.
<b>Comparing and classifying</b>		
4. Compare and sort common 2D shapes and everyday objects. 5. Compare and sort common 3D shapes and everyday objects.		

trial and improvement		working systematically	pattern spotting	visualising	working backwards	conjecturing	generalising and proving	reasoning: step 1: describing, step 2: explaining, step 3: convincing, step 4: justifying step 5: proving
Stage	Year Group	Problem Solving			Communicating			Reasoning
Stage 2	Y1 into Y2	<ul style="list-style-type: none"> <li>• <b>find a starting point to break into a problem identifying key facts/relevant information</b> <ul style="list-style-type: none"> <li>- use mathematical content from previous year groups &amp; their own year group to solve problems &amp; investigate</li> </ul> </li> <li>• <b>move between different representations of a problem</b> <ul style="list-style-type: none"> <li>- e.g. verbal description, concrete and visual equipment, pictorial representation etc.</li> </ul> </li> <li>• <b>with support work systematically</b> <ul style="list-style-type: none"> <li>- adopt a model suggested by others (peer or adult)</li> <li>- make connections &amp; apply knowledge to similar problems</li> <li>- spot patterns</li> <li>- use mathematical content from previous year groups and their own year group to solve problems and investigate</li> </ul> </li> <li>• <b>find most possibilities that match the context</b></li> <li>• <b>predict what comes next in a simple number, shape or spatial pattern or sequence</b></li> </ul>			<ul style="list-style-type: none"> <li>• <b>with support begin to represent concrete/practical work using pictorial representations and symbols (abstract)</b> <ul style="list-style-type: none"> <li>- use pictures, diagrams and symbols to communicate their thinking, or demonstrate a solution or process</li> <li>- begin to appreciate the need to record and develop their own methods of recording</li> <li>- recording models some form of order</li> </ul> </li> <li>• <b>with support discuss and explain work using mathematical language (REASONING STEP 1 &amp; STEP 2)</b> <ul style="list-style-type: none"> <li>- describe and explain the strategies and methods they use in their work</li> </ul> </li> <li>• <b>listen to others' explanations, try to make sense of them and compare and evaluate</b></li> <li>• <b>with support check work</b> <ul style="list-style-type: none"> <li>- checking for repeats and missing answers</li> </ul> </li> </ul>			<ul style="list-style-type: none"> <li>• <b>with support explain why an answer is correct (REASONING STEP 2)</b> <ul style="list-style-type: none"> <li>- test a statement</li> </ul> </li> <li>• <b>give reasons for their opinions of what comes next in a simple sequence</b></li> </ul>