

## NRICH problems ([nrich.maths.org](http://nrich.maths.org)) linked to the Curriculum for Wales Mathematics PoS for Year 6

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Key:		Normal text: LNF Statement	Area of Learning Skill ❖	Extended skills ▲		
Strand / PoS Element	PoS Objective	NRICH Resources	PoS Objective	NRICH Resources	PoS Objective	NRICH Resources
<b>Using Number Skills</b> Use number facts and relationships	Read and write numbers to 1 million and numbers to 3 decimal places		Use mental strategies to recall multiplication tables up to 10 x 10 and use to solve division problems.		Multiply numbers and decimals by a multiple of 10, e.g. 15 x 30, 1.4cm x 20.	<a href="#">Route Product</a> P ** <a href="#">Forgot the Numbers</a> P ** <a href="#">Jumping</a> P *
<b>Using Number Skills</b> Use number facts and relationships	<b>Identify multiples of numbers up to 10; use the term multiple and factor.</b> ❖  <b>Identify prime numbers.</b> ❖ <b>Know prime numbers below 20.</b> ❖	<a href="#">Shape Times Shape</a> P * <a href="#">Times Tables Shifts</a> P *  <a href="#">Factors and Multiples Game</a> G *	Identify common multiples of 2 numbers. ❖	<a href="#">Mystery Matrix</a> P ** <a href="#">Flashing Lights</a> P * <a href="#">The Moons of Yuvv</a> P *	Identify common factors of 2 numbers. ❖	<a href="#">Factor Lines</a> P ** <a href="#">Factor-multiple Chains</a> P ** <a href="#">Round and Round the Circle</a> I ** <a href="#">Counting Cogs</a> P **
<b>Using Number Skills</b> Fractions, decimals, percentages and ratio	Use understanding of simple fraction, decimal and percentage equivalences, e.g. find 25% of 60cm and know that this is equivalent to $\frac{1}{4}$ of 60cm.		Calculate percentage quantities based on 10%, e.g. 20%, 5%, 15%.	<a href="#">Would you Rather</a> P *	Use simple ratio and proportion.	<a href="#">Rod Ratios</a> P *** <a href="#">Ratio Pairs 2</a> G *
<b>Using Number Skills</b> Fractions, decimals, percentages and ratio	<b>Use ratio to express 2 or more quantities in words.</b> ❖	<a href="#">Pumpkin Pie Problem</a> P ** <a href="#">Orange Drink</a> P **	State the proportion of a whole that each share represents e.g. recognise that in a ratio of 1:3, 1 part represents $\frac{1}{4}$ of the total. ❖	<a href="#">Andy's Marbles</a> P ** <a href="#">Orange Drink</a> P **	Find equivalent fractions and use these to add and subtract fractions. ❖ Simplify fractions. ❖	<a href="#">Fractional Wall</a> P *



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<b>Using Number Skills</b> Calculate using mental and written methods	Add and subtract numbers using whole numbers and decimals		Multiply 2- and 3-digit numbers by a 2-digit number.	<a href="#">Dicey Operations (Game 4) G *</a>	Divide 3-digit numbers by a 2-digit number	<a href="#">Dicey Operations (Game 6) G *</a>
<b>Using Number Skills</b> Calculate using mental and written methods	<b>Add or subtract across 0 using a number line</b> e.g. $-3+5$ , $4-6$ . ❖	<a href="#">First Connect Three G **</a>				
<b>Using Number Skills</b> Estimate and check	Check answers using inverse operations		Estimate by rounding to the nearest 10, 100 or 1000 or whole number.	<a href="#">Round the Four Dice I *</a>  <a href="#">Reasoned Rounding G *</a>		
<b>Using Number Skills</b> Manage money	Use the terms profit and loss in buying and selling activities and make calculations for this.		Understand the advantages and disadvantages of using bank accounts.		Make comparisons between prices and understand which is best value for money.	

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<i>Using Measuring Skills</i> Length, weight/mass, capacity	Read and interpret scales or divisions on a range of measuring instruments.	<a href="#">Oh Harry!</a> P **	Make estimates of length based on knowledge of the size of real life objects recognising the appropriateness of units in different contexts. ❖	<a href="#">Little Man</a> P **	Make estimates of weight /mass based on knowledge of the size of real life objects recognising the appropriateness of units in different contexts. ❖	
<i>Using Measuring Skills</i> Length, weight/mass, capacity	Make estimates of capacity based on knowledge of the size of real life objects recognising the appropriateness of units in different contexts. ❖	<a href="#">Little Man</a> P **	Record measurements in different ways, e.g. $1.3\text{kg} = 1\text{kg } 300\text{g}$		Use the language of imperial units in daily use, e.g. <i>miles, pints</i>	<a href="#">Distance Match</a> P *
<i>Using Measuring Skills</i> Time	Use and interpret timetables and schedules to plan events and activities and make calculations as part of the planning process.		Estimate how long a journey takes.		Time events in minutes and seconds to the nearest tenth of a second.	<a href="#">Olympic Starters</a> I *

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<b>Using Measuring Skills</b> Time	<b>Convert between standard units of time.</b> ✧		<b>Estimate the length of time everyday activities take to complete, with increasing accuracy.</b> ✧			
<b>Using Measuring Skills</b> Temperature Area and volume, Angle and position	Measure and record temperatures involving positive and negative readings.		Calculate temperature differences, including those involving temperature rise and fall across 0°C		Calculate the area of squares and rectangles	<a href="#">Dicey Perimeter</a> , <a href="#">Dicey Area</a> G *
<b>Using Measuring Skills</b> Area and volume, Angle and position	<b>Recognise reflex angles.</b> ✧ <b>Draw accurately and measure acute and obtuse angles in multiples of 5 degrees.</b> ✧		<b>Calculate a missing angle within a right angle, on a straight line or a round point.</b> ✧	<a href="#">Round a Hexagon</a> P *	Use grid references to specify location.	<a href="#">Cops and Robbers</a> G * <a href="#">Eight Hidden Squares</a> P ** <a href="#">Coordinate Tan</a> I ** <a href="#">Ten Hidden Squares</a> P ***
<b>Using Geometry Skills</b> Shape Construction	<b>Recognise tetrahedra and square based pyramids.</b> ✧	<a href="#">Tetrahedron Faces</a> P ***	Recognise and sketch different types of quadrilaterals. ✧	<a href="#">Quadrilaterals</a> P *** <a href="#">Quadrilaterals Game</a> G *	Explore the tessellation of different shapes. ✧	<a href="#">Tessellation Interactivity</a> I *
<b>Using Geometry Skills</b> Shape Construction	<b>Identify a net of a cube.</b> ✧		<b>Draw cubes and cuboids on isometric paper.</b> ✧	<a href="#">Making Cuboids</a> P ** <a href="#">The Third Dimension</a> P ***	Draw nets of cubes on square paper. ✧	<a href="#">A Puzzling Cube</a> P *

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<p><i>Using Geometry Skills</i></p> <p>Movement</p>	Find all the lines of symmetry for a given shape. ❖	<a href="#">Stringy Quads</a> P ** <a href="#">Symmetry Challenge</a> I ***	Identify rotational symmetry of shapes. ❖	<a href="#">Attractive Rotations</a> P *	Identify symmetrical properties of regular polygons. ❖	
<p><i>Using Algebra Skills</i></p> <p>Expressions and formulae</p>	Explore general statements through practical activities e.g. that $a+a+a = 3a$ , $3xa=3a$ and $a+a+a+b+b=3a+2b$ . ❖		Simplify expressions involving the addition of 1 variable e.g. $5t+3t= 8t$ . ❖			
<p><i>Using Algebra Skills</i></p> <p>Functions and graphs</p>	Express output generated from 1 step function machines using algebra. ❖	<a href="#">Become Maths Detectives</a> I *	Identify the co-ordinates of a missing point from a regular shape. ❖		Refer to the x axis and y axis. ❖	
Equations and inequalities	Construct and solve 1 step equations with whole number solutions. ❖		List numbers between 2 points using the terminology “less than or equal to” and “greater than or equal to”. ❖			
<p><i>Using Data Skills</i></p> <p>Collect and record data Present and analyse data Interpret results</p>	<p>Represent data using: lists, tally charts, tables, diagrams and frequency tables.</p> <p>Represent data using: bar charts, grouped data charts, line graphs and conversion graphs.</p>	<a href="#">The Car That Passes</a> I * <a href="#">It's a Tie</a> I **	Extract and interpret information from an increasing range of diagrams, timetables and graphs (including pie charts).		Use mean, median, mode and range to describe a data set	<a href="#">Match the Matches</a> P ** <a href="#">Birdwatch</a> I *



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<i>Using Data Skills</i> Probability	Use numbers to describe the likelihood of an event e.g. a 1 in 6 chance. ✧	<a href="#">Winning the Lottery</a> P **	Recognise that some events are equally likely. ✧		Identify the outcome of simple events e.g. flipping a coin / rolling a dice. ✧	<a href="#">Odds or Sixes?</a> P * <a href="#">Tricky Track</a> G * <a href="#">Same or Different?</a> P **