Renfrewshire Council

Progression and Support Document
First Level – Pathway 1

Rationale

This series of Progression and Support documents, including Pathways and Bundling Advice provides a progression of skills through a level. Regular reinforcement of concepts and promotion of Numeracy Across Learning is encouraged. The Pathways are not intended to be prescriptive or restrictive. Practitioners should identify when opportunities occur within contexts across the curriculum and plan for this to demonstrate relevance. The overall aim is to provide a shared standard of expectations and to ensure progression and depth within planning.

The Progression and Support documents focus on the skills required to achieve concepts within an outcome and detail the mental agility strategies associated with the learning within each experience and outcome. Suggestions for formative assessment and summative assessment are provided and some possible resources are listed, but this list is by no means exhaustive.

It is hoped that these Progression and Support documents provide a clear framework and the necessary support so that practitioners can feel confident in planning engaging, well-paced and suitably challenging learning experiences, which involve a variety of methodologies. Ultimately our goal is to raise attainment for all our learners and these documents are just one part of that journey. All our learners should be given opportunities that will allow them to become confident and numerate, build their skills in a variety of contexts and allow them to reach their own targeted positive destinations.

Many of the documents consulted in the process of creating the Support and Progression documents can be found on the Education Scotland website. These include:

- Numeracy and Mathematics: Experiences and Outcomes
- Mathematics: Principles and Practice
- Numeracy Across Learning: Principles and Practice
- National Numeracy and Mathematics Progression Framework
- Numeracy and Mathematics Benchmarks
- CfE Statement for Practitioners

In addition to this, current planning documents that are being used across the authority, progression documents from other local authorities across Scotland and a variety of resources were consulted.

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Bundling Advice

There are many possible ways to bundle Numeracy and Mathematics Experiences and Outcomes depending on the skills that are being explored and the contexts for learning that are relevant to the children that the learning is being planned for.

The following is **one example** of how to bundle the Experiences and Outcomes according to the skills in this pathway. Choosing bundles of outcomes based on relevant contexts for learning is always the best practice and should be explored whenever possible. It can also be appropriate to bundle Numeracy and Mathematics across curricular areas if there is a clear opportunity to do so. There is exemplification of one of these bundles for further clarification and to demonstrate the learning opportunities that link these particular Experiences and Outcomes as a bundle in this instance.

These bundles can be approached in whichever order is most appropriate. Some of the Experiences and Outcomes have not been bundled as links between outcomes were too tenuous. Bundling without clear and strong links is not beneficial and it may be the case that some Experiences and Outcomes are better taught discretely.

There should be an element of number work/manipulating number every day, regardless of any other Numeracy and Mathematics learning that is planned for. This will provide regular opportunities to reinforce and challenge learning across the key numeracy outcomes which are indicated in **bold** below. At the beginning of a new pathway, the regular number work/manipulation of number will be based on reinforcement of the skills from the previous pathway. As the learning progresses, introduction of learning to develop the new skills within the current pathway should be introduced and progressed.

Bundling of Experiences and Outcomes First Level Pathway 1	**Opportunities across the curriculum**
Estimation and rounding MNU 1-01a **Number and number processes MNU 1-03a** Money MNU 1- 09a & MNU 1-09b	
Number and number processes MNU 1-02a Expression and equations MTH 1-15a	
Mathematics – its impact on the world, past, present & future MTH 1-12a **Patterns & relationships MTH 1-13b**	
Properties of 2D shapes & 3D objects MTH 1-16a Properties of 2D shapes & 3D objects MTH 1-16b Pattern & relationships MTH 1-13b Angle, symmetry & transformation MTH 1-19a	
Measurement MNU 1-11a (length, weight and volume & capacity)	
Angle, symmetry & transformation MTH 1-17a Measurement MNU 1-11b	
Fractions MNU 1-07a & MNU 1-07b Time MNU 1 -10a	
Time MNU 1-10b	
Time MNU 1-10c	Can be explored and reinforced effectively in P.E. lessons
Data & analysis MNU 1-20a & 1-20b	Can be explored and reinforced effectively through contexts, i.e. class novels – Venn diagram to compare words to compare characters. Also can alternatively bundle with MTH 1-16a to explore shape properties to use as data set or with Patterns & relationships MTH 1-13b where patterns are explored and data analysed, i.e. organising numbers based on multiples facts.
Ideas of chance & uncertainty MNU 1-22a	

As stated above, this is only one possible way to bundle the Experiences and Outcomes for this pathway. Different contexts for learning across the curriculum will raise opportunities to bundle in different ways. Consideration should be given to bundling in relevant contexts and to using opportunities across the curriculum to reinforce Numeracy and Mathematics skills.

Bundling within Numeracy and Mathematics

The following explains why these experiences and outcomes bundle sensibly.

Bundle	Reasons bundle was chosen
Number and number processes MNU 1-02a Expression and equations MTH 1-15a	In **Number and number processes MNU 1-02a,** numbers to 100 in terms of place value. This includes **Counting, Ordering, Reading and Writing Numbers.** Naturally, in the process exploring these elements, numbers and their values will be compared. This is where Expression and equations MTH 1-15a can be blended in by introducing symbols to show comparison of numbers As stated previously, there are numerous ways to bundle the experiences and outcomes, this is only one way. If there is a particular context being explored in class, i.e. social studies, science etc., it may be sensible to bundle differently.

Bundling Across the Curriculum

The following is an example of bundling experiences and outcomes from across the curriculum, within a context.

Bundle and Context for Learning	Reasons bundle was chosen
Context is a class shared story – 'Gigantosaurus' by Jonny Duddle Using what I know about the features of different types of texts, I can find, select, sort and use information for a specific purpose. **LIT 1-14a** Inspired by a range of stimuli, I can express and communicate my ideas, thoughts and feelings through activities within art and design. **EXA 1-05a**	Naturally when discussing a text in class, characters or settings will be discussed and compared. This is an opportunity to explore sorting as you compare words to describe two different characters for example, using a Venn. Depending on the text, other sorting activities could take place, i.e. **'Gigantosaurus' by Jonny Duddle** – providing words to describe the characters Bonehead, Tiny, Finn and Bill then sorting these using a Venn or Carroll Diagram **MNU 1-20a/b.** If the children are particularly interested in different dinosaur species, they could be given a range to sort and compare, at first by their own criteria, then by given criteria. Using Aiden Chamber's Three Sharings, discuss the text then collate information based on the discussion which can then be displayed in a variety of ways, i.e. block graph of feelings about the text – What words can we use to describe how we felt when Bonehead kept crying wolf?, tally of connections to own life – When have you felt like this before? **MNU 1-20a/b & MTH 1-21a** if technologies are used. As dinosaur footprints feature largely in the book illustrations, the children could become illustrators and design their own dinosaur footprints with media of their own choice. The footprint could then be explored in a variety of ways, i.e. finding the area, comparing to other footprints, ordering sizes, measuring etc. **MNU 1-11a & MNU 1-11b** These are a few examples of how to plan for Numeracy and Mathematics across the curriculum by bundling relevant outcomes. As you can see, many of the discussion points would have taken place anyway. Considering the above experiences and outcomes together, extends the learning and utilises Numeracy and Mathematics in a meaningful way.

First Level Progression and Support Pathway One

Time MNU 1-10b	**Mathematics – its impact on the world, past, present &future** MTH 1-12a	**Number & Number Processes** MNU 1-02a	**Properties of 2D shapes & 3D objects** MTH 1-16a	**Properties of 2D shapes & 3D objects** MTH 1-16b	**Pattern & Relationships** MTH 1-13a	**Number & Number Processes** MNU 1-03a Addition & Subtraction	**Expressions & Equations** MTH 1-15a

Measurement MNU 1-11a Weight	**Number & Number Processes** MNU 1-03a Multiply & Divide	**Pattern & Relationships** MTH 1-13b	**Measurement** MNU 1-11a Length	**Angle, symmetry & transformation** MTH 1-19a	**Data & Analysis** MNU 1-20b	**Ideas of chance & uncertainty** MNU 1-22a	**Estimating & Rounding** MNU 1-01a

Fractions MNU 1-07a MNU 1-07b	**Money** MNU 1-09a MNU 1-09b	**Angle, symmetry & transformation** MTH 1-17a	**Measurement** MNU 1-11a Capacity & Volume	**Time** MNU 1-10a	**Time** MNU 1-10c	**Measurement** MNU 1-11b	**Data & Analysis** MNU 1-20a

Please note that MTH 1-07c, MTH 1-15b, MTH 1-18a and MTH 1-12a are omitted from this Pathway.

The above is an overview of the Experiences and Outcomes contained in First Level Pathway 1. It is best practice to bundle together Es & Os for teaching and learning. This can happen within the curricular area of Numeracy and Mathematics or Numeracy and Mathematics Es & Os can be bundled with other curricular Es & Os. Some Es & Os may be taught in isolation if bundling is not appropriate with the particular contexts for learning that are being explored as tenuously bundled Es & Os are not advised as relevance and depth of learning would be weak. **Advice on bundling is included within this document.**

How to Use Progression and Support Documents to Support Planning

The following annotation explains how the Progression and Support Documents can be used to support planning.

The Experience and Outcome.

The benchmark(s) to be achieved by the **end** of the level.

Topic & CfE Outcome - 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**

Benchmarks
- Identifies multiples and factors of whole numbers and applies knowledge and understanding of these when solving relevant problems in number, money and measurement.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Recite and recall all multiplication facts and corresponding division facts Recognise the link between 2, 4 and 8 times tables Recognise the link between 3, 6 and 9 times tables Recognise the link between 2, 5 and 10 times tables	**I can use the term 'multiple' correctly** **I can recognise number patterns involving multiples of the 2 – 10 times tables, e.g.** **2, 4, 6, 8…** **5, 10, 15…** • I can recite my 2, 4 and 8 times-tables • I can recall individual multiplication and division facts in my 2, 4 and 8 times-tables • I can recite my 5 and 10 times-tables • I can recall individual multiplication and division facts in my 5 and 10 times-table • I can recite my 3, 6 and 9 times-tables • I can recall individual multiplication and division facts in my 3, 6 and 9 times-tables • I can recite the 7 times-table • I can use the link between times-tables to help me recall my facts, e.g. doubling and halving • I can find the lowest common multiple of up to 3 numbers	HAM Teaching Cards MD 1.7a, MD 1.7b, MD 1.7c (Revision) TJ Level C Ch 13 Ex 2 pg 152 TJ 2a Ch 17 Ex 1 pgs 168 – 169 http://www.mathsisfun.com/numbers/math-trainer-multiply.html http://www.topmarks.co.uk/Flash.aspx?f=carrollv7	**Write** HAM Question Bank MD 1.7a, MD 1.7b & MD 1.7c **Do** Call out multiples of 2, 4 or 8 and, for each, ask children to write a times-tables fact with that answer on their mini-whiteboards. Discuss the different facts written for each number, e.g. 24 could be 3 × 8, 6 × 4, etc. Encourage children to explain how and why these facts are related. i.e. that multiplication is commutative. **Do** One child sits on a chair and the others line up facing the child's on the chair. Call out a multiple, e.g.24, the first to respond with a correct fact using the multiple wins the seat.

Mental strategies that are associated with the learning taking place in the Experience and Outcome.

This lists the skills that are to be achieved in this section of the Experience and Outcome. The **bold type** is the overall skills that should be developed and the bullet points are the skills broken down.

Some possible scheme based resources that could be used. This is not exhaustive. Best practice is to use a **Concrete – Pictorial – Abstract** approach that will involve a variety of resources and methodologies.

Suggested formative and summative assessments that could be used. Again, this is not exhaustive and assessment should take place when relevant and in the most appropriate style for the learner.

Topic & CfE Outcome - Estimating 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**

Benchmarks
- Uses strategies to estimate an answer to a calculation or problem, for example, doubling and rounding.
- Rounds whole numbers to the nearest 10 and 100 and uses this routinely to estimate and check the reasonableness of a solution.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Number bonds to 10 (it is still important to revisit this regularly) Number bonds to 20 Complementary Addition - What has to be added to a single digit number to make 10, i.e. 3 + ◊ = 10 ◊ + 7 = 10 **Skills** (mentally, with jottings and materials if needed) Use an empty number line to find which 10 a number is closest to	**I have had concrete opportunities to explore estimating amounts** **I can link this concrete experience to talking about how many of an amount there 'nearly' is. Estimate a given collection, check by counting, talk about how many there 'nearly' is or 'more than' in terms of multiples of 10s. i.e. "I think there are 17 cars. This is nearly 20". "I think I have collected 12 stones. This is more than 10"** **I can round numbers up or down to the nearest 10** **I can round 2 digit numbers to the nearest 10 in relation to the position within the 100 square** **I have begun to estimate where a number would lie on a blank number line up to 100, i.e. 36 would be within 30 – 40** • I can estimate a number of given objects • I can explain what rounding to the nearest 10 means • I can decide whether to round up or down to the nearest 10 by looking at the ones digit • I know that when rounding to the nearest 10, if the ones digit is 4 or less I should round down to the previous multiple of 10 and if it is 5 or above I should round up to the next multiple of 10 • I can explain the rule for rounding to the nearest 10 to others • I can explain what rounding means using vocabulary of estimation- about, nearly, roughly • I can round to the 10 for a range of different numbers	HAM Teaching Card NP1.9a H2 Teacher's Notes pgs 50 – 51 H2 Number Wbk 1 pg 1 H3 Teacher's Notes pgs 50 – 51 H3 Number Wbk 1 pg 20 S.E.A.L. Approaches as per Figurative planner	**Write** HAM Question Bank NP1.9a **Do** Children stand in pairs. Call out a number. If the number should be rounded up, the children call out 'high five' and hit hands above their heads. If it should be rounded down, children, sit down and say 'go low'. Repeat with a range of appropriate numbers. **Do** Call out a 2-digit number – children use their number fans to show the number which it would round to. Ask children to hold it to their chest once they are ready and then ask the whole class to show at once. Ask a child to explain their thinking in their answer. Or call out a multiple of 10 and ask children to show a number which would round to that number.

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Topic & CfE Outcome - Number and Number Processes
I have investigated how whole numbers are constructed, can understand the importance of zero within the system and can use my knowledge to explain the link between a digit, its place and its value. **MNU 1-02a**

Benchmarks
- Reads, writes, orders and recites whole numbers to 1000, starting from any number in the sequence.
- Demonstrates understanding of zero as a placeholder in whole numbers to 1000.
- Uses correct mathematical vocabulary when discussing the four operations including, subtract, add, sum of, total, multiply, product, divide and shared equally.
- Identifies the value of each digit in a whole number with three digits, for example, 867 = 800 + 60 + 7.
- Counts forwards and backwards in 2s, 5s, 10s and 100s.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Number bonds to 10 Number bonds to 20 Read and identify numbers to 100 Complementary Addition - What has to be added to a single digit number to make 10, i.e. 3 + ◊ = 10 ◊ + 7 = 10 Addition facts including 'switchers' i.e. 4 + 2 = 6, 2 + 4 = 6 Double facts to at least the total of 20 Know numbers before, after and between from any number to 100 (then beyond if appropriate) **Skills** (mentally, with jottings and materials if needed) Count on from, and back in ones from a given one or two digit number, i.e. Count to 15 from 6 Count on from, and back to zero in ones, twos, fives or tens, i.e. Count back in two's from 8 Count on and back in tens from a single digit number within	**For whole numbers to 100** • **Count** • **Order** • **Read** • **Write** • **Place Value to 99** **I can count on and back in sequence and apply this to accurately count a group of objects and know if an answer makes sense** **I can use numbers to describe the order of items - ordinal numbers to 20th and beyond** **I can discuss the digits in a number, their position, their value and know that zero is important as a place holder – tens and ones (partitioning)** **I can count on and back in steps of 1 and 10 and can describe how this changes the digits in a number** **I can compare numbers and put them in order – up to 100** **I can identify numbers before/after/in-between up to 100** **I can write number names in words to at least 20** • I can order and sequence numbers from zero without missing any numbers to at least 100 • I can count to 100, using a number line or track to help count (for support as and when it is needed), saying numbers out loud • I can explain how an ordinal number is different from a number name • I can recognise figures to 100 • I can talk about the digits which make up a number and work out if they stand for a group or ones or tens • I can show a number on a number line and talk about its position, i.e. 14 is 10 and 4 more • I can use a range of concrete materials to show how numbers to 100 are constructed • On seeing a number written in digits (tens and ones), I can read it correctly and work out the value of each digit in its position (tens and ones) • On hearing a number read aloud, I can work out how to write the number in digits (tens and ones) • I can describe what happens to the different digits in a number when adding on in ones and tens • I can identify numbers 1 or 10 more than/less than by utilising a 100 square or number line • I can split a number and say how many ones and how many tens there are • I can compare numbers by finding them on a number line or	HAM Teaching Cards NP1.2, NP1.3, NP1.4a, NP1.6a, NP 1.7a H2 Teacher's Notes pgs 34 – 44 H2 Number Wbk 2 pgs 7 – 19 H2 Teacher's Notes pgs 48 – 64 H2 Number Wbk 3 pgs 1 – 19 H3 Teacher's Notes pgs 48 – 50 H3 Number Wbk 1 pg 19 TJ 1a Ch 1 Ex 1 Ex 2 Ex 3 Ex 4 pgs 10 – 20 http://www.mathsisfun.com/place-value.html http://nrich.maths.org/152 http://www.mathsisfun.com/numbers/ordering-game.php S.E.A.L. Approaches as per Figurative planner	**Write** HAM Question Bank NP1.4a, NP1.6a, NP1.7a **Write** TJ 1b The 3 R's pg 21 **Do** Ask children to show you numbers that fit in with given criteria, i.e. Show me a number larger than 20. Show me a number with 7 tens. Show me the number after 99. Show me the number 10 less than 65. This can be done with a white board or number flip or fan. **Say** Ask children to draw a hundreds, tens and ones grid on their whiteboards. Roll a dice three times each. After three goes each, children discuss who has the larger number? How do they know? Play the best of five goes. Change the rule so that the winner is the one who gets the smallest number, or the number nearest to 100, or ....make up your own rule. Observe children.

100 Partition single digit numbers into useful numbers for a calculation, i.e. 8 + 3 = 8 + 2 + 1 Partition numbers, i.e. know that 18 is 1 ten and 8 ones Use knowledge of place value to order numbers	number square • I can compare and order 2-digit numbers by looking at the tens digit first then the ones digit • I can place two numbers in order then compare a third number with them to see if it goes before, after or between the two numbers • I can write number names in words to at least 20 • I can match some number names to digits beyond 20, up to 100		

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Topic & CfE Outcome - Numbers and Number Processes
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**

Benchmarks
- Demonstrates understanding of the commutative law, for example, 6 + 3 = 3 + 6 or 2 × 4 = 4 × 2.
- Solves addition and subtraction problems with three digit whole numbers.
- Adds and subtracts multiples of 10 or 100 to or from any whole number to 1000.
- Solves two step problems.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Number bonds to 10 Number bonds to 20 Complementary Addition - What has to be added to a single digit number to make 10, i.e. 3 + ◊ = 10 ◊ + 7 = 10 Addition facts including 'switchers' i.e. 4 + 2 = 6, 2 + 4 = 6 Double facts to at least the total of 20, i.e. 9 + 9 = 18 **Skills** (mentally with jottings and materials if needed) Add or subtract a pair (or more) of single digit numbers, i.e. 4 + 5, 8 – 3, 5 + 3 + 2 Add or subtract a single digit number to or from 10 up to 20, (bridging through ten) i.e. 13 + 5, 17 – 3 Add a single digit to a multiple of 10, i.e. 30 + 7 Add near doubles within totals of 20, i.e. 6 + 7 (use knowledge of doubles) Count on from, and back in ones from a given two digit number,	**I have explored adding and subtracting by using concrete materials and pictorial representations, i.e. ten frames, rekenreks, number lines, 100 square, drawings etc.** **I can count on and back using different strategies** **I can add and subtract mentally for numbers 0 – 20** **I can use written format for addition and subtraction of numbers up to 20** • I know and can apply simple addition vocabulary • I can add horizontally and vertically 2 or 3 numbers to at least 20 • I can mentally add whole numbers within 20 (demonstrating associative property – 6 + 12 = 12 + 6) • I can add by combining groups of items together and counting them to find a total • I can combine sets of objects (up to 20) and identify how many altogether • I can mentally add 1 digit numbers to whole numbers with 2 digits, i.e. 64 + 3 (hold biggest number in head and count on) • In written format, add 1 digit whole numbers to 1 digit whole numbers (no carrying) • I know and can apply simple subtraction vocabulary • I can subtract horizontally and vertically 2 or 3 numbers to at least 20 • I can subtract by taking items away from a group and counting what is left to find a total • I can mentally subtract 2 whole numbers within 20 • I can mentally subtract 1 digit numbers from whole numbers with 2 digits, i.e. 64 – 3 (hold largest number in head and count back) • In written format subtract 1 digit whole numbers from 1 digit whole numbers (no decomposition) • I can create and complete number patterns in steps of 1 and 2 • I can count on and back from a number to add and subtract • I can use pictures, jottings and models to work out and record my addition and subtraction calculations with a 100 square • I can apply all learnt skills in word problems **Written algorithms for addition and subtraction should not be explored until all appropriate strategies have been thoroughly explored and children are comfortable in selecting these strategies for completing calculations. If written algorithms are taught too soon, the learner will rely on the process they have learned rather than gaining an understanding of what is happening when they add or subtract. Our aim is to foster conceptual understanding instead of learning of procedures without understanding.**	**Add and Subtract** HAM Teaching Cards AS1.1, AS1.2, AS1.3, AS1.4a, AS1.7a H2 Teacher's Notes pgs 14 – 26, 76 – 92 H2 Number Wbk 1 pgs 1 – 10, 13 – 23 H2 Number Wbk 2 pgs 19 – 21, 23 H2 Number Wbk 4 pgs 1 – 5, 7 – 18 H3 Teacher's Notes pgs 26 – 42 H3 Workbook 1 pgs 1 – 18 H3 Tbk pgs 1, 2, 4, 5 TJ Lvl A Support Pack Extra Booklet Adding & Subtracting to 20 pgs 323 – 349 http://nrich.maths.org/1216?time=1219841223 S.E.A.L. Approaches as per Figurative planner	**Add and Subtract** **Write** HAM Question Bank AS1.7a, AS1.9a, AS1.10a **Say and Do** Roll a dice 4 times and the children arrange the numbers rolled to make two 2-digit numbers which they add. They keep rearranging the digits to make different 2-digit numbers and add them. Discuss how many different totals they have made. **Say and Do** Give children a range of materials to assist them with addition or subtraction. Provide the children with calculations to solve. Observe their use of the materials to demonstrate their understanding. Ask them to explain their thinking and why they chose the materials that they did to support them in solving the calculation.

i.e. Count to 15 from 6 Count on from, and back to zero in ones, twos, fives or tens, i.e. Count back in twos from 8 Count on and back in tens from a single digit number within 100 Reorder numbers when adding, i.e. put the larger number first Partition numbers into useful numbers for a calculation, i.e. 8 + 3 = 8 + 2 + 1 Partition numbers, i.e. know that 18 is 1 ten and 8 ones Use an empty number line for addition and subtraction to 20 (then beyond as appropriate)			

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Topic & CfE Outcome - Numbers and Number Processes
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 continued**

Benchmarks
- Applies strategies to determine multiplication facts, for example, repeated addition, grouping, arrays and multiplication facts.
- Applies strategies to determine division facts, for example, repeated subtraction, equal groups, sharing equally, arrays and multiplication facts.
- Uses multiplication and division facts to solve problems within the number range 0 to 1000.
- Multiplies and divides whole numbers by 10 and 100 (whole number answers only).
- Applies knowledge of inverse operations (addition and subtraction; multiplication and division).
- Solves two step problems.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Doubles of all numbers to a total of 20 Odd and even numbers to 20 **Skills** (mentally, with jottings and materials if needed) Count on from, and back to zero in ones, twos, fives, or tens within 100 Use patterns of last digits, i.e. 0 and 5 when counting in fives	**I have had opportunities to explore concrete materials and pictorial representations in relation to grouping and sharing, building the concepts of multiplying and dividing** **I have begun to multiply by grouping objects** **I can count in multiples using different strategies** **I have begun to look at arrays in terms of building multiplication** **I can count in 2s, 5s and 10s (Relate to children with reference to times tables)** **I have begun to divide by sharing objects** **I can share different quantities using a variety of strategies** • I can use simple multiplication vocabulary • I am beginning to understand that multiplication is repeated addition • I can make equal groups and can combine them to make a larger number • I can use a variety of different words to talk about multiplication • I can count in 10s, 5s and 2s, to form the sequence for the 10, 5s and 2s times tables • I can record a multiplication calculation using an × sign • I can lay out a simple multiplication sum horizontally, i.e. 2 x 3 = 6 • I can use simple division vocabulary • I am beginning to understand that division is repeated subtraction • I can take a larger number and share it into equal groups • I can split a group of items into smaller equal groups • I understand that when I share, there will sometimes be objects left over • I can use a variety of different words to talk about dividing • I can record a division calculation using a ÷ sign • I can apply all learnt skills in word problems **Written algorithms for multiplication and division should not be explored until all appropriate mental strategies have been thoroughly explored and children are comfortable in selecting these strategies for completing calculations. If written algorithms are taught too soon, the learner will rely on the process they have learned rather than gaining an understanding of what is happening when they multiply or divide. Our aim is to foster conceptual understanding instead of learning of procedures without understanding.**	**Multiply and Divide** HAM Teaching Cards MD1.1, MD1.2, MD1.3 S.E.A.L. Approaches as per Figurative planner	**Do** Give the children materials to use to help them demonstrate their understanding. In advance, prepare small bags with multiples of the same item in them, i.e. bag of 5 bananas. Tell the children that you are going to buy 3 bags of bananas and you want to work out the total number of bananas that this will give you. The other children draw a picture to represent this on their boards. The child should be able to verbalise the total in a manner such as, 'There are 5 bananas in a pack. 3 packs of 5 is 15'. Repeat with different amounts. **Say and Do** Give the children 'gems' to explore. Ask the children to share the gems between them – small groups for this task. To begin with, ask children to act out examples with no remainders. i.e. You have 12 gems which you are going to share between 3 friends. The other children who are not acting it out draw a picture to represent what will happen. Repeat for a range of examples using different numbers of gems to start with and different numbers of children for them to be shared between.

Topic & CfE Outcome - Fractions, decimal fractions 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. **MNU 1-07a and**
Through exploring how groups of items can be shared equally, I can find a fraction of an amount by applying my knowledge of division. **MNU 1-07b**

Benchmarks
- Explains what a fraction is using concrete materials, pictorial representations and appropriate mathematical vocabulary.
- Demonstrates understanding that the greater the number of equal parts, the smaller the size of each share.
- Uses the correct notation for common fractions to tenths, for example, $\frac{1}{2}$, $\frac{2}{3}$ and $\frac{5}{8}$
- Explains the role of the numerator and denominator.
- Uses known multiplication and division facts and other strategies to find unit fractions of whole numbers, for example, $\frac{1}{2}$ **or** $\frac{1}{4}$

Mental Strategies	Skills	Possible Resources	Assessment
Recall A fraction is an equal share Two halves make one whole Four quarters make one whole Doubles of all numbers to a total of 20 Odd and even numbers to 20	**I have explored the concept of sharing an item or collection fairly, using concrete materials and by using pictorial representation to develop conceptual understanding of equality and that fractions are equal shares** **I understand what half means** **I can create and identify half of a shape and find half of a number by sharing** **I can describe and record a half in a variety of different ways and locate a half on a number line** **Please ensure that children are given the opportunity to split shapes into halves and quarters for themselves as this builds a better conceptual understanding of fractional parts. Always being given pre-divided shapes limits the ability to visualise where the shapes could split equally** • I know that if an item or collection is shared into 2 unfair shares, the shares cannot be called halves and I can use materials to demonstrate this • I understand that shapes or objects can be shared into 2 equal parts • I understand that 2 halves of a shape are exactly the same size • I can find half of a shape by folding, cutting and colouring • I can find half of a number of objects by sharing into 2 equal groups • I can recognise that some quantities cannot be shared equally into whole numbers • I can record a half in pictures, words and notation • I can make the link between the picture of a half and the way I write it ($\frac{1}{2}$) **I understand what quarter means** **I can create and identify quarter of a shape and find a quarter of a number by sharing** **I can describe and record a quarter in a variety of different ways and locate a quarter on a number line** • I understand that shapes or objects can be shared into 4 equal parts • I understand that 4 quarters of a shape are exactly the same size • I understand that 4 quarters is the same as 1 whole • I know that if an item or collection is shared into 4 unfair	HAM Teaching Cards F1.1a, 1.2a, 1.2b H2 Teacher's Notes pgs 93 – 95 H2 Number Wbk 4 pgs 21 – 23 TJ Level B Ch 12 Ex 1 Ex 2 pgs 139 – 144 TJ 1a Ch 16 Ex 1 pgs 135 – 140	**Write** HAM Question Bank F1.1a, F1.2a and F1.2b **Write** TJ Level B Topic in a Nutshell pg 151 Q1 – 4 **Write** TJ 1a Ch 16 The 3 R's pg 142 Q1 – 4 **Write, Say and Do** Children write a number to 20 on their whiteboards. Play music and ask the children to walk around the room with their whiteboard until the music stops. When the music stops they find the nearest person and ask them to tell them half of the number that is on their whiteboard. The other child does the same. This can be repeated for quarters and for challenge the range of numbers can increase or the fraction given can be changed. **Do** Children take turns to take a handful of items (counters, cubes, cars etc. whatever is relevant to the children). They count the collection they have taken and state some facts about the collection, i.e. I have an even number of counters, I can share my cubes fairly between me and my friend, 10 + 6 gives the total of my counters etc. After the child has had the chance to make their own statements. Ask them to explore whether the collection can be split into halves, quarters etc. To challenge the children, explore different fractions.

	shares, the shares cannot be called quarters and I can use materials to demonstrate this • I can use my knowledge of a half to find a quarter of a shape by folding, cutting and colouring • I can use my knowledge of 1 quarter to find 2 and 3 quarters of a shape by manipulating items, folding, cutting and colouring • I know that 1 half is the same as 2 quarters • I can find a quarter of a number of objects by sharing into 4 equal groups • I can record a quarter in pictures, words and notation • I can make the link between pictures of quarters and the way I write them ($\frac{1}{4}, \frac{2}{4}, \frac{3}{4}$) • I understand that four quarters is the same as one whole		

Topic & CfE Outcome - Money
I can use money to pay for items and can work out how much change I should receive. **MNU 1-09a and**
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**

Benchmarks
- Identifies and uses all coins and notes to £20 and explores different ways of making the same total.
- Records amounts accurately in different ways using the correct notation, for example, 149p = £1·49 and 7p = £0·07.
- Uses a variety of coin and note combinations, to pay for items and give change within £10.
- Applies mental agility number skills to calculate the total spent in a shopping situation and is able to calculate change.
- Demonstrates awareness of how goods can be paid for using cards and digital technology.

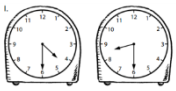
Mental Strategies	Skills	Possible Resources	Assessment
Recall Number bonds to 10 Number bonds to 20 Complementary Addition - What has to be added to a single digit number to make 10, i.e. 3p + ◊ = 10p ◊ + 17p = 20p Addition facts including 'switchers' - i.e. 4 + 2 = 6, 2 + 4 = 6 Double facts to at least the total of 20, i.e. 9p + 9p = 18p **Skills** (mentally, with jottings and materials if needed) Count on from, and back in ones from a given one or two digit number to 20 to find 'difference', i.e. Count to 15p from 6p Half by sharing to 10 (then beyond), i.e. 10p shared between two people would be 5p each Use an empty number line for addition and subtraction to 20 (then beyond)	**I can talk about how and why money is used in everyday life and act out related scenarios** **I can recognise all coins – using real coins and representations of coins** **I can use 1p, 2p, 5p, 10p, coins to pay for items** **I can choose appropriate coins to give and estimate and check change given when there is not the exact amount to pay for something** **I can work out change from 20p** **I can compare costs and work out what can be afforded** **I can work out the total cost, how I should pay and any change I should receive when buying several items (to 20p)** **I can split a total equally to find the cost of one item** • I have acted out a range of situations where people use money • I can use different words to talk about money and can discuss where money is spent • I can talk about how money is earned, spent and kept by myself and others • I am beginning to have a sense of how much things cost • I can talk about the different ways that people pay for things and the cards they use • I can recognise and name all coins and can discuss their features • I understand that different coins have different values and can sort and place them in order of value • I can use addition and subtraction skills to calculate the total value of two or more coins • I can compare two prices (up to the value of 20p) and work out which can be afforded with a given amount of money • I can select appropriate coins to pay for an item up to the value of at least 20p • I know that 'change' is an amount given back when a correct amount is not available to pay with • I understand that change needs to be given when the correct coins are not available • I can calculate the change for items up to 20p by counting on • I can find the total cost of 2 or three items up to the value of 20p, and select appropriate coins to pay • I can say whether change is needed • I can use the total cost of 2 items (up to 20p) to find the cost of one (by halving) **I can find the total of coins to work out how much money there is**	HAM Teaching Cards MF 1.1 TJ Lvl A Support Pack Money Booklet pgs 267 – 290 H2 Teacher's Notes pg 20 H2 Number Wbk 1 pgs 11 – 12 H2 Teacher's Notes pgs 30 – 34, 45 H2 Number Wbk 2 pgs 1 – 6, 22 http://nrich.maths.org/223 http://nrich.maths.org/142	**Write** HAM Question Bank MF 1.1 **Do** Make sure the children have a selection of coins up to £2 in front of them. Hold up a coin and say "more" or "less". The children respond by holding up a coin that meets the criterion that you have set. For challenge you could set different criteria such as holding up a coin and asking the children to select more than one coin to make a total "more" or "less" than the coin you are holding up. This incorporates counting on or adding strategies. **Write and Say** Write 5p, £5 and £50 on the board. It is good to also show this amount in coins or notes so that the children can see what the value looks like. Show the children an object, i.e. sweetie, mobile phone, toy etc. Each time, children write on their whiteboards whether the price of the item would be closest to 5p, £5 or £50. This is to gauge whether the children have a sense of how much things cost. This task is relevant even though children are working with smaller amounts than £50 as the task is about sense of value rather than calculating amounts. **Say and Do** Choose a coin and hold it behind your back. Give children clues as to which coin you are hiding, for example, involving the coin's shape and colour, and comparing its value with other coins. 'It is worth less than £1 but more than 20p.' Children could answer by choosing a coin from a selection or writing its value on

	I can find different ways to pay an exact amount using a variety of coins **I can use the minimum number of coins to make given amount up to at least 10p** • I can find the total of a group of the same type of coin by counting on in equal steps, i.e. 1s, 2s, 5s etc. • I can find the total value of two or three coins to at least 20p • I can compare and order the values of different groups of coins • I can exchange coins for a different set which has the same value (to 20p) • I have explored how a total can be made in different ways • I can read prices using £ and p • For efficient counting, I know to select the largest value coin below the given amount first then add on smaller coins to make the total		their whiteboard. Once children have guessed, reveal your coin and discuss if they were correct.

Renfrewshire Council
Numeracy and Mathematics Progression and Support - First Level Pathway 1

Topic & CfE Outcome - Time
I can tell the time using 12 hour clocks, realising there is a link with 24 hour notation, explain how it impacts on my daily routine and ensure that I am organised and ready for events throughout my day. **MNU 1-10a**

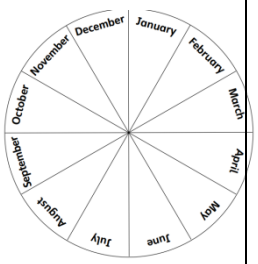
Benchmarks
- Tells the time using half past, quarter past and quarter to using analogue and digital 12 hour clocks.
- Records 12 hour times using am and pm and is able to identify 24 hour notation, for example, on a mobile phone or computer.

Mental Strategies	Skills	Possible Resources	Assessment
Recall There are 60 minutes in one hour There are 30 minutes in half an hour **Skills** (mentally, with jottings and materials if needed) Count on and back in ones for counting in full hours Add or subtract a pair of single digit numbers to find a time, i.e. 4 o'clock + 2 hours = 6 o'clock, half past 3 – 4 hours = 11 o'clock	**I can engage in discussion about why time is important in our lives** **I can tell the time on digital and analogue clocks – o'clock and half past** **I can read, interpret and create timetables to help planning my own time** **I can work out the time in whole hours before and after o'clock and half past** **I can relate fractions to time, i.e. halves in relation to the time half past** • I can talk about what has happened in the past and what will/may happen in the future • I can talk about times and dates that are special to me and others • I can show understanding that knowledge of time helps us organise what we do • I can use a range of vocabulary to talk about time and to describe parts of the day, week and year • I can talk about different time devices that people use • I can recognise analogue and digital clocks and talk about their differences • I can explain how digital time in represented, i.e. which digits represent the hours and which represent the minutes that have passed by in the day • I can recognise, show and read o'clock and half past times on analogue and digital clocks • I can write given times in 2 ways – using words and as a digital time, e.g. 12 o'clock/12.00 half past 1/1.30 • I can state that there are 24 hours in one day • I can state that there are 60 minutes in one hour and 30 minutes in half an hour • I can *talk* about am and pm times • I can solve *simple* time problems e.g.  Finding the difference in time using only hours.	HAM Teaching Cards T1.1, 1.5a H2 Teacher's Notes pgs 112 – 115 H2 Measure Wbk pgs 13 – 15 TJ Lvl A Support Pack Information Handling & Time Booklet pgs 240 – 247 TJ Level B Ch 13 Ex 2 Qu 1 – 2 pgs 155 – 156 TJ 1a Ch 4 Ex 3 Ex 4 Qu 1 pgs 41 – 43	**Write** HAM Question Bank 1.5a **Say** Show the children an item that is specific to a certain time, i.e. pyjamas, woolly hat, swimming trunks, sunglasses, dinner plate – include items that can be ambiguous to spark discussion. Ask the children to tell you the time, season etc. that the item may fit best in and discuss why. There may be some debate around particular items, i.e. a toothbrush – bedtime, morning, after lunchtime at school? Allow the children to give their reasoning for picking their chosen time, day season etc. Ask them to think of examples that they could include, i.e. 'I would put on my judo kit on Tuesday because that is when I learn judo.' **Do** Give each child a clock and ask them all to show an o'clock time, or a half past time, or to choose from either. Once they have chosen and made their times, ask children to line up in order. Set a time for one end of the line. Children join where they feel they are in the line. Check the line, sorting any mistakes. Discuss the activities they might be doing at each time.

Renfrewshire Council
Numeracy and Mathematics Progression and Support - First Level Pathway 1

Topic & CfE Outcome - Time
I can use a calendar to plan and be organised for key events for myself and my class throughout the year. **MNU 1-10b**

Benchmarks
- Records the date in a variety of ways, using words and numbers.
- Uses and interprets a variety of calendars and 12 hour timetables to plan key events.
- Knows the number of seconds in a minute, minutes in an hour, hours in a day, days in each month, weeks and days in a year.
- Orders the months of the year and relates these to the appropriate seasons.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Recall all days of the week, months of the year and seasons in correct order Know numbers before, after and between in relation to dates, i.e. What will the date be tomorrow if it is the 12th today?	**I can engage in discussion about days, months and seasons and relate this to how they are shown on different calendars** **I can sequence the days of the week, months and seasons of the year** **I can write the date in digit format, i.e. 21.01.14** **I can read, interpret and create timetables to help me plan my own time** • I can recall the order of days, months and seasons • I can link the seasons to events that happen in them • I understand that hours of the day, days of the week and months will repeat in a cycle • I know that there are 7 days in a week and 12 months in a year • I have looked at and compared a range of different calendars • I can talk about why we need calendars and how we use them • I can identify key events that happen in the same month every year (Christmas, Easter, birthdays etc.) • I can explain how time influences my routine in daily life – I need to leave the house to be at school for 9.00am etc • I can use vocabulary related to the passage of time – earlier/later, before/after • I can recognise and read date in a variety of formats – word and numerical • I can record day and date correctly on class/individual calendar • I can explore a range of different timetables which people use to help them organise time • I can calculate simple durations and start and finish times (involving whole hours)	HAM Teaching Cards T1.2 H2 Teacher's Notes pgs 116 – 117 H2 Measure Wbk pgs 16 – 18 TJ Level B Ch 13 Ex 1 pgs 152 – 154 TJ 1a Ch 4 Ex 1 Ex 2 Qu 1 – 6 pgs 37 – 40 http://www.mathsisfun.com/measure/months.html	**Make** Children create their own picture wheel, which shows the days of the week, months of the year or seasons of the year. Discuss the important things that happen in each section, e.g. holidays, family birthdays, any family routines, etc. They add in notes or pictures and then share their wheels with others. Do they have any events that are the same as others? Do they have something that no one else has? Whose wheels are similar? Relate this to a traditional calendar. 'Which pages of our calendar show summer?' 'Which events happen on specific days?' 'Can we find those days on our calendar?' 

Topic & CfE Outcome - Time
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

Benchmarks
- Knows the number of seconds in a minute, minutes in an hour, hours in a day, days in each month, weeks and days in a year.
- Selects and uses appropriate timers for specific purposes.

Mental Strategies	Skills	Possible Resources	Assessment
Skills (mentally, with jottings and materials if needed) Count on and back in ones to 60 for number of seconds	**I can measure how long it will take to do something using non-standard units, showing that I am beginning to have a sense of how long a second, minute or hour lasts** **I can estimate what I can do in different given lengths of time, checking my estimate using a variety of different times and units of time** **I can use a timer to measure the length of time it takes to complete given activities** • I have explored what can be achieved in a given period of time • I know that I need to use a common starting time to compare times accurately • I have investigated different time devices and how they measure time • I know that there are 60 seconds in a minute	HAM Teaching Cards T1.3 H3 Teacher's Notes pgs 135 – 136	**Do** Get the children to work in pairs. Give the children a range of activities to choose from. Ask the children to select the ones that they think will take a minute and get them to test their theory. Once the children have carried out their activities get them to compare their time against minute and discuss the differences. Ask the children to follow this up with ordering their times for the tasks. You could also ask the children to create minute challenges for themselves and get them to challenge other pairs and compare their performances. **Do** Children choose a player to go first. The others suggest a task for them to do. The first player predicts how many times they can do this before the others count to 20, e.g. write their name five times. If children can do this close to when the others reach 20, they win 1 point. They continue taking turns to set tasks and predict and then do the challenges until someone wins 3 points.

Topic & CfE Outcome - 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**

Benchmarks
- Uses knowledge of everyday objects to provide reasonable estimates of length, height, mass and capacity.
- Makes accurate use of a range of instruments including rulers, metre sticks, digital scales and measuring jugs when measuring lengths, heights, mass and capacities using the most appropriate instrument for the task.
- Records measurements of length, height, mass and capacity to the nearest standard unit, for example, millimetres (mm), centimetres (cm), grams (g), kilograms (kg), millilitres (ml), litres (l).
- Compares measures with estimates.
- Uses knowledge of relationships between units of measure to make simple conversions, for example, 1m58cm = 158cm.
- Reads a variety of scales on measuring devices including those with simple fractions, for example, $\frac{1}{2}$ litre.

Mental Strategies	Skills	Possible Resources	Assessment
Recall The language of comparison of measure and be able to give examples, i.e. 'My pencil is shorter than Rory's.'	**I can engage in discussion about how measurements are used** **I can estimate and measure in non-standard units for length, weight and volume** **I can discuss measurement using vocabulary such as:** • **tall, long, short** • **heavy, light** • **more, less** **I can select and use appropriate measuring devices** • I can give examples of when I have seen people measuring and heard people talking about measurements • I can give examples of when I have seen measurements written down • I can use a variety of words to talk about the different kinds of measurement we make e.g. smaller, taller, longer, heavier • I am beginning to compare and order measurements e.g. The door is 2m tall. How tall do you think you are? **Length** **I can make comparisons and order the measurements of different objects, using direct comparison and non-standard units of length** **I have explored the need for standard units, talking about the range of metric units of length and use concrete materials to demonstrate why a standard unit is needed** **I can estimate, measure and compare different quantities in length** **I can solve problems involving measures in length** **I can select and use appropriate units of measure when solving problems, knowing the importance of accuracy** • I can use a variety of words to talk about length • I can compare the lengths of two different items and say which is shorter and which is longer • I have explored the ways that the length of some objects will stay the same however they are arranged • I can put several items in order of length from shortest to longest • I can choose and use different non-standard units to measure the length of items and talk about what I have found out • I have investigated different ways to measure using everyday	HAM Teaching Card M1.1 H2 Teacher's Notes pgs 118 – 120 H2 Measure Wbk pgs 19 – 22 **Length** HAM Teaching Card M1.2a H2 Teacher's Notes pgs 98 – 101 H2 Measure Wbk pgs 1 – 4 TJ 1a Ch 17 Ex 1 pg 143	**Do** Brainstorm different things that could be used as units of measure for length, e.g. pens, cubes, feet, jotters, counting sticks and write them on the board. Highlight that we use the same size of unit repeatedly, i.e. we cannot use five pens of different sizes. Children work in small groups and choose one of the units. Give them a number to focus on. Children try to find something that is roughly that many times the unit, e.g. six pencils. Repeat using different numbers. Then they can swap. **Say and Do** Children choose an object and suggest as many different ways to measure it as they can, recording their suggestions. They estimate first, then measure using different units, e.g. they measure the desk using pencils, cubes, hands, feet, construction pieces. Discuss their results. 'How close were your estimates?' 'Which were the most helpful units?' 'Which unit was quickest to use?' **Do** Give the children a starting item. Ask them to find and collect an item that is shorter and one that is longer. Once they have completed this individually, ask the children to find a partner and get them to pool the items that they used in their individual task. Get the children to order the six items. You can continue to extend this task by adding in other pairs of children and getting the

	items and compare own results with those of others • I can talk about using standard units • I can show awareness of the standard units of length and use this to estimate and make comparisons • I have investigated the length of common objects and can use this to help estimate the length of other objects • I can decide on the correct unit of measure to use in reaching an answer • I can interpret practical problems and decide which unit of measure to use • I can solve a variety of practical problems by estimating and measuring • I can explain my results and record my findings in a variety of ways		children to reorder by size as more items are added. This task can also be used in the outdoor environment very effectively. Observation of the activity and listening in to the discussion is key to this assessment. How did they address items that matched in length? What was the strategy for deciding on the order? Were the children thrown by the width of the items?

Topic & CfE Outcome - 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 continued**

Benchmarks
- Uses knowledge of everyday objects to provide reasonable estimates of length, height, mass and capacity.
- Makes accurate use of a range of instruments including rulers, metre sticks, digital scales and measuring jugs when measuring lengths, heights, mass and capacities using the most appropriate instrument for the task.
- Records measurements of length, height, mass and capacity to the nearest standard unit, for example, millimetres (mm), centimetres (cm), grams (g), kilograms (kg), millilitres (ml), litres (l).
- Compares measures with estimates.
- Uses knowledge of relationships between units of measure to make simple conversions, for example, 1m58cm = 158cm.
- Reads a variety of scales on measuring devices including those with simple fractions, for example, $\frac{1}{2}$ litre.

Mental Strategies	Skills	Possible Resources	Assessment
Recall The language of comparison of measure and be able to give examples, i.e. 'My school bag is lighter than Anisha's.'	**Weight** **I can engage in discussion about how measurements are used** **I can make comparisons and order the measurements of different object, using direct comparison and non-standard units** **I have explored the need for standard units, talking about a range of metric units of weight** **I can estimate, measure and compare different quantities of weight** **I can solve problems involving measures** **I can select and use appropriate units of measure when solving problems, knowing the importance of accuracy** **I can select and use appropriate measuring devices** • I can use a variety of words to talk about weight • I can compare the weight of two different items by holding them in my hands or placing them on a balance and say which is heavier and which is lighter • I have explored the way that the weight of some objects will stay the same however they are arranged • I can put several items in order of weight from lightest to heaviest • I can choose and use different non-standard units to measure the weights of items and talk about what I have found out • I have investigates different ways to measure using everyday items and compare my own results with those of others • I can talk about weight using standard units • I can show an awareness of standard units of weight and can use this to estimate and make comparisons • I have investigated the weight of common objects and can use this to help them estimate the weight of other objects • I can decide the correct unit of measure to use in reaching an answer • I can interpret practical problems and decide which unit of measure to use • I can solve a variety of practical problems by estimating and measuring • I can explain my results and record my findings in a variety of ways	**Weight** HAM Teaching Cards M1.2b H2 Teacher's Notes pgs 103 – 104 H2 Measure Wbk pgs 5 – 6 TJ Level B Ch 18 Ex 1 pgs 198 – 199 TJ 1a Ch 22 Ex 1 pgs 186 – 188	**Do** Choose a non-standard unit of weight, e.g. construction bricks (all the same size) and hold up an object. Children estimate how many bricks will be equal to the weight of the object. Use balance scales to check. Children compare this with their estimate. You could make the activity competitive by awarding points, e.g. they win 10 points if their estimate is within 10, etc. and see who wins most points after a set number of rounds.

Topic & CfE Outcome - 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 continued**

Benchmarks
- Uses knowledge of everyday objects to provide reasonable estimates of length, height, mass and capacity.
- Makes accurate use of a range of instruments including rulers, metre sticks, digital scales and measuring jugs when measuring lengths, heights, mass and capacities using the most appropriate instrument for the task.
- Records measurements of length, height, mass and capacity to the nearest standard unit, for example, millimetres (mm), centimetres (cm), grams (g), kilograms (kg), millilitres (ml), litres (l).
- Compares measures with estimates.
- Uses knowledge of relationships between units of measure to make simple conversions, for example, 1m58cm = 158cm.
- Reads a variety of scales on measuring devices including those with simple fractions, for example, $\frac{1}{2}$ litre.

Mental Strategies	Skills	Possible Resources	Assessment
Recall The language of comparison of measure and be able to give examples, i.e. 'My water bottle can hold more water than Sam's.'	**Capacity and Volume** **I can engage in discussion about how measurements are used** **I can make comparisons and order the measurements of different objects, using direct comparisons and non-standard units of capacity and volume** **I have explored the need for standard units, talking about a range of metric units** **I can estimate, measure and compare different quantities in capacity and volume** **I can solve problems involving measures** **I can select and use appropriate units of measure when solving problems, knowing the importance of accuracy** **I can select and use appropriate measuring devices** • I can use a variety of words to talk about how full or empty a container is • I can explore filling a range of different containers with different objects and substances and make comparisons • I can compare how empty or full several containers of the same size are and put them in order • I have investigated different ways to measure using everyday items and compare my own results with those of others • I can talk about how full a container is using standard units • I can show an awareness of standard units for measuring amounts and use this to estimate and make comparisons • I have investigated the volume and capacity of common containers and can use this to estimate the capacity and volume of other containers • I can decide on the correct unit of measure to use in reaching an answer • I can interpret practical problems and decide which unit of measure to use • I can solve a variety of practical problems by estimating and measuring • I can explain results and record findings in a variety of ways	**Volume** HAM Teaching Card M1.2c H2 Teacher's Notes pgs 105 – 108 H2 Measure Wbk pgs 7 – 9	**Say and Do** Ask a child to pick a container from a given selection and get them to put an elastic band around it to a chosen point. The other children in the group estimate and note on their whiteboard how many of a chosen cup it will take to fill the container to the elastic band. Water, sand, lentils, glitter etc. can be used. The child who chose the container then adds cupfuls to the container until it reaches the elastic band. The children then compare their estimate to the actual number of cups that it took to reach the elastic band. This is best done as an assessment task once the children have had a chance to experience this first hand. Observing the play and exploration is the best method of assessment here.

Topic & CfE Outcome - Measurement
I can estimate the area of a shape by counting squares or other methods. **MNU 1-11b**

Benchmarks
- Uses square grids to estimate then measure the areas of a variety of simple 2D shapes to the nearest half square.
- Creates shapes with a given area to the nearest half square using square tiles or grids.
- Recognises that different shapes can have the same area (conservation of area).

Mental Strategies	Skills	Possible Resources	Assessment
Recall The language of comparison of measure and be able to give examples, i.e. 'I covered this shape with less counters than I covered that shape.' 'I will need more cubes to cover that shape.' **Skills** (mentally, with jottings and materials if needed) Count to find out how many items have been used to cover a surface. This can be the child's choice, i.e. ones, twos etc.	**I can estimate, measure and compare different quantities of area** **I can find the area of a rectangle, square and irregular shapes using non-standard units and by counting squares** **I can make comparisons and order measurements of different objects, using direct comparison and non-standard units of area** • I can explain what is meant by area in simple terms • I can measure shapes using non-standard units and talk about how it was measured • I can cover a surface and say how I covered it • I can compare two different areas by looking at them, covering them and comparing results • I can explain whether one item has a bigger or smaller area than another • I can create different areas by drawing or creating outlines	HAM Teaching Cards M1.2d H2 Teacher's Notes pgs 110 – 111 H2 Measure Wbk pgs 10 – 12	**Say and Do** Work in pairs or small groups. One child draws a shape on their whiteboard. Encourage children to use a mixture of straight lines and curved lines throughout the task. The other children estimate how many of a chosen unit (counters, cubes, coins etc.) it will take to cover the shape. The child who drew the shape covers the shape with the chosen unit (make sure the unit chosen is all the same, i.e. all counters are the same size) The children compare their estimates with the final total. This could be adapted into a game where points are given for getting the estimate within a certain range.

Topic & CfE Outcome - 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**

Benchmarks
- Investigates and shares understanding of the importance of numbers in learning, life and work.
- Investigates and shares understanding of a variety of number systems used throughout history.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Read and identify numbers to 100 **Skill** (mentally, with jottings and materials if needed) Compare numbers- biggest and smallest to 100 Order numbers from smallest to largest to 100 Match number names to numbers (to 20)	**I can talk about how numbers are used all around me** • I can spot numbers in everyday life • I can give examples of numbers I might see in everyday life • I can discuss how numbers help me in my life • I can discuss different types of numbers I might see in everyday life	HAM Teaching Cards NP 1.1	**Say** Tell the children about numbers that you saw yesterday such as 0141 889 6949, £1·99, 145g, 50% off 09:00. Where do you think I might have seen these? You can either display all of the numbers and ask the children to select one to talk about or present one at a time. Children will provide different answers based on their cultural capital. Consider this when making judgements about assessment. **Do** Go on a number hunt around the school. Children identify number and discuss as a class the purpose of the numbers that have been found. Talk about how things would be difficult without those numbers, e.g. numbers on a clock, room numbers. Are there any numbers that are represented in different ways?

Topic & CfE Outcome - Patterns and Relationships
I can continue and devise more involved repeating patterns or designs, using a variety of media. **MTH 1-13a**

Benchmarks
- Continues and creates repeating patterns involving shapes, pictures and symbols.
- Describes, continues and creates number patterns using addition, subtraction, doubling, halving, counting in jumps (skip counting) and known multiples.

Mental Strategies	Skills	Possible Resources	Assessment
	I can explore and continue different visual patterns or designs **I can explore how visual patterns relate to number patterns** **I can describe and continue a range of different number sequences** • I can continue and describe simple patterns of colour, shape and objects including those in the environment • I can create simple patterns or sequences of colour, shape or objects • I can recognise and copy repeating patterns and sequences	TJ Lvl A Support Pack Measure and Patterns Booklet pgs 320 – 322 H2 Teacher's Notes pgs 66 – 71 H2 Number Wbk 3 pgs 16 – 20 H2 Number Wbk 4 pg 17 TJ 1a Ch 23 Ex 1 pgs 194 – 195 TJ Level B Ch 16 Ex 1 Qu 1 pg 186 – 187	**Do and Say** Set up the beginning of a visual pattern and ask the child to complete the pattern. Alternatively, present a completed pattern that has a mistake in it and ask the child to find the mistake and correct it. This also builds on the concept of mistakes being an aid to learning and promotes a Growth Mindset.

Topic & CfE Outcome - Patterns and Relationships
Through exploring number patterns, I can recognise and continue simple number sequences and can explain the rule I have applied. **MTH 1-13b**

Benchmarks
- Counts forwards and backwards in 2s, 5s and 10s from any whole number up to 1000.
- Describes patterns in number, for example, in the multiplication tables and hundred square.
- Describes, continues and creates number patterns using addition, subtraction, doubling, halving, counting in jumps (skip counting) and known multiples.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Odd and even numbers to 20 (then beyond) Read and identify numbers to 100 **Skill** (mentally, with jottings and materials if needed) Count on from, and back to zero in ones, twos, fives, or tens within 100 Compare numbers - biggest and smallest to 100 Order numbers from smallest to largest to 100 Count on from, and back in ones from a given one or two digit number, i.e. Count to 15 from 6 Count on from, and back to zero in ones, twos, fives or tens, i.e. Count back in two's from 8	**I can create and complete number sequences by repeatedly adding or subtracting – steps of 1 and 2 within a familiar number range** **I can recognise and explain the rule for number sequences containing:** **- odd and even numbers** **- 2s, 5s and 10s** • I can say 1 more/less than and 2 more/less than a number • I can use knowledge of number bonds to help create a pattern • I can continue and complete a sequence • I can spot a sequence and talk about the different patterns it creates in its numbers • I can create and display a pattern in a range of different ways • I can solve problems involving a sequence • I can talk about odd and even numbers • I can link skip counting of 2, 5 and 10 to patterns and sequences	HAM Teaching Cards AS 1.4a H2 Teacher's Notes pgs 34, 57 – 61 H2 Number Wbk 2 pgs 7 – 8 H2 Number Wbk 3 pgs 9 – 12	**Say and Do** Ask the children to arrange themselves in a circle and join them. Use a ball or other item to 'Pass the Count' around the circle. Alternatively, place yourself in the middle of the circle and start the count. Pass a ball to the child that you wish to give you the next number in the sequence. The child says the answer aloud as they pass the ball back to you. This version is better for differentiating if you have a mixed ability group that you are working with. **Say** Split the children into a counting choir of two groups. Choose a group to be in so that you can start the count as part of that group. Begin the count from a different number each time. Call out the first three numbers and the other group reply with the next three then the group you are in replies with the next three. It is easier to assess who is confident in counting in sequence when you do this with smaller groups but practising in larger groups first can build confidence. **Do** Arrange the children into groups. In the groups, the children come up with a number pattern. Each child writes one of the numbers from the pattern on their board. The other children try to work out the pattern and the next numbers in the pattern.

Topic & CfE Outcome - Expressions & 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**

Benchmarks
- Understands and accurately uses the terms 'equal to', 'not equal to', 'less than', 'greater than', and the related symbols (=, ≠ , <, >) when comparing quantities.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Know what 'greater than', 'less than' and 'equal to' means and be able to give examples, i.e.' 36 is greater than 15.' 'Tell me a number that is less than 21.' **Skills** (mentally, with jottings and materials if needed) Add or subtract a pair (or more) of single digit numbers to demonstrate knowledge of equality, i.e. 2 + 3 = 1 + 4 Add or subtract a single digit number to or from 10 up to 20, (bridging through ten) to demonstrate knowledge of equality, i.e. 11 + 5=17 – 1	**I can compare quantities and understand the vocabulary related to equal to, more than, greater than, fewer than and less than** **I can use symbols to help describe number relationships – up to 100** • I can compare numbers to decide which is bigger or smaller for numbers up to 100 • I can recognise the greater than sign (>) and the less than sign (<) • I can complete a statement by adding one of these symbols to make it true, e.g. 30 ? 20 • I can complete a statement by adding a number to make it true, e.g. 30 > ? • I can demonstrate that I know what equals means by completing a statement using the = symbol, e.g. 2 + 3 = 4 + 1	HAM Teaching Cards NP 1.8a TJ Lvl A Support Pack Numbers to 20 Booklet pgs 206, 208, 211, 215, 220 http://www.mathsisfun.com/equal-less-greater.html http://nrich.maths.org/5514 S.E.A.L. Approaches as per Figurative planner	**Write** HAM Question Bank NP 1.8a **Write and Say** Write ten statements on the board which include < and > but make five of them incorrect. Children write them on their whiteboards. They put a tick beside the correct statements, and change one of the numbers in each incorrect statement to make it correct. Encourage the children to replicate this with their partner. This reinforces the concept of using mistakes as a point for learning and promotes a Growth Mindset.

Topic & CfE Outcome - 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**

Benchmarks
- Names, identifies and classifies a range of simple 2D shapes and 3D objects and recognises these shapes in different orientations and sizes.
- Uses mathematical language to describe the properties of a range of common 2D shapes and 3D objects including side, face, edge, vertex, base and angle.
- Identifies 2D shapes within 3D objects and recognises 3D objects from 2D drawings.

Mental Strategies	Skills	Possible Resources	Assessment
Skills Use counting skills to count the number of a particular property an item possesses	**I can create a picture or model using a wide variety of 3D objects and/or 2D shapes** **I have explored and can name and talk about a range 2D shapes and 3D objects** **I can identify 2D shapes within 3D objects** **I can describe 2D shapes in terms of sides and corners** **I understand the terms face, corner and edge in 3D objects** **I can sort shapes according to simple criteria** **I can use knowledge of right angles to help compare and describe the angles in 2D shapes** **I can identify a right angle and mark it with an x** • I can make a 3D object using a variety of modelling and construction materials • I can make a 3D object by joining together other 3D objects • I can talk about the models I have made and the shapes I have chosen and why • I can make 2D shapes by cutting, printing, drawing and using ICT • I can make a picture using 2D shapes and can talk about what I have created • I can describe the shape of 3D objects in my own way • I have gathered and created different examples of 3D objects and can talk about their differences and similarities • I can sort 3D objects using my own and others' criteria • I can use the mathematical names of some 3D objects and can spot examples of these in the real world • I have explored what new shapes I can create by putting together two or more simple 3D objects • I can use the terms sides and corners when discussing 2D shapes • I can use the terms face, edge and corner when describing a 3D shape • I have explored the faces of 3D objects and can name and/or describe the 2D shapes I can see • I can describe 2D shapes in my own way • I have gathered and created examples of squares, rectangles, circles and other, named 2D shapes and can talk about their differences and similarities • I can sort 2D shapes using my own and others' criteria • I know the mathematical names of some 2D shapes and can spot examples of these in the real world • I have explored what new shapes I can create by putting together two or more 2D shapes • I can find and check examples of right angles in shapes in the environment	HAM Teaching Cards SPM 1.1, SPM 1.2a, SPM 1.2b **2D Shape** H2 Teacher's Notes pgs 127 – 132 H2 Shape Wbk pgs 5 – 10 TJ Level B Ch 8 Ex 1 Ex 2 Qu 1 – 7 pgs 80 - 83 TJ 1a Ch 13 Ex 1 Ex 2 Qu 1 – 8 pgs 113 – 116 **3D Shape** H2 Teacher's Notes pgs 124 – 126 H2 Shape Wbk pgs 1 – 4 TJ Lvl A Support Pack 2D/3D Shapes Booklet pgs 248 – 266 TJ Level B Ch 17 Ex1 Qu 1 – 3 pg 193 TJ 1a Ch 24 Ex 1 pgs 199 – 201	**Say and Do** Use a cloth bag with flat (2D) shapes inside. Ask children to come out and choose a shape which the others cannot see and describe the properties to the others. The children work out which shape it is using names if appropriate or pointing to a duplicate set of shapes or pictures of shapes. **Say and Do** Hold up two different 3D objects (from a classroom set or real-life objects). Ask children to say one thing which is the same/similar about them and one thing which is different. Share their ideas and repeat for a range of different pairs of objects. **Say** Sit in a circle and choose a flat (2D) shape to pass around the group. As each child passes the shape, they say a fact about it. They might focus on its properties or they might give an example of where they have seen it. Encourage them not to repeat a fact which has already been said. Repeat for a range of different shapes. **Do** Show a 3D object and make a statement about the shapes of its faces. 'This cone has one circular face.' 'This cuboid has only rectangular faces.' 'This pyramid has some faces that are triangles.' 'This cylinder has three circular faces.' Children indicate whether they think the statement is true or false by showing thumbs up or down.

Topic & CfE Outcome - Properties of 2D shapes and 3D objects
I can explore and discuss how and why different shapes fit together and create a tiling pattern with them. **MTH 1-16b**

Benchmarks
- Identifies examples of tiling in the environment and applies knowledge of the features of 2D shapes to create tiling patterns incorporating two different shapes.

Mental Strategies	Skills	Possible Resources	Assessment
	I have investigated which 2D shapes will tile • I know that for shapes to tile they must 'fit together' side by side • I know that shapes with curved edges do not tile		**Do** Sit with the children in a circle and place various examples of 2D shapes in the middle of the circle. Ask a child to select a shape that will tile and provide extra examples of the same shape so that they can demonstrate. Repeat with shapes that will not tile.

Topic & CfE Outcome - Angle, symmetry and transformation
I can describe, follow and record routes and journeys using signs, words and angles associated with direction and turning. **MTH 1-17a**

Benchmarks
- Uses technology and other methods to describe, follow and record directions using words associated with angles, directions and turns including, full turn, half turn, quarter turn, clockwise, anticlockwise, right turn, left turn, right angle.
- Knows that a right angle is 90°.
- Knows and uses the compass points, North, South, East and West.
- Uses informal methods to estimate, compare and describe the size of angles in relation to a right angle.
- Finds right angles in the environment and in well-known 2D shapes.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Which direction is left and which is right	**I can describe the position of a person or object in my own way** **I can use positional vocabulary left/right, whole/half turn** **I can give and follow directions using simple language of movement and position and record these in my own way** **I have begun to follow and give simple instructions to find an object in the learning environment, i.e. classroom or outdoor learning area** • I can use a wide range of vocabulary to talk about where people or objects are in relation to each other • I understand the meaning of different words about position • I can guess what person or object is being described from a series of clues about their position • I can make a simple picture map • I recognise and make turns to the left and to the right • I can give and follow simple instructions using turns including whole and half turns • I can create and follow simple instructions for journeys involving turns and directions • I can record the turns and directions I have given and followed in my own way	HAM Teaching Cards SPM 1.4, SPM 1.5 H2 Teacher's Notes pgs 134 – 136 H2 Shape Wbk pgs 11 – 14 TJ Level B Ch 14 Ex 1 pgs 163 – 164	**Say and Do** Gather children around in a group and provide a selection of toys or objects. Give them instructions about how to place the toys. 'Put the train next to the teddy and in front of the car.' Repeat this using shelves so they can include the vocabulary of above and below as well. **Do** Tap into the interests of the children and create a scene, i.e. dinosaurs, transport, Pokémon, Shopkins etc. Ask the children to tell you statements about the position of items in the scene, i.e. 'The T'rex is behind the tree', 'The red car is the first car in the row.' etc. Allow the children to change the scene to challenge their peers. **Say and Do** Place items of interest around the classroom. In pairs the children give directions from point to point using positional language. **Do** In a large space, explain that the children are going to give each other instructions to move forwards or backwards and half or whole turns to the left or right. Choose one child to come out to the front to give instructions to the others, i.e. 'Walk three steps forwards. Turn left. Take four steps backwards. Turn left again. Jump five times on the spot.' Choose different children to give instructions.

Topic & CfE Outcome - Angle, symmetry and transformation
I have explored symmetry in my own and the wider environment and can create and recognise symmetrical pictures, patterns and shapes.
MTH 1-19a

Benchmarks
- Identifies symmetry in patterns, pictures, nature and 2D shapes.
- Creates symmetrical pictures and designs with more than one line of symmetry.

Mental Strategies	Skills	Possible Resources	Assessment
	I can recognise symmetrical shapes by folding and can use a mirror to check reflection **I can make my own symmetrical pictures and patterns and recognise when a shape or pattern is symmetrical** • I can use folding, cutting and printing to create a symmetrical shape or pattern • I can talk about what it means for a shape or pattern to be symmetrical • I can spot things around me which I think are symmetrical and talk about why • I can complete a symmetrical shape or simple pattern if I can see one half of it • I have explored how patterns and shapes change when I reflect part of them in a mirror and can talk about my findings	HAM Teaching Card SPM 1.3 TJ Level B Ch 2 Ex 1 Qu 1 – 4 pgs 21 – 23	**Do** Ask children to sort a range of 2D shapes into two groups – those which are symmetrical and those which are not. The children draw around the shapes, cut them out and fold them to see if they were correct. They could then create shapes for each other to cut out and check, then add to the groups. **Say and Do** Children work in small groups and brainstorm the things they can see around the class which are symmetrical. They write a list of all the things they can spot in a minute. Go around each group in turn and take a suggestion; groups are not allowed to repeat the same item. See how long you can keep going around the groups suggesting different things. If an incorrect item is suggested, ask the children to identify why the item is incorrect. **Make and Do** Using small tiles or shapes, create half of a design, marking clearly where the line of symmetry should be with a piece of string. Ask the child to complete the other half of the design to make it symmetrical. You can differentiate this by the amount of the second half of the design that you provide for the child.

Topic & CfE Outcome - Data and analysis
I have explored a variety of ways in which data is presented and can ask and answer questions about the information it contains. **MNU 1-20a**

Benchmarks
- Asks and answers questions to extract key information from a variety of data sets including charts, diagrams, bar graphs and tables.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Vocabulary of 'more than', 'less than', 'in total', 'altogether' etc. to help with understanding of questions **Skills** (mentally, with jottings and materials if needed) Use addition and subtraction skills for analysing data, i.e., 'How many more children like strawberry ice cream than vanilla?' 'If 4 children walked to school, 7 children cycled and 3 got the school bus, how many children were there altogether?' Skip counting in twos for the scale of an axis	**I can explore and gather examples of the different ways that information is collected and presented around me and how it can help me** **I can complete a blank bar graph with labelled axes by using the information given and give it an overall title** **I can interpret information from a simple bar graph** • I have discovered examples of information being presented in different ways around me • I can talk about information displays I have found and explain why they are helpful • I understand why people gather, combine and display information • I can ask and answer questions about the information displays I have found • I can give examples of when I have gathered and sorted information • I have explored real-life charts, diagrams and graphs	HAM Teaching Notes IH 1.1 H2 Teacher's Notes pgs 141 – 149 H2 Handling Data Wbk pgs 1 – 13 TJ Level B Ch 11 Ex 1 Qu 1 Ex 2 Qu 1 – 3 Ex 3 Qu 1 – 2 pgs 125 – 133 TJ 1a Ch 19 Ex 1 Qu 1 – 3 Ex 2 Qu 1 – 2 Ex 3 Qu 1 – 2 pgs 161 – 168	**Do** Give the children a mixture of similar items to sort, i.e. buttons of different colours or sizes. Next, ask the children to sort the items and line them up beside each other. Ask the children questions about the items, i.e. 'Which colour has the most buttons?' Make the link to this transferring into a basic bar/block graph and work on board to complete as a class. Repeat with other items. **Do and Say** Arrange for the children to go on a hunt around the school environment. Can they find examples of information that has been presented to help them? i.e. signs, labels etc. Discuss the importance of the signs, i.e. Exit signs, signs with directions etc.

Topic & CfE Outcome - Data and analysis
I have used a range of ways to collect information and can sort it in a logical, organised and imaginative way using my own and others' criteria.
MNU 1-20b

Benchmarks
- Selects and uses the most appropriate way to gather and sort data for a given purpose, for example, a survey, questionnaire or group tallies.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Vocabulary of 'altogether', 'difference', 'more than' and 'less than' **Skills** (mentally, with jottings and materials if needed) Use addition and subtraction strategies to find the total of items, i.e. 'There are 6 shapes with four or more sides and 2 shapes with less than four so there are 4 more shapes in that loop' Counting in ones, twos, fives or tens to count collections	**I can sort and organise objects based on own and others' criteria and talk about what was done** **I can create and use questions to find out information and display findings in different ways** **I can collect and record information using my own method, i.e. crosses, ticks, pictures, symbols** • I can talk about what is the same and different about a group of objects • I can talk about what is the same and what is different in a group of objects • I have explored the kinds of questions that people ask to find things out • I can sort objects gathered into groups • I can show an understanding that it is easier to compare objects if they are of a similar size • I can sort objects or people by one criteria and sort further by a second criteria • I can use a Venn, Carroll or Tree diagram when led by an adult	H2 Teacher's Notes pgs 150 – 152 H2 Handling Data Wbk pgs 14 – 15	**Write and Do** Allow the children to select items to sort from a selection provided. Let them explore sorting the items to their own criteria. Introduce a Venn Diagram and ask them to use it to sort the items. Depending on the confidence of the learner you may need to indicate the criteria to sort by or once confident, allow the children to suggest and sort themselves. **Make and Do** Tell children that you want to know their favourite animal. Ask for suggestions and write them on the board. Ask children to vote for their favourite and record their answers using marks. Children use this information to produce a table. They make their own, but encourage them to have two columns – one for animal names and one for the number of children who like them. They will need to total each set of marks and write it as a number. Explore the differences and similarities between charts and tables. **Do** Secretly choose a criterion, i.e. colour of hair, wearing a jumper etc. and ask the children to stand by name. Do not tell the criterion as the children will have to try and work out why you have selected the children that are standing.

Topic & CfE Outcome - 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. **MNU 1-22a**

Benchmarks
- Uses mathematical vocabulary appropriately to describe the likelihood of events occurring in everyday situations including, probable, likely/unlikely, certain/uncertain, possible/impossible, and fair/unfair.
- Interprets data gathered through everyday experiences to make reasonable predictions of the likelihood of an event occurring.

Mental Strategies	Skills	Possible Resources	Assessment
	I can talk about how likely something is to happen and justify my opinion **I can use specific vocabulary to describe the likelihood of an event** • I can use the words 'never', 'always' and 'sometimes' to describe the likelihood of events		**Do** Give the children a simple statement and children sit down if they think the event 'never happens' and remain standing if they think it 'always happens', i.e. 'We come to school on Christmas Day.' Vary the vocabulary to include 'sometimes' and 'often'. Be careful with your choice of statement as some statements will vary for different children depending on their social/cultural capital.

Strategies

By the **END** of First Level, Learners should understand when to use and be able to apply the following strategies. Knowledge of, understanding and application of these strategies should be built **across** the level.

* Explore and use correctly a variety of mathematical language related to addition, subtraction, multiplication and division

* Emphasise the importance of using mental maths skills and recall in a variety of contexts, e.g. Time (number pairs to 60), Money

Addition and Subtraction

* Emphasise the use of estimation and rounding in calculations

* Re-order numbers when adding – put larger number first

* Count on or back in 1s, 2s, 5s, 10s

* Partitioning

* Number Patterns

* Using knowledge of number bonds to 10 and apply in more complicated calculations e.g. 60 - 7 think 10 - 7=3, 60 - 7=53

Multiplication and Division

* Emphasise the use of estimation and rounding in calculations

* Use patterns of last digits e.g. 0 and 5 when counting in fives

* Partition then recombine e.g. double 35 = double 30 + double 5

* Using halving as inverse of doubling and doubling is equivalent to multiplying by 2

* Use multiplication facts from the multiplication tables e.g. Recognise that there are 15 objects altogether because there are 3 groups of 5

* Link multiplication and division facts to unit fractions e.g. Finding $\frac{1}{3}$ of 9 = 9 ÷ 3

* Recognise that when multiplying by 10 or 100, the digits move one or two places to the left and zero is used as a place holder, also applying the inverse