



Renfrewshire
Council

**Progression and Support Document
Early Level – Pathway 2**

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.

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
<p>Recall Recite and recall all multiplication facts and corresponding division facts</p> <p>Recognise the link between 2, 4 and 8 times tables</p> <p>Recognise the link between 3, 6 and 9 times tables</p> <p>Recognise the link between 2, 5 and 10 times tables</p>	<p>I can use the term 'multiple' correctly</p> <p>I can recognise number patterns involving multiples of the 2 – 10 times tables, e.g. 2, 4, 6, 8... 5, 10, 15...</p> <ul style="list-style-type: none"> • 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 	<p>HAM Teaching Cards MD 1.7a, MD 1.7b, MD 1.7c (Revision)</p> <p>TJ Level C Ch 13 Ex 2 pg 152</p> <p>TJ 2a Ch 17 Ex 1 pgs 168 – 169</p> <p>http://www.mathsisfun.com/numbers/maths-trainer-multiply.html</p> <p>http://www.topmarks.co.uk/Flash.aspx?f=carolly7</p>	<p>Write HAM Question Bank MD 1.7a, MD 1.7b & MD 1.7c</p> <p>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.</p> <p>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.</p>

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 further.

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.

Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2

Topic & CfE Outcome - Estimation and rounding

I am developing a sense of size and amount by observing, exploring, using and communicating with others about things in the world around me.

MNU 0-01a

Benchmarks

- Recognises the number of objects in a group, without counting (subitising) and uses this information to estimate the number of objects in other groups.
- Checks estimates by counting.
- Demonstrates skills of estimation in the contexts of number and measure using relevant vocabulary, including less than, longer than, more than and the same.

Mental Strategies	Skills	Possible Resources	Assessment
<p><u>Recall</u> Use vocabulary such as bigger, smaller, less than, more than and 'the same' to compare groups of, or individual items e.g. objects, pictures, sounds etc</p> <p>1-1 correspondence when counting, i.e. matching games to encourage counting aloud (up to 5 initially then beyond)</p> <p><u>Skills</u> (mentally, with jottings and materials if needed)</p> <p>More/less comparison to 5 (then if appropriate more beyond 5) e.g. A set of 5 and a set of 4 – Which has more/less?</p> <p>Ability to look at two or more collections of items and say which has more or which has less than the other</p>	<p>I can compare and talk about amounts of objects</p> <p>I can create marks and pictures to represent numbers and amounts</p> <ul style="list-style-type: none"> • I can use a range of materials when mark making and creating pictures about numbers and amounts • I can discuss what the marks and pictures mean • I have begun to understand and use the words 'enough', 'not enough' and more appropriately in context • I can match objects one to one to find out whether there are enough or whether more is needed • I can recognise when two collections have the same number of objects 	<p>HAM Teaching Cards NC 0.5, NC 0.6 (Select activities to the appropriate level)</p> <p>S.E.A.L. Approaches as per Emergent planner</p>	<p><u>Say</u> Talk about quantities in natural opportunities around the playroom or classroom. Are there enough cushions for everyone? Does everyone have a book each? How many more do we need so that everyone has a toy to play with? Embedding this language in everyday activities will provide many opportunities for assessment and reinforce the vocabulary.</p> <p><u>Say, Make and Write</u> Talk with children about numbers that are important and support them in making personal number books to contain, for example, their age, phone number, number of siblings, house number, and favourite number. They may choose to write numbers they have seen in the environment or in their own context. This should be encouraged and is a good opportunity to nurture cultural capital.</p> <p><u>Write</u> When children achieve something, such as building a tower, that involves counting (bricks) ask if they would like to record their number in some way.</p>

Renfrewshire Council

Numeracy and Mathematics Progression and Support - Early Level Pathway 2



Topic & CfE Outcome - Number and number processes - including addition, subtraction, multiplication, division and negative numbers
 I have explored numbers, understanding that they represent quantities, and I can use them to count, create sequences and describe order.
MNU 0-02a

Benchmarks

- Explains that zero means there is none of a particular quantity and is represented by the numeral 0.
- Recalls the number sequence forwards within the range 0 - 30, from any given number.
- Recalls the number sequence backwards from 20.
- Identifies and recognises numbers from 0 to 20.
- Orders all numbers forwards and backwards within the range 0 - 20.
- Identifies the number before, the number after and missing numbers in a sequence within 20.
- Uses one-to-one correspondence to count a given number of objects to 20.
- Identifies 'how many?' in regular dot patterns, for example, arrays, five frames, ten frames, dice and irregular dot patterns, without having to count (subitising).
- Groups items recognising that the appearance of the group has no effect on the overall total (conservation of number).

Mental Strategies	Skills	Possible Resources	Assessment
<p>Recall</p> <p>1-1 correspondence when counting, i.e. matching games to encourage counting aloud (up to 5 then beyond as appropriate)</p> <p>Value of a set, i.e. counting 3 as 3</p> <p>Conservation of number, i.e. knowing 3 is 3 regardless of arrangement of concrete materials or objects (up to 5 then beyond as appropriate)</p> <p>Use vocabulary such as bigger, smaller, less than, more than and 'the same' to compare groups of, or individual items e.g. objects, pictures, sounds etc</p> <p>Begin to use ordinal numbers in given context, e.g. 1st, 2nd, 3rd and last</p> <p>Skills (mentally, with jottings and materials if needed)</p> <p>Read and use a straight number line to at least 10, i.e. washing line</p>	<p>I notice and can talk about numbers that are around and are special</p> <p>I can join in actively with counting rhymes and songs</p> <p>I can 'touch, count and move' objects to find out how many there are</p> <p>I have started to use words to help put pictures, objects and people in order</p> <p>I can count aloud a set of objects, actions and sounds up to at least 10, recognising an 'empty set' by using a word for 'zero' (Child may say none, nothing etc.)</p> <ul style="list-style-type: none"> • I can show an awareness of and start to talk about numbers in the environment, recognising numbers which have personal meaning, talking about larger numbers in context • I can join in with counting on and back in rhymes and songs • I can touch, count and move objects being counted in rhyme • I can act out own and others' number rhymes • I am beginning to give each number item a number name • I am beginning to 'touch, count and move' when counting a small number of items • I can use counting in play • I can choose how to order objects and pictures and talk about choices • I have begun to use words such as: first, after, next, last, before and between to talk about ordering • I can touch and count each object in a set only once and know when to stop (one to one correspondence) • I can count out a given number of objects, actions and sounds • I can, at least, use number names one to five in order when finding out how many there are • I can demonstrate an understanding that the last number indicates how many there are 	<p>HAM Teaching Cards <i>NC 0.1, NC 0.2, NC 0.3, NC 0.4, NC 0.5, NC 0.7</i></p> <p>S.E.A.L. Approaches as per Emergent planner</p>	<p>Say and Do</p> <p>Provide calculators and old mobile phones for children to explore. Ask the children if they can tell you about the numbers they have chosen.</p> <p>Say and Do</p> <p>Bury wooden numbers in the sand tray for children to find. Prompt them with questions to spark discussion. "I wonder what is sticking out of the sand. It has a sharp corner so it can't be the zero. This is curved; I wonder what number it could be?"</p> <p>Do and Say</p> <p>Line up numbered plastic bottles for children to knock over with beanbags or a ball. You can ask the children to target specific numbers or ask them to throw a bean bag to see how many they can knock down then count or identify the numbers that are on the knocked down bottles</p> <p>Say and Do</p> <p>Pick a number of the day at random with the children and display it clearly for the children to see. For example, choose 4. Find the numbers before and after 4 to hang up in position. Then focus on 4 all day: make four drum beats, clap four times, collect four bears, put out four biscuits at snack time, look for fours and 4s everywhere. Look for opportunities to assess the children's ability to talk about the number and what comes</p>

<p>Explain answers in words, with materials if needed</p>		<p>before and next. In group time, the children can sit in a circle with beanbags or teddies in the middle. Ask a child to take a given number from the pile. You can also tell the children you are going to take a given number but take more or less than the number you have said you were going to take to see if the children can spot your mistake. Discuss if you have 'enough'.</p> <p>Say and Do At the sand try, involve yourself as a co-player, talking to yourself using the concepts and language you would like children to imitate. In this way, you don't interfere with their own imagination but offer ideas for them. First, I'm going to fill my bucket really full. I'm going to put a flag on my castle next. I think I need a big shell to put between my pebbles.</p> <p>Say and Do Involve children in counting out a particular number from a larger set when you have a real purpose, such as four cake candles from the packet, five paint brushes from the pot to put in the paint pots, three counters for the board game. This will encourage 1-1 correspondence and will promote relevance.</p> <p>Say and Do Play hide and seek with the seeker counting aloud up to 10 before seeking the children who are hiding. Micro-adjust for children who would struggle to count to ten.</p> <p>Say and Do Provide a collection of items relevant to the learning context, i.e. birthday candles, shells etc. Say to the child 'Give me 5 shells'. Observe them organising and counting the items into the set to give to you. You may need to support and micro-adjust the activity by asking questions or providing a number track so that the child can match the item to a number.</p>
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Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2



Topic & CfE Outcome - Number and number processes - including addition, subtraction, multiplication, division and negative numbers
 I use practical materials and can 'count on and back' to help me to understand addition and subtraction, recording my ideas and solutions in different ways. **MNU 0-03a**

Benchmarks

- Uses ordinal numbers in real life contexts, for example, 'I am third in the line'.
- Uses the language of before, after and in-between.
- Counts on and back in ones to add and subtract.
- Doubles numbers to a total of 10 mentally.
- When counting objects, understands that the number name of the last object counted is the name given to the total number of objects in the group.

Mental Strategies	Skills	Possible Resources	Assessment
<p>Recall Names of numerals to 10</p> <p>Say number word sequences to at least 20 forwards and from 10 backwards</p> <p>Skills (mentally, with jottings and materials if needed)</p> <p>Read and use a straight number line to at least 5, i.e. washing line</p> <p>Place/identify any given digit on a number line to 10, e.g. before/after</p> <p>Explain answers in words, with materials if needed</p>	<p>I can order number labels from 0 to 10 and beyond</p> <p>I can record understanding about numbers</p> <ul style="list-style-type: none"> • I can say the number names in order forwards • I can sequence numbers in order to at least 5 and beyond and talk about order • I can create number labels (to at least 5) for collections of objects, including when there are zero objects • I can use number labels and pictures in play, and talk about what they mean • I can use number labels and pictures to demonstrate thinking about number • I can say the number names (to 5 and beyond) in decreasing order backwards • I can put number labels in decreasing order and talk about the order 	<p>HAM Teaching Cards NC 0.12, NC 0.13</p> <p>S.E.A.L. Approaches as per Emergent planner</p>	<p>Say, Make and Do Children cut numbers out of play-doh. Talk about whether it matters which way the numbers face, and whether they are upside down or the right way round. Get the children to name and order the numbers. Differentiate as necessary.</p> <p>Say, Write and Do In the playroom, set up a situation where you are sorting items. Invite children to join if they are interested. They can sort and organise the things by their own criteria or a given criteria. Encourage the children to record their sorting in a method of their choice or a given method.</p> <p>Say and Do Using a large number track, the child stands on any number, facing in either direction, and announces their number. Show them a number. They move the correct number of steps then say the number that they finished on. The other children are tasked with working out the number that the child was shown.</p> <p>Say and Do Put pieces of treasure at various numbers on the track. Two children stand on Start and take turns to take steps along the track, saying the numbers they step on. When they get to a number with treasure on it, they can collect it if they can say the number aloud. You can add to this game and extend it by rolling a dice/spinner to see how many steps can be taken.</p>

Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2

Topic & CfE Outcome - Fractions, decimal fractions and percentages including ratio and proportion

I can share out a group of items by making smaller groups and can split a whole object into smaller parts. **MNU 0-07a**

Benchmarks

- Splits a whole into smaller parts and explains that equal parts are the same size.
- Uses appropriate vocabulary to describe halves.
- Shares out a group of items equally into smaller groups.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Doubling and halving using manipulatives	<p>I have experienced sharing items fairly and unfairly</p> <p>I am beginning to understand that 'equal' means a fair share</p> <p>I understand what a half means – creating and identifying a half of a shape or object</p> <p>I understand what a half means – finding half of a set by sharing</p> <ul style="list-style-type: none"> • I can show that shapes or objects can be shared in 2 equal parts • I can show that two 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 in two equal groups 	HAM Teaching Cards NC 0.17	<p>Say and Do Give two children a share of a piece of play-doh. Make one share much larger than the other then ask the children if they think it is fair. Discuss how it could be made fair. Get to the point that we must make sure the share is the same for it to be fair. This can also be done with a group of items.</p> <p>Say and Do Give the children a number of plates and a basket of strawberries. Children share the strawberries onto the plates then pick a number card to show how many are on each plate. Use an amount that gives an equal share initially then give amounts that will not share fairly. Discuss whether it is fair? How can we make it fair?</p> <p>Say and Do Set out a number of hoops and share a set of items between them. Change the number of hoops and items and ask the children to check if you have shared the items 'fairly' (Build towards the word 'equally'). Create opportunities to make it unequal and see what the children say about it. Ask the children to find a way to make it equal.</p>

Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2



Topic & CfE Outcome - Money I am developing my awareness of how money is used and can recognise and use a range of coins. MNU 0-09a			
Benchmarks - Identifies all coins to £2. - Applies addition and subtraction skills and uses 1p, 2p, 5p and 10p coins to pay the exact value for items to 10p.			
Mental Strategies	Skills	Possible Resources	Assessment
Recall Names of numerals to 10	I can use money in play I have explored different ways to sort coins and notes <ul style="list-style-type: none"> • I know that money has a value and can be exchanged for goods and services • I know that when I pay for something, I sometimes get some money back (change) • I recognise that there are different kinds of coins and notes • I am beginning to explore ways of paying other than with coins and notes • I can show understanding that coins and notes have numbers on them • I can collect a set of identical coins from a larger collection • I have begun to understand that different coins and notes have different values 	HAM Teaching Cards UM 0.1, UM 0.2	Say, Make, Write and Do Give out piggy banks or purses. Explain that only one sort of coin can go in each piggy bank or purse and get the children to make labels to show which coin goes in which one. Once labelled, give the children a pile of coins to sort. Once all coins are sorted, get the children to check to see if the correct coins are in the correct places. (Children are just matching the coins at this stage and may not yet understand their values.) Take opportunities where a child has mixed up the coins to talk about the differences in the coins and re-sort them. Say and Do Make a vertical number track to 20p. Work with the children to investigate the coins then place them on the track according to their values. Look at mistakes in placement as an opportunity for discussion. Talk about which money values have a coin to represent them and which don't. The 20p is higher than the 10p. That means it is worth more. Children may confuse the relative size of the coins with the value, i.e. a 2p is bigger in size than a 5p so it must be more valuable.

Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2

Topic & CfE Outcome - Time

I am aware of how routines and events in my world link with times and seasons, and have explored ways to record and display these using clocks, calendars and other methods. **MNU 0-10a**

Benchmarks

- Links daily routines and personal events to time sequences.
- Names the days of the week in sequence, knows the months of the year and talks about features of the four seasons in relevant contexts.
- Recognises, talks about and where appropriate, engages with everyday devices used to measure or display time, including clocks, calendars, sand timers and visual timetables.
- Reads analogue and digital o'clock times (12 hour only) and represents this on a digital display or clock face.

Mental Strategies	Skills	Possible Resources	Assessment
Recall Begin to use ordinal numbers in a given context e.g. 1 st , 2 nd , 3 rd and last	<p>I can engage in discussion about times that are special to me</p> <p>I can show that I am beginning to have a sense of how to organise time</p> <p>I can arrange times of the day and other events in the year in order</p> <ul style="list-style-type: none"> • I can talk about things that have happened, going to happen or are happening now • I have shown a developing sense of 'how long' it is until an event or activity and how long an event or activity lasts • I can talk about the choices I have made about how to spend time • I can interpret a simple visual timetable, i.e. order of the day visual timetable displayed in class or playroom • I can talk about the days of the week and show an understanding that they have an order • I can make a visual sequence to show and talk about spending time • I have begun to show knowledge that the year is divided into seasons and months and I am beginning to link major life events that are relevant to me to the seasons and months, i.e. 'My birthday is in Winter' 	HAM Teaching Cards T 0.2	<p>Say and Make Ask the children to make a picture to show a particular season. Discuss their pictures, look for awareness of the different features of a particular season. The pictures may have a personal meaning but the children should be able to explain what they have drawn and why it represents that season for them, i.e. a picture of their family means Winter to them because all their family come together at Christmas.</p> <p>Say and Do Start with one sand timer and let children explore how it works, then see what they can do before the sand runs through (e.g. pile blocks to make a tower or ride round the playground). Then introduce other timers so children can compare them and make further explorations. With this timer I can ride all the way round the climbing frame before the sand runs through.</p>

Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2



Topic & CfE Outcome - Measurement

I have experimented with everyday items as units of measure to investigate and compare sizes and amounts in my environment, sharing my findings with others. **MNU 0-11a**

Benchmarks

- Shares relevant experiences in which measurements of lengths, heights, mass and capacities are used, for example, in baking.
- Describes common objects using appropriate measurement language, including tall, heavy and empty.
- Compares and describes lengths, heights, mass and capacities using everyday language, including longer, shorter, taller, heavier, lighter, more and less.
- Estimates, then measures, the length, height, mass and capacity of familiar objects using a range of appropriate non-standard units.

Mental Strategies	Skills	Possible Resources	Assessment
	<p>I can make comparisons between two objects and say which is longer, heavier or holds more</p> <ul style="list-style-type: none"> I have begun to compare people and objects according to their size I can compare two objects by holding them and talk about which feels heavier I can play with a balance and talk about what happens when something is put in it 	<p>HAM Teaching Cards M 0.2</p>	<p><u>Say and Do</u> Human balance! Let the children become a set of pan balances by holding their arms outstretched, palms facing upward at the side with a bucket in each hand. (Make sure the buckets are the same) Put different items in each bucket and ask the children to explain which item is heavier, lighter etc. Assessment should focus on the explanation of their findings. Correct vocabulary is important but if the child can explain in their own words and it makes sense, this is acceptable.</p> <p><u>Say and Do</u> Give the child a selection of similar items but in different sizes, e.g. compare bears, snakes etc. Give them different criteria to sort them with, such as which one is the longest snake? Can you put them in order? Tell me about the order you have put them in.</p> <p><u>Say, Write and Do</u> At the start of a rainy day, put a bottle outside with a funnel in the top. Just before the end of the day bring in the bottle and see how far up the bottle the water comes (the wider the funnel the more rain it will catch). Label the bottle with the date. Next day put out another bottle which is exactly the same, for the same length of time then bring it in and compare the two amounts. Ask the children what their thoughts are. It is important to note that no standard units of</p>

Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2



			measure should be used at this point. Discussion about the different volumes should encourage the children to give their thoughts in their own words. They could draw pictures to record their findings of the comparison.
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Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2



Topic & CfE Outcome - Patterns and relationships

I have spotted and explored patterns in my own and the wider environment and can copy and continue these and create my own patterns.

MTH 0-13a

Benchmarks

- Copies, continues and creates simple patterns involving objects, shapes and numbers.
- Explores, recognises and continues simple number patterns.
- Finds missing numbers on a number line within the range 0 - 20.

Mental Strategies	Skills	Possible Resources	Assessment
	<p>I can create a more organised pattern using a variety of materials, sounds or movements</p> <p>I can talk about, copy and continue patterns</p> <ul style="list-style-type: none"> • I can talk about, recognise and continue simple patterns 	<p>HAM Teaching Cards P 0.2</p>	<p><u>Say and Make</u> Children press patterns into rolled-out dough or by arranging cut-out dough shapes. They should be able to talk about the pattern they have created, i.e. I put a star then a moon then a star or I put a blue then a red then a blue etc</p> <p><u>Make and Do</u> Put out examples of simple repeating patterns and ask the children to choose one to copy. They could be given a grid to do this on or be given the choice to do it on plain paper. Ask about their choices, i.e. I see that you put the lady bird then the frog, what would you put next?</p> <p><u>Do and Say</u> Go on a pattern hunt. Can the children find and describe patterns that they see in their environment?</p>

Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2

Topic & CfE Outcome - Properties of 2D shapes and 3D objects I enjoy investigating objects and shapes and can sort, describe and be creative with them. MTH 0-16a			
Benchmarks - Recognises, describes and sorts common 2D shapes and 3D objects according to various criteria, for example, straight, round, flat and curved.			
Mental Strategies	Skills	Possible Resources	Assessment
	<p>I can talk about shapes and objects around me</p> <p>I can create models using 3D objects and talk about what I am making</p> <p>I have begun to see the link between 3D objects and 2D shapes</p> <ul style="list-style-type: none"> • I can point to shapes in my environment and describe them in my own way • I can explore, recognise and make choices about what to create, do and make with 3D objects • I can make choices and can recognise which 3D objects will work for what is being created 	HAM Teaching Cards SPM 0.2	<p>Say, Make and Do When children complete a model they are pleased with, they take one or more photos of it. They should then be asked to talk about their model. The children should be allowed to discuss their model in their own words but the adult can model some of the correct vocabulary, i.e. When you say box do you mean this bit? That is called a cuboid. The children may pick up on this and start using it. You could combine the photos in an album for children to use to recreate a favourite model. Ask questions about the photos, i.e. What shapes might we need to build this?</p> <p>Say and Do Go on a shape hunt around the nursery, school or in the local environment. The children could take photographs of the shapes and discuss them at the time of taking and when back at school reflecting on the photographs. Questions such as, what other things look like this shape? i.e. a clock face, top of the paper bin, milk tray etc</p> <p>Say and Do When looking at shapes and objects, be sure to include a wide variety so that children do not think there are a limited number of shapes. You could play a very simple bingo game. The children are each given three different shapes, i.e. a triangle, heart and oval. A child as the teacher (Guided by the adult) takes a shape from the bag (the bag has a variety and number of shapes in it). The child then looks to see if they have a matching shape. If they do</p>

			<p>they get to keep the shape. The winner is the child who matches all three shapes first. This is best done in a small group or could be adapted to a one on one assessment activity.</p> <p>Say Choose an appropriate storybook that has good pictorial representations of shape. Read the story for pleasure initially then investigate the book as Shape Detectives, looking for shapes on each page. You could link this in with recording and displaying information with the children keeping track and recording each shape they find. An e-book displayed on the Smartboard would be useful for this task.</p>
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Renfrewshire Council
Numeracy and Mathematics Progression and Support - Early Level Pathway 2

Topic & CfE Outcome - Angle, symmetry and transformation In movement, games, and using technology I can use simple directions and describe positions. MTH 0-17a			
Benchmarks - Understands and correctly uses the language of position and direction, including in front, behind, above, below, left, right, forwards and backwards, to solve simple problems in movement games.			
Mental Strategies	Skills	Possible Resources	Assessment
	<p>I can use the language of position and turning to talk about where something is or to give directions</p> <ul style="list-style-type: none"> • I can talk about things that turn • I can give directions to someone else and follow others' directions • I can talk about where things are in relation to other things, i.e. the teddy is on the table, the box is under the sheet etc. 	HAM Teaching Cards <i>SPM 0.3</i>	<p>Say Find some objects, take photos or find pictures relating to a theme children are currently interested in. Put these outside in surprising places (e.g. under the shelter roof, above the scooter rack, etc.). Children come and tell you when and where they spot one and use the language of position to describe where it is.</p> <p>Say For this activity you need things with moving parts such as a toy truck, toys that move i.e. spinning top, egg whisk, stapler, hole punch, toy car or any other objects with moving parts. Children could be invited to collect items for a display or could do this as a family learning task at home and provide photographs of what they found. Ask the children to select an item and talk about the movement that it can make.</p>

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Numeracy and Mathematics Progression and Support - Early Level Pathway 2



Topic & CfE Outcome - Angle, symmetry and transformation I have had fun creating a range of symmetrical pictures and patterns using a range of media. MTH 0-19a			
Benchmarks - Identifies, describes and creates symmetrical pictures with one line of symmetry.			
Mental Strategies	Skills	Possible Resources	Assessment
	I can make a symmetrical pattern with different materials <ul style="list-style-type: none"> • I can complete a pattern by matching to make it symmetrical 	HAM Teaching Cards <i>SPM 0.4</i>	<p><u>Do</u> Collect and mix up several pairs of gloves. Children work to find matching pairs then arrange each pair symmetrically with thumbs together. Make a deliberate error with one pair for children to spot. Ask them why it is wrong.</p> <p><u>Make</u> Children fold a piece of paper in half, then open it out and make wet blobs of paint on one half. They refold the paper, pressing down well, then open it up. Talk about the symmetry of the results.</p> <p><u>Say and Make</u> Show the children that there is symmetry in nature, i.e. butterfly wings, ladybirds and give them templates to make their own symmetrical butterflies and ladybirds. Talk to the children about their paintings, taking opportunities to discuss symmetry. If there is not symmetry, ask them how it could be changed to make it symmetrical.</p> <p><u>Make</u> Give the children part of a model, i.e. Lego, Duplo and ask them to build the other half to make it symmetrical.</p> <p><u>Do</u> Child to child or adult to child, ask the child to copy or 'mirror' your actions, i.e. standing straight with arm out to the side etc. talk about how symmetry is a reflection of one side to another.</p>

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Numeracy and Mathematics Progression and Support - Early Level Pathway 2



Topic & CfE Outcome - Data and analysis

I can collect objects and ask questions to gather information, organising and displaying my findings in different ways. **MNU 0-20a**

Benchmarks

- Asks simple questions to collect data for a specific purpose.
- Collects and organises objects for a specific purpose.
- Applies counting skills to ask and answer questions and makes relevant choices and decisions based on the data.
- Contributes to concrete or pictorial displays where one object or drawing represents one data value, using digital technologies as appropriate.

Mental Strategies	Skills	Possible Resources	Assessment
	<p>I can ask questions to help gather information and display findings in different ways</p> <ul style="list-style-type: none"> • I can ask questions as part of gathering the information needed 		<p><u>Write and Do</u></p> <p>When you want to introduce a new snack to children, have a tasting session (one item at a time) and discuss how the new thing tastes, then ask children to decide whether or not they like it. Label a Carroll diagram with 'I like it' and 'I like it' but with a cross through it. Children draw their face, or write their name, on a sticky note and stick it in the correct part of the chart. At the end count how many people did, and didn't, like the new snack. Children could draw a picture to show the results of the data collection.</p>

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Numeracy and Mathematics Progression and Support - Early Level Pathway 2

Topic & CfE Outcome - Data and analysis I can match objects, and sort using my own and others' criteria, sharing my ideas with others. MNU 0-20b			
Benchmarks - Uses knowledge of colour, shape, size and other properties to match and sort items in a variety of different ways. - Interprets simple graphs, charts and signs and demonstrates how they support planning, choices and decision making.			
Mental Strategies	Skills	Possible Resources	Assessment
<p>Recall Use vocabulary such as bigger, smaller, less than, more than and 'the same' to compare groups of, or individual items, e.g. objects, pictures, sounds etc</p> <p>Skills (mentally, with jottings and materials if needed)</p> <p>Explain answers in words, with materials if needed</p>	<p>I can sort when playing and in everyday activities</p> <p>I can sort in a variety of different ways according to my own and others' criteria</p> <ul style="list-style-type: none"> • I show an understanding of grouping things that are the same in some way • I can choose criteria for sorting a set of objects and sort everything in a set this way • I can sort into two labelled containers or spaces 	<p>HAM Teaching Cards MSI 0.1, MSI 0.2</p>	<p>Say and Do Each child chooses a toy. The children should get the chance to look at and describe the toy they have chosen so that they can take part in the following activity. Tell the children a property that you are looking for, i.e. has wheels. One at a time they place their toy either in the hoop (if it belongs in your set) or outside of the hoop. When they have finished, make a label for the set in the hoop, 'Has Wheels' Repeat using different criteria. You can flip this and put a number of toys in a hoop then ask what the children think the criterion is or add an 'odd one out' for the children to discover.</p> <p>Say and Do Give the children a large variety of similar items, i.e. compare bears, snakes and ask them to sort them in their own way. They should then be able to explain in their own words why they sorted them in that particular way. Ask them to find another way to sort the items. The variety of items provided will depend on the confidence the children has in sorting.</p> <p>Say and Do Give the children a selection of shapes and some 'Post Boxes'. The Post Boxes should have information on what it must contain on them, i.e. yellow squares only, 1p only etc. Ask the children to sort them and look at their results with them. If something is in the wrong place, ask the child what they think they have to do to correct it and listen to</p>

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Numeracy and Mathematics Progression and Support - Early Level Pathway 2



			their reasoning for having it in the 'wrong' box in the first place. Their explanation may be reasonable!
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Numeracy and Mathematics Progression and Support - Early Level Pathway 2

Topic & CfE Outcome - Data and analysis			
I can use the signs and charts around me for information, helping me plan and make choices and decisions in my daily life. MNU 0-20c			
Benchmarks			
- Interprets simple graphs, charts and signs and demonstrates how they support planning, choices and decision making.			
Mental Strategies	Skills	Possible Resources	Assessment
	<p>I can create and 'read' signs and charts</p> <ul style="list-style-type: none"> • I can spot signs and charts and respond to these appropriately 	<p>HAM Teaching Cards MSI 0.3</p>	<p>Do Make a toothbrush chart where children can record the fact that they have brushed their teeth after their snack. This can be replicated for many activities, i.e. I have used the Smartboard today, I have been outdoors and so on. Children could be involved in making these signs and displays.</p> <p>Make and Do Get the children to help make signs for a game that they all can play. An example could be a traffic light game where the children all face the adult and are 'cars'. A red circle being held up would mean stop moving your feet, amber would mean stamp your feet and get ready to go and green would mean run quickly on the spot. (The children would run on the spot as they would lose concentration and not notice the change of sign if they actually ran off). For the children who you observe as not coping well with this, you may need to micro-adjust the activity or discuss the signs one on one with them. It may also be that they lose concentration easily but can actually tell the difference between the signs.</p>

Strategies

By the **END** of Early 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.

- * Emphasise the use of estimation and rounding in calculations
- * 1-1 correspondence when counting (touching, matching)
- * Order numbers to 20 (forwards and backwards)
- * Use number lines to calculate 1 more/less than within 20
- * Share a group of items and discuss who has more/less
- * Rounding – using doubles knowledge to add near doubles
- * Subitise – Recognise a small number of objects without counting e.g. on a dice – knowing 4 dots is 4, dominoes, pictorial sums
- * Number bonds to 10 (using materials)
- * Commutative Law e.g. $3+4$ is the same as $4+3$ sometimes known as “Switchers”
- * Associative Law e.g. $6+3+7$ is the same as $6+10$ – knowing to associate and add two numbers first before adding the third.
- * Emphasise the importance of using mental maths skills and recall in a variety of contexts, e.g. Money
- * Explore and use correctly a variety of mathematical language related to addition and subtraction.