NRICH (http://nrich.maths.org) Problems Linked to the Curriculum for Excellence First and Second Levels Experiences and Outcomes

Number, Money and Measure	First level	Second level
Estimation and Rounding	I can share ideas with others to develop ways of estimating the answer to a calculation or problem, work out the actual answer, then check my solution by comparing it with the estimate. MNU 1-01A Four Go	I can use my knowledge of rounding to routinely estimate the answer to a problem, then after calculating, decide if my answer is reasonable, sharing my solution with others. MNU 2-01A Back to School
Number Processes	I have investigated how whole numbers are constructed, can understand the importance of zero within the system and use my knowledge to explain the link between a digit, its place and its value. MNU 1-02A 6 Beads	I have extended the range of whole numbers I can work with and having explored how decimal fractions are constructed, can explain the link between a digit, its place and its value. MNU 2-02A One Million to Seven
Addition, Subtraction, Multiplication and Division	I can use addition, subtraction, multiplication and division when solving problems, making best use of the mental strategies and written skills I have developed. MNU 1-03A Totality	Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others. MNU 2-03A Got It Intersection Sums Sudoku I have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods. MNU 2-03B Route Product Having explored the need for rules for the order of operations

			in number calculations, I can apply them correctly when solving simple problems. MTH 2-03C [Magic Potting Sheds](#)
Negative Numbers			I can show my understanding of how the number line extends to include numbers less than zero and have investigated how these numbers occur and are used. MNU 2-04A [First Connect Three](#) [Consecutive Numbers](#)
Multiples, Factors and Primes			Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers. MTH 2-05A [Factors and Multiples Game](#) [Factors and Multiples Puzzle](#)
Fractions, Decimals and Percentages	Having explored fractions by taking part in practical activities, I can show my understanding of: • how a single item can be shared equally • the notation and vocabulary associated with fractions • where simple fractions lie on the number line. MNU1-07A [Same Shapes](#) Through exploring how groups of items can be shared equally, I can find a fraction of an amount by applying my knowledge of division. MNU1-07B [Chocolate Bars](#) Through taking part in practical activities including use of pictorial representations, I can		I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems. MNU 2-07A [100 Percent](#) I can show the equivalent forms of simple fractions, decimal fractions and percentages and can choose my preferred form when solving a problem, explaining my choice of method. MNU 2-07B [Matching Fractions Decimals Percentages](#) I have investigated how a set of equivalent fractions can be created, understanding the

	demonstrate my understanding of simple fractions which are equivalent. MTH 1-07C Adapted simpler version of Fractions Jigsaw	meaning of simplest form, and can apply my knowledge to compare and order the most commonly used fractions. MTH 2-07C Fractions Jigsaw Dark Blue Light Blue
Money	I can use money to pay for items and can work out how much change I should receive. MNU 1-09A The Puzzling Sweet Shop I have investigated how different combinations of coins and notes can be used to pay for goods or be given in change. MNU 1-09B Five Coins	I can manage money, compare costs from different retailers, and determine what I can afford to buy. MNU 2-09A The Money Maze Are You a Smart Shopper? I understand the costs, benefits and risks of using bank cards to purchase goods or obtain cash and realise that budgeting is important. MNU 2-09B I can use the terms profit and loss in buying and selling activities and can make simple calculations for this. MNU 2-09C
Time	I can tell the time using 12 and 24 hour clocks, explain how it impacts on my daily routine and ensure that I am organised and ready for events throughout my day. MNU 1-10A Two Clocks I can use a calendar to plan and be organised for key events for myself and my class throughout the year.	I can use and interpret electronic and paper-based timetables and schedules to plan events and activities, and make time calculations as part of my planning. MNU 2-10A Stop the Clock I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most

		appropriate to use.
	MNU 1-10B Calendar Cubes I have begun to develop a sense of how long tasks take by measuring the time taken to complete a range of activities using a variety of timers. MNU 1-10C	MNU 2-10B Having the Time of Your Life Using simple time periods, I can give a good estimate of how long a journey should take, based on my knowledge of the link between time, speed and distance. MNU 2-10C Gr8 Coach Take Your Dog for a Walk
Measurement	I can estimate how long or heavy an object is, or what amount it holds, using everyday things as a guide, then measure or weigh it using appropriate instruments and units. MNU 1-11A Do You Measure Up? I can estimate the area of a shape by counting squares or other methods. MNU 1-11B Fencing	I can use my knowledge of the sizes of familiar objects or places to assist me when making an estimate of measure. MNU 2-11A All in a Jumble At the Pumps I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems. MNU 2-11B Thousands and Millions I can explain how different methods can be used to find the perimeter and area of a simple 2D shape or volume of a simple 3D object. MNU 2-11C Smaller and Smaller

Mathematics – its Impact on the World, Past, Present and Future	I have discussed the important part that numbers play in the world and explored a variety of systems that have been used by civilisations throughout history to record numbers. MTH 1-12A Which Scripts?	I have worked with others to explore, and present our findings on, how mathematics impacts on the world and the important part it has played in advances and inventions. MTH 2-12A Code Breaker
Patterns and Relationships	I can continue and devise more involved repeating patterns or designs, using a variety of media. MTH 1-13A Through exploring number patterns, I can recognise and continue simple number sequences and can explain the rule I've applied. MTH 1-13B	Having explored more complex number sequences, including well-known named number patterns, I can explain the rule used to generate the sequence, and apply it to extend the pattern. MTH 2-13A 1 Step 2 Step
Expressions and Equations	I can compare, describe and show number relationships, using appropriate vocabulary and the symbols for equals, not equal to, less than and greater than. MTH 1-15A One to Fifteen When a picture or symbol is used to replace a number in a number statement, I can find its value using my knowledge of number facts and explain my thinking to others. MTH 1-15B Secret Number Getting the Balance	I can apply my knowledge of number facts to solve problems where an unknown value is represented by a symbol or letter. MTH 2-15A Shape Times Shape What's it Worth?

Shape, Position and Movement		
Properties of 2D Shapes and 3D Objects	I have explored simple 3D objects and 2D shapes and can identify, name and describe their features using appropriate vocabulary. MTH 1-16A Where Are They? I can explore and discuss how and why different shapes fit together and create a tiling pattern with them. MTH 1-16B Repeating Patterns Semi-regular Tessellations	Having explored a range of 3D objects and 2D shapes, I can use mathematical language to describe their properties, and through investigation can discuss where and why particular shapes are used in the environment. MTH 2-16A Building Stars Lafayette Through practical activities, I can show my understanding of the relationship between 3D objects and their nets. MTH 2-16B Triangular Faces I can draw 2D shapes and make representations of 3D objects using an appropriate range of methods and efficient use of resources. MTH 2-16C The Third Dimension
Angle, Symmetry and Transformation	I can describe, follow and record routes and journeys using signs, words and angles and associated with direction and turning. MTH 1-17A	I have investigated angles in the environment, and can discuss, describe and classify angles using appropriate mathematical vocabulary. MTH 2-17A Nine-pin Triangles I can accurately measure and draw angles using appropriate equipment, applying my skills to problems in context. MTH 2-17B A Patchwork Piece Take the Right Angle Through practical activities,

		which include the use of technology, I have developed my understanding of the link between compass points and angles and can describe, follow and record directions, routes and journeys using appropriate vocabulary. MTH 2-17C Six Places to Visit Having investigated where, why and how scale is used and expressed, I can apply my understanding to interpret simple models, maps and plans. MTH 2-17D
	I have developed an awareness of where grid reference systems are used in everyday contexts and can use them to locate and describe position. MTH 1-18A Criss Cross Quiz	I can use my knowledge of the co-ordinate system to plot and describe the location of a point on a grid. MTH 2-18A Coordinate Cunning Ten Hidden Squares
	I have explored symmetry in my own and the wider environment and can create and recognise symmetrical pictures, patterns and shapes. MTH 1-19A Watch Those Wheels	I can illustrate the lines of symmetry for a range of 2D shapes and apply my understanding to create and complete symmetrical pictures and patterns. MTH 2-19A Symmetry Challenge
Information Handling		

Data and Analysis	I have explored a variety of ways in which data is presented and can ask questions about the information it contains MTH 1-20A Butterfly Cards I have used a range of ways to collect information and can sort it in logical organised and imaginative way using my own and others' criteria MTH 1-20B Carroll Diagrams More Carroll Diagrams	Having discussed the variety of ways and range of media used to present data I can interpret and draw conclusions from the information displayed recognising that the presentation may be misleading MTH 2-20A Match the Matches I have carried out investigations and surveys devising a variety of ways to other information and have worked with others to collate organise and communicate the results in an appropriate way MTH 2-20B Compare the Squares Real Statistics
	Using technology and other methods, I can display data simply, clearly and accurately by creating tables, charts and diagrams, using simple labelling and scale. MTH 1-21A Presenting the Project	I can display data in a clear way using a suitable scale by choosing appropriately from an extended range of tables, charts diagrams and graphs making effective use of technology MTH 2-21A
Ideas of Chance and Uncertainty	I can use appropriate vocabulary to describe the likelihood of events occurring, using the knowledge and experiences of myself and others to guide me. MTH 1-22A Game of PIG – Ones You Never Get a Six	I can conduct simple experiments involving chance and can communicate my predictions and findings using the vocabulary of probability MTH 2-22A It's a Tie