# Highland Early Level Mathematics and Numeracy Progression Framework

## Contents

# Using the Early Level Numeracy and Mathematics Framework

Through ongoing observation and assessment, use the progression grids to identify each learner's stage of 'Numeracy and Mathematics' development. There are four stages in the progression:

- I am aware
- I understand
- I use with understanding
- I apply.

The 'I apply' statements have been taken directly from the CfE Benchmarks, detailing achievement of a Level. 'I am aware', 'I understand' and 'I use with understanding' are the developmental stages which underpin 'I apply'.

Developmentally appropriate planning can be informed by practitioners' knowledge of each learner's stage of 'Numeracy and Mathematics' development.

At the start of the progression is a list of resources for development & learning. This informs planning for learning, teaching and assessment, with guidance on how practitioners can support the developmental underpinning of and the curriculum delivery of Numeracy and Mathematics through the Early Level.

For the Numeracy and Mathematics skills, the progression details guidance on the experiences and opportunities which will promote the skill development through play. There are links to relevant resources.

In the resources section and under each skill, there are links to resources to support the developmental underpinnings of Numeracy and Mathematics. The guidance also uses the environment terms of spaces, experiences and interactions from **Realising the Ambition**, opportunities for direct instruction at the end of Early Level. There are links to relevant resources.

To support moderation (collective understanding of learner progress) it is recommended that practitioners collaborate with one another to identify each learner's stage of development. An exercise which you may find useful when initially engaging with the progression is, with a post-it note for each learner, use your knowledge of the learner to place them on their developmental stage on the progression. This will provide you with an overall picture of the 'Numeracy and Mathematics' development in your setting/class.

These focus on the opportunities for adults and children to play and talk together, as well as direct instruction at the end of Early Level.

The progression framework provides guidance for

- Numeracy and Mathematics skills
- Numeracy and Mathematics organisers

When using the resources links, or any other source for teaching and learning ideas, you should consider appropriate:

- opportunities for adults to play and talk together with children for that stage of development
- environment (spaces, experiences and interactions) for that stage of development
- planning of learning for that stage of development.

# Resources for development & learning

DEVELOPMENTAL ASPECTS – underpinning learning

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| **Spatial reasoning**<br><br>Highland Spatial Awareness training slides<br><br>Early Childhood Maths Group resources | **Mathematical language**<br><br>Highland Language of Maths training slides |
| **Sequence & narrative**<br><br>Highland Literacy Resources | **Fine motor skills & coordination**<br><br>Highland Fine Motor skills resource |
| **Confidence, creativity & curiosity**<br><br>Highland CCC Training Slides | **Developing concepts**<br><br>Verbal Reasoning resources<br>Helen Williams blog post |

TEACHING RESOURCES

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| **Curriculum resources (Education Scotland)** | Numeracy Professional Learning Resource |
| **Other useful sources** | DREME teacher resources<br>NRICH small world play resource<br>NZ Supporting Maths Interactions<br>Early Childhood Maths Group resources |
| **Family engagement resources** | Play ideas on bumps2bairns.com<br>Zero to Three information for parents |

The Highland Council
Comhairle na Gàidhealtachd

| Numeracy & Mathematical Skills<br><br>Benchmarks Early Level All Curriculum Areas |
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| Numeracy & Mathematical Skills are embedded in the Experiences and Outcomes and cannot be taught in isolation. These skills can be developed through careful planning of learning activities, questions and a range of assessments. These should encourage learners to think about the concepts, going beyond the recall of knowledge and encouraging them to explain their thinking. As learners progress through Curriculum for Excellence levels, they should demonstrate increasing sophistication and independence in their ability to demonstrate, link, transfer and apply the following skills in a range of increasingly more challenging contexts. |

| **Skills** and their key features | Through play and practical experiences support numeracy and mathematical skills by<br><br>**Providing opportunities to/for:** | | | **Additional Guidance** on skills from Early Level Benchmarks<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Interpret questions**<br><br>• selects the relevant information<br>• interprets data<br>• highlights key words or phrases<br>• makes notes<br>• draws diagrams<br>• chooses appropriate operations. | ○ Create data. E.g., choosing a favourite story<br><br>○ Mark making in play to record their thinking.<br><br>○ Describing play narrative and start to introduce mathematical language (e.g. long, short, big, small, more, less)<br><br>○ Ensure time is given to process ideas.<br><br>○ During play support children to choose/make decisions for themselves. | ○ Create & interpret data. E.g. How did we travel to ELC?<br><br>○ Mark making with increasing detail to record thinking and understanding<br><br>○ Start to discuss mathematical language & concepts in play.<br><br>○ Ensure time is given to process & share ideas with peers and/or adults.<br><br>○ During play support children to problem solve and make decisions for themselves. | ○ Explore simple story problems to explore the concepts and processes for addition, subtraction, multiplication & division<br><br>○ Choosing the correct mathematical process to solve a problem using objects e.g., combining groups of objects together to make a total, removing objects from a group, comparing two groups<br><br>○ Mark making/drawing to record their ideas and explain their thinking and processes used.<br><br>○ Use maths language and words like 'add' and 'subtract', total etc. | *interpret questions successfully in order to work out solutions;*<br><br>*select relevant information and be able to identify redundant or missing information in a question;*<br><br>*interpret data and understand information presented to work out the solution*<br><br>*be supported to develop their skills of interpreting questions by highlighting key words or phrases, making notes or drawing diagrams; and*<br><br>*make important decisions about which operations to choose when solving a word problem.* |

| **Skills** and their key features | **Providing opportunities to/for:** | | | **Additional Guidance**<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Select and communicate processes and solutions**<br><br>• explains choice of process<br>• shares thinking<br>• verbalises or demonstrates thought processes. | ○ Share experiences and ideas.<br><br>○ Comment and model during play to give children language to explain their choices<br><br>○ Giving children time to explain their thinking using gestures, mark making and practical demonstration.<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative<br><br>Making the Most of Songs and Rhymes | ○ Share experiences and explain their choices.<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative<br><br>Making the Most of Songs and Rhymes | ○ Share experiences during play and explain their choices to others.<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative<br><br>Making the Most of Songs and Rhymes | *be able to explain why they have chosen a particular process as it demonstrates their understanding of the task, question or assessment*<br><br>*have frequent opportunities to discuss their thinking with their peers and teachers*<br><br>*select from a range of processes and increasingly choose processes which are most efficient*<br><br>*discuss their solutions to verbalise their thought process, either through explaining their thinking or demonstrating it pictorially; and*<br><br>*become more confident in their abilities to select from a growing repertoire of strategies,*<br><br>*articulate their chosen approaches with increasing clarity and make greater use of specialised vocabulary.* |

| **Skills** and their key features | **Providing opportunities to/for:** | | | **Additional Guidance**<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Justify choice of strategy used**<br><br>• shows and talks though their thinking<br>• explains their strategy<br>• justifies choice of strategy compared to other approaches. | ○ Share ideas with others.<br><br>○ Comment and model during play to give children language to explain their choices<br><br>○ Giving children time to explain their thinking using gestures, mark making and practical demonstration.<br><br>Verbal reasoning<br><br>Making Comments | ○ Ask children to share experiences and explain their thinking to others.<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative | ○ Share experiences during play and explain their thinking.<br>○ Listen and share strategies used to solve problems.<br>○ We can prompt discussion and thinking by<br>○ asking:<br>○ ‘How did you figure that out?’<br>○ ‘Why do you think that?<br>○ ‘How do you know for sure?<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative<br><br>Verbal reasoning and abstract thinking | *show and talk through their thinking to better understand and explain their own strategies*<br><br>*regularly work in pairs and groups to learn with and from each other to refine their strategies*<br><br>*justify their choice of strategy, identifying the most efficient strategies for different types of task* |

| **Skills**<br>and their key features | **Providing opportunities to/for:** | | | **Additional Guidance**<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Link mathematical concepts**<br><br>• understands and applies links between mathematical concepts<br>• transfers learning in one area to another<br>• uses connections to solve problems. | ○ Explore maths experiences throughout the setting.<br><br>○ Notice and explore the mathematical content of experiences throughout the setting, including, but not limited to planned or unplanned mathematical provocations<br><br>○ Share and explore richly illustrated books with representation of number, shape, and pattern<br><br>○ Provide a variety of materials which encourage my reasoning through experimentation, trial and error and prediction based on my developing understanding e.g. loose parts to fill and empty, measure and compare, group and share.<br><br>Using picture books to develop thinking | ○ Explore maths experiences throughout the setting.<br><br>○ Notice and explore the mathematical content of experiences throughout the setting, including, but not limited to planned or unplanned mathematical provocations<br><br>○ Following children's interests and using play and talk to make connections between different forms of play or locations in the setting<br><br>○ Share, explore & discuss richly illustrated books with representation of number, shape, and pattern<br><br>Using picture books to develop thinking<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative | ○ Notice and explore the mathematical content of experiences throughout the setting, including, but not limited to planned or unplanned mathematical provocations<br>○<br>Share, explore & discuss richly illustrated books with representation of number, shape, and pattern<br><br>○ Use stories to help explain their mathematical thinking.<br><br>Verbal reasoning and abstract thinking<br><br>Vocabulary guidance<br><br>Using picture books to develop thinking<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative | *be able to link mathematical concepts through inverse operations and equivalences*<br><br>*transfer and apply their knowledge and skills within numeracy & mathematics across the curriculum to solve a range of problems* |

| **Skills** and their key features | **Providing opportunities to/for:** | | | **Additional Guidance**<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Use mathematical vocabulary and notation**<br><br>• uses correct mathematical vocabulary | ○ Adults' intentional use of mathematical language congruent with children's play & thinking<br><br>○ Explore stories and engage in discussions around everyday mathematical vocabulary - e.g., share, full, empty, in front, behind, more, less, altogether, heavy, light.<br><br>○ Notice when children try to use mathematical language - without correcting usage, copy and add with the correct version. (E.g., "share" when they keep most of the grapes; or "fatter" for "wider")<br><br>Making Comments<br><br>Stories | ○ Adults' intentional use of mathematical language congruent with children's play & thinking<br><br>○ Explore stories and engage in discussions around everyday mathematical vocabulary - using increasingly complex vocabulary to respond to the children's explorations (e.g., cm, or metre, if they are starting to measure)<br><br>Making Comments<br><br>Stories | ○ Adults' intentional use of mathematical language congruent with children's play & thinking<br><br>○ Explore stories and engage in discussions around everyday mathematical vocabulary - using increasingly complex vocabulary to respond to the children's explorations (e.g., cm, or metre, if they are starting to measure)<br><br>Making Comments<br><br>Stories | *apply the correct mathematical vocabulary, notation and appropriate units in a range of contexts.* |

| **Skills** and their key features | **Providing opportunities to/for:**<br><br>(for number facts, see below - this section is about mental agility in itself) | | | **Additional Guidance**<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Use mental agility**<br><br>• (knowledge of number facts<br>• manipulates numbers.) | ○ Have rich conversations with adults about the world around them, what different objects are and can be used for<br><br>○ Play with a variety of open-ended materials that can be used in different ways, with time to explore and deepen experiences<br><br>○ Experiences of narrative and story-telling including mathematical content and changes in perspective | ○ Substitute objects in their play - e.g., if a red car is not available using a blue one, or one card to stand for another in a game<br><br>○ Make predictions - e.g., in songs/stories with patterns such as speckled frogs etc<br><br>○ Hold small amounts of information in mind for a short period of time, e.g., simple instructions or a plan of action<br><br>○ Have two-way conversations about cause and effect, or action and consequence - e.g., it is raining so we need a jacket | ○ Listen and discuss the ideas of others and their thinking.<br><br>○ Share and describe strategies for how they have explored or solved something<br><br>○ Consider different ways to explore the same object, pattern or narrative, including simple substitutions<br><br>○ Work out short sequences of thought with an underlying logic - e.g., simple deductions | *develop fluency in mental processes through a sound knowledge of key number facts*<br><br>*use strategies to manipulate an appropriate range of numbers and apply these to solve open-ended problems.* |

| **Skills**<br>and their key features | **Providing opportunities to/for:** | | | **Additional Guidance**<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Reason algebraically**<br><br>• finds the unknown quantity<br>• understands and uses the commutative, associative and distributive laws. | ○ Talk with an adult to share, compare and problem solve and talk about same as, less than, more than, how many during everyday routines<br><br>○ Move objects and myself around in spaces, exploring in, out, over, under, through, in front, etc<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative | ○ Explore and notice pattern, contribute more to conversations with an adult, starting to ask their own questions when problem solving and make adjustments when solutions do not work or are unsatisfactory<br><br>○ Develop spatial awareness of myself and objects and relationships between them<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative | ○ Create and manipulate patterns, sequencing, talk with a peer or work with a group to solve problems and investigate<br><br>○ Represent and use spatial awareness of myself and objects in the space e.g. maps, drawings, verbal description<br><br>Verbal reasoning<br><br>Making Comments<br><br>Sequence and Narrative | *understand that numbers can be replaced by pictures or symbols and use this to solve problems*<br><br>*apply commutative, associative and distributive laws to work with expressions and equations.* |

| **Skills** and their key features | **Providing opportunities to/for:** | | | **Additional Guidance**<br><br>(the additional guidance is the same for 1st and 2nd level so requires interpretation)<br><br>**Learners need to:** |
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| **Determine the reasonableness of a solution**<br><br>• routinely uses estimation and rounding skills<br>• selects the most appropriate degree of accuracy. | ○ Experiment and use trial and error in order to be able to predict outcomes - e.g., Can I jump over this puddle? Are there enough seats for all the children? Can I share my trains with my friend?<br><br>○ Act on objects and the world, including making regular patterns of objects or activity - e.g., jumping, making towers, fitting into boxes, etc<br><br>○ Experiment with estimating quantities practically, e.g., helping lay table or put out snack ingredients | ○ Experience using basic language to describe estimations, e.g., how many do we need? "Can I fit into this box?"<br><br>○ Modelling from adults, or helping children to, plan and lay out things that are needed, guess how long things will take, etc<br><br>○ Consider quantities before counting out - in real and meaningful contexts "I wonder if we have more than 10 …" Or when measuring, "is Jennie going to be taller than Sharon?" | ○ Make simple predictions independently in play, such as how many crayons will be needed, or how high can we stack the boxes<br><br>○ Use prediction to fulfil meaningful tasks, such as how many birds will come to feeder tomorrow, what quantities needed for baking, etc<br><br>○ Use trial and error to solve physical and other tasks in play | *use estimation and rounding to estimate and check the reasonableness of a solution*<br><br>*consider the context of the question when determining the reasonableness of the solution*<br><br>*select the appropriate degree of accuracy for the given task.* |

| Curriculum Organisers | What might you see in your interactions and observations? | | | Early Level Benchmarks |
|---|---|---|---|---|
| | ***I am aware*** | ***I understand*** | ***I use with understanding*** | ***I apply*** |
| **NUMBER, MONEY and NUMBER PROCESSES**<br><br>**Estimation and Rounding**<br><br>I am developing a sense of size and amount by observing, exploring, using and communicating with others about things in the world around me.<br>**MNU 0-01a** | ▪ explore physical play with bodies and objects to explore concepts of size, volume, weight, mass, spatial awareness.<br>▪ physically interact, explore, manipulate a variety of multiples of objects e.g., playing in water and pouring from one vessel to another.<br>▪ hide in full view whilst playing 'Hide & Seek' e.g., may hide in front of something instead of behind<br>▪ ask for *more* biscuits at snack to show they understand the concept<br>▪ select loose parts for size or other required feature<br>▪ experiment with items that are too long or too big to fit, etc | ▪ show that they understand short/tall<br>▪ describe objects as big, little, etc<br>▪ put small groups of things of different sizes in order e.g the toy animals/dinosaurs.<br>▪ sort objects by size/quantity<br>▪ play with dice and may start to recognise some patterns. They may also count dots to check how many.<br>▪ visually compare to see which has more/less/the same e.g. two plates of snack<br>▪ build towers and say 'Mine's is bigger'.<br>▪ physically manipulate objects to compare them.<br>▪ notice who has more items in play e.g. blocks/sticks/cars/dolls etc. Might say 'Tom has more'.<br>▪ use gestures alongside vocabulary to share news e.g. 'I got a new bike. It's this big.'<br>▪ compare themselves to others e.g. 'I am bigger'. | ▪ know when they have less than/more than someone else e.g. more cars. May count to check.<br>▪ use a judgement of size to select objects to hide behind.<br>▪ start to talk about differences. They may use the wrong vocabulary e.g. 'I'm wider than my stick.' Instead of saying 'I'm taller than my stick.'<br>▪ use gestures e.g., child may gesture something is taller by raising arms but gestures width by moving arms out to the side.<br>▪ judge size e.g., stack nesting boxes in order<br>▪ know what they need to fit into some spaces, and will continue to experiment through play.<br>▪ demonstrate they know that six is the biggest number of spots on the dice in simple board games. | *Recognises the number of objects in a group, without counting (subitising) and uses this information to estimate the number of objects in other groups.*<br><br>*Checks estimates by counting.*<br><br>*Demonstrates skills of estimation in the contexts of the number and measure using relevant vocabulary, including less than, longer than, more than and the same.* |

| Curriculum Organisers | What might you see in your interactions and observations? | | | Early Level Benchmarks |
|---|---|---|---|---|
| | *I am aware* | *I understand* | *I use with understanding* | *I apply* |
| **NUMBER, MONEY and NUMBER PROCESSES**<br><br>**Number and number processes**<br><br>I have explored numbers, understanding that they represent quantities, and I can use them to count, create sequences and describe order.<br>**MNU 0-02a**<br><br>I use practical materials and can 'count on and back' to help me understand addition and subtraction, recording my ideas and solutions in different ways.<br>**MNU 0-03a** | ▪ notice when run out of something e.g., train tracks, snack items.<br>▪ start to imitate and join in with counting songs.<br>▪ want toys from peers if they don't have any and others have lots.<br>▪ notice proportionally large differences in quantities.<br>▪ notice numerals in the environment and/or respond when adults talk about them<br>▪ show simple sequences in play or construction, may respond when adults label play events or tasks using ordinal language (e.g., "first outside and next snack")<br>▪ play with dice as objects, not aware of the numerical meaning - explore the different patterns, may respond as adults label the meanings<br>▪ show an interest in numerals and talk about them. E.g. 'I'm three.'<br>▪ read numerals to indicate quantities for snack e.g. 3 apple slices.<br>▪ recognise symbols within the environment<br>▪ with adult support recognise that when 1 or more objects are added to a small collection there are more.<br>▪ with adult support recognise that when 1 or more objects are removed from a small collection there are fewer.<br>▪ with adult support share items with a friend | ▪ start to use objects/fingers when counting.<br>▪ count up and down steps, rungs<br>▪ comment when none are left. 'all gone now, I need more'<br>▪ enjoy counting forwards and backwards to zero alongside adults in familiar songs or rhymes or as objects appear or disappear<br>▪ show awareness when someone has more or less than they do<br>▪ share items to make all the same.<br>▪ talk about numbers they see in the environment.<br>▪ ask adults to count in order to find out how many there are - may join in with the adult.<br>▪ role play "counting" but with errors of order, repeating, missing numbers etc – counting rhythm or intonation may be clear<br>▪ use simple ordinal number comparisons (e.g, the difference being first in a queue or not)<br>▪ talk about simple sequences in play, etc, such as "first, next"<br>▪ roll dice and may count spots.<br>▪ mark making outdoors/indoors to record data/information e.g. lots of dots to represent 'many'<br>▪ notice symbols in the environment e.g. ,+ / - on remote controls<br>▪ matching numerals e.g., parking the number two bike at the number two bay.<br>▪ recognise most numerals 0-10.<br>▪ recognise when 1 object is added to a small collection it is 1 more.<br>▪ recognise when 1 object is taken from small collection it is 1 less.<br>▪ recognise double patterns e.g. egg boxes/muffin trays | ▪ use mark making symbol for none/zero<br>▪ count out objects independently in play e.g., sharing food in the home corner, counting items for snack<br>▪ comment on the number of toys each child has when the differences are proportionally small e.g. 'Tom has 4 and I've only got 3.'<br>▪ use objects/fingers solving story problems.<br>▪ count for a purpose in their play with increasing accuracy e.g., pinecones or stones in the mud kitchen.<br>▪ count objects to match numeric value.<br>▪ use more ordinal number comparisons in practical contexts that make sense to them, e.g., ranking in sports events, or in turn taking during games.<br>▪ if an adult makes a deliberate mistake e.g. in a board game the child will notice and comment. "You missed number 4!"<br>▪ sequencing numerals on a number line and placing them in the correct order. May still make mistakes. May comment using language of before/after/between.<br>▪ roll the dice to get the highest number of dots. Might recognise some patterns.<br>▪ recognisable emergent writing of numerals alongside other marks e.g. arrows, pictures, letters etc.<br>▪ may use pictures, numerals, implicit/their own symbols to explore quantities, more/less, addition/ subtraction etc.<br>▪ sequence numerals from a game/jigsaw.<br>▪ recognise numerals 0 -10 and beyond.<br>▪ Count objects to match values.<br>▪ recognise when 1, 2 objects are added to a collection it is 1, 2 more (within 10).<br>▪ recognise when 1, 2 objects are removed from collection it's 1, 2 fewer (within 10).<br>▪ throw a double with dot dice and start to recognise the total value up to 12. | *Explains that zero means there is none of a particular quantity and is represented by the number 0.*<br>*Recalls the number sequence forwards within the range 0 - 30, from any given number.*<br>*Recalls the number sequence backwards from 20 Identifies and recognises numbers 0-20.*<br>*Orders all numbers forwards and backwards within the range 0-20.*<br>*Identifies the number before, after and missing numbers in a sequence within 20.*<br>*Uses one-to-one correspondence to count a given number of objects to 20.*<br>*Identifies 'how many?' in regular dot patterns, for example, arrays, five frames, ten frames, dice and irregular dot patterns, without having to count (subitising).*<br>*Group items recognising that the appearance of the group has no effect on the overall total*<br>*Uses ordinal numbers in real life contexts, for example. 'I am third.'*<br>*Uses the language of before, after and in-between.*<br>*Counts on and back in ones to add and subtract.*<br>*Doubles to total of 10 mentally.*<br>*When counting objects, understand that the number name of the last object counted is the name given to the total number of objects.* |

| Curriculum Organisers | What might you see in your interactions and observations? | | | Early Level Benchmarks |
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| | *I am aware* | *I understand* | *I use with understanding* | *I apply* |
| | ▪ notice there is not enough for everyone, e.g., bikes. | ▪ notice there is not enough for everyone, with adult support work out how many more we need. | ▪ Notice there is not enough for everyone. E.g., plates for snack and be able to work out how many more we need. | *Partitions quantities to 10 into two or more parts and recognises that this does not affect the total.*<br>*Adds & subtracts mentally to 10.*<br>*Uses appropriately the mathematical symbols +, -,=* |

| Curriculum Organisers | What might you see in your interactions and observations? | | | Early Level Benchmarks |
|---|---|---|---|---|
| | *I am aware* | *I understand* | *I use with understanding* | *I apply* |
| **NUMBER, MONEY and NUMBER PROCESSES**<br><br>**Fractions, decimal fractions & percentages**<br><br>I can share out a group of items by making smaller groups and can split a whole object into smaller parts.<br>**MNU 0-07a** | ▪ may use the language of 'half' and/or 'whole' in conversation and may know it is a piece of something.<br>▪ may cut clay, fruit, etc and talk about 'my part' and 'your part' (or similar words).<br>▪ may use word "half" even if not equal parts | ▪ use the language of 'half' in conversation and may know it is a part of something.<br>▪ share items (between 2 or more) so they have approximately equal amounts.<br>▪ cut food items in half at snack (with adult support).<br>▪ move items so it looks equal and comparing (within 6), not necessarily using all the items yet | ▪ split things in half and know they need to be equal e.g. cut food items in half at snack time<br>▪ talk about shares being equal or unequal<br>▪ share items (between 2 or more) so they have equal amounts. May do this by:<br>▪ deal out items one at a time<br>▪ estimating and correcting<br>▪ move items so it looks equal and comparing (within 10 and beyond) | *Splits a whole into smaller parts and explains that equal parts are the same size.*<br><br>*Uses appropriate vocabulary to describe halves*<br><br>*Shares out a group of items equally into smaller groups.* |

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|---|---|---|---|---|
| | *I am aware* | *I understand* | *I use with understanding* | *I apply* |
| **NUMBER, MONEY and NUMBER PROCESSES**<br><br>**Money**<br><br>I am developing my awareness of how money is used and can recognise and use a range of coins.<br>**MNU 0-09a** | ▪ simple swapping of toys<br>▪ play with imaginary money/cards during role play activities e.g., hand over coins or 'tap a card' to pay for items.<br>▪ role play buying items 'online' using devices e.g., mobile phones, chip and pin, vouchers<br>▪ put coins and notes into a piggy bank<br>▪ sort coins naturally through play e.g., shiny, funny shape | ▪ swapping continues and becomes more sophisticated e.g., bargaining and negotiation including with adults e.g., I will give you the red bike if you give me the baby boy doll.<br>▪ play with pretend money/cards/buttons during role play activities e.g., hand over "coins" or 'tap a card/key in a code' for items. May hold out hand for item.<br>▪ role play buying items online - they may key in numbers/codes (real life context too - snack ordering)<br>▪ mark make labels/prices for role play e.g., shop, cinema, cafe etc.<br>▪ role play using a cash machine.<br>▪ sort real coins by size, shape and metal, value | ▪ play with pretend money/cards during role play activities using the language of the money, e.g., 'That's fifty pounds.'<br>▪ use vocabulary linked to numbers to describe the coins/notes e.g. 'It costs fifty pence/pounds'<br>▪ select coins to pay for items (may sometimes be correct<br>▪ Giving change? Adding money together within knowledge of number?<br>▪ mark make prices/labels/making bank notes for role play e.g., shop, cinema, cafe etc.<br>▪ sorting coins etc by denomination | *Identifies all coins to £2*<br><br>*Applies addition and subtraction skills and uses 1p,2p,5p and 10p coins to pay the exact value for items to 10p* |

| Curriculum Organisers | What might you see in your interactions and observations? | | | Early Level Benchmarks |
|---|---|---|---|---|
| | ***I am aware*** | ***I understand*** | ***I use with understanding*** | ***I apply*** |
| **NUMBER, MONEY and NUMBER PROCESSES**<br><br>**Time**<br><br>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.<br><br>**MNU 0-10a** | ▪ be aware of some routines of the day<br>▪ start to use the language around the sequence of a day e.g., daytime, night-time, lunchtime, bedtime.<br>▪ associate a cue with a particular action e.g., (putting on red suits before going outside)<br>▪ take their wellingtons off before going into the nursery room/indoor space.<br>▪ know that we wash our hands before snack.<br>▪ know the order of some physical sequences e.g.,<br>o Socks and then shoes<br>o T-shirt and then jumper<br>o Jumper and then jacket<br>▪ explore now and next contexts<br>▪ play with devices which are used to measure time, moving hands on a clock face, or turning timers, tapping screen-based timers, etc<br>▪ watch and show interest in following the second hand on a clock or wristwatch; or the countdown of a digital timer or tablet. | ▪ show an interest in time passing e.g., seasons, months through play experiences, observation of changes and adult directed activities<br>▪ talk about recent experiences and know they were in the past.<br>▪ sing along with songs related to routines, action songs, days of the week/seasons<br>▪ talk about special events and celebrations, routines e.g., attaching an event to a day of a week e.g., Wednesday is gym day.<br>▪ act out basic sequences in role play e.g., eating breakfast before going to school.<br>▪ use vocabulary to talk about time in role play/imaginary journeys e.g., going to the moon, back for dinner. -How long will it take to get served in the cafe? Do we have enough time for another drink?<br>▪ use devices in play with basic pretending about time e.g., telling the other children it's dinner time and looking at the clock/pointing to a wristwatch.<br>▪ follow and imitate adult use of devices to measure time e.g., turn over the sand timer for 'tidy-up' time, point to the clock and say 'it's hometime/snacktime'<br>▪ talking about longer/shorter times with reference to timers, etc<br>▪ explore use of time concepts in stories and games, such as What's the time Mr Wolf? | ▪ explore and describes changes to the weather, (associated to specific ) seasons etc. during outdoor play/activities.<br>▪ select a sand timer for turn taking e.g. 1 minute/5 minutes<br>▪ say 'Yesterday was Wednesday.'<br>▪ explore language around time with continuing adult support.<br>▪ explore more complex sequences in role play e.g. 'How long is the cafe closed/open?' 'When does the building site open?'<br>▪ use devices with a purpose, e.g. to measure a turn; anticipate a day of the week on calendar.<br>▪ label times with a number e.g. 'We go home at 3 o'clock.' 'Lunchtime is at half past twelve.'<br>▪ ask how long it is until hometime/how many days/sleeps until a birthday/special event etc.<br>▪ interested in how long something may take e.g. filling a wheelbarrow/tidying up<br>▪ start to read the numerals on a digital display.<br>▪ start to describe the different parts of an analogue clock e.g. minute hand/hour hand, numerals | *Links daily routines and personal events to time sequences.*<br><br>*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.*<br><br>*Recognises, talks about and where appropriate, engages with everyday devices used to measure or display time, including clocks, calendars, sand timers and visual timetables.*<br><br>*Reads analogue and digital o'clock times (12 hour only) and represents this on a digital display or clock face.*<br><br>*Uses appropriate language when discussing time, including before, after, o'clock, hour hand and minute hand.* |

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| **NUMBER, MONEY and NUMBER PROCESSES**<br><br>**Measurement**<br><br>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.<br>**MNU 0-11a** | ▪ explore volume through tipping water/sand from different sized containers to another.<br>▪ explore distance<br>○ reaching for objects that are too far away<br>○ may use objects to extend their reach<br>▪ explore weight<br>○ aware of heavy and light objects in play and investigation and may start to use language.<br>▪ explore temperature<br>○ aware of the terms hot and cold during play experiences and daily routines e.g., when something is too hot or cold.<br>▪ explore stories with adults and talk about age, height, size, time etc. | ▪ demonstrate they have noticed there is too much and may say 'it's too big'.<br>▪ predict when the appropriate container to be used is not too big or is not too small<br>▪ estimate the size of objects e.g., can jump over a high hurdle, wade through a deep puddle.<br>▪ climb a tree to an agreed height)<br>▪ use trial and error to select the correct length of plank e.g., to make a bridge between two points.<br>▪ explore emerging deliberate comparative behaviour e.g. 'I'm taller than you.' 'I'm the biggiest'.<br>▪ line toys/items up by height.<br>▪ enlist the help of friends to lift/move an object demonstrating that they know 'It's too heavy.'<br>▪ start to experiment with heavy and light materials using bucket scales, seesaw, balancing planks etc and talk about heavy and light objects | ▪ start to select the appropriate sized container, scoop, jug for the water/sand. Shows more purpose and intention to fill a container to a specific level.<br>▪ explore non standard measurement units e.g., "Spoonfuls, cupfuls, handfuls, stick lengths, steps etc.<br>▪ compare weights for a purpose e.g., baking<br>▪ examine blocks/bricks closely and compare and sort by weight/size/length.<br>▪ select the right length of plank to make a bridge.<br>▪ can start to make the distinction between objects according to size, weight, height etc and can use/select for a purpose<br>▪ observe and make comments on temperature e.g. 'Today is warmer than yesterday. This water is very cold' | *Shares relevant experiences in which measurements of lengths, heights, mass and capacities are used, for example, in baking.*<br><br>*Describes common objects using appropriate measurement language, including tall, heavy and empty.*<br><br>*Compares and describes lengths, heights, mass and capacities using everyday language, including longer, shorter, taller, heavier, lighter, more and less.*<br><br>*Estimates, then measures, the length, height, mass and capacity of familiar objects using a range of appropriate non-standard units.* |

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| **NUMBER, MONEY and NUMBER PROCESSES**<br><br>**Patterns and relationships**<br><br>I have spotted and explored patterns in my own and the wider environment and can copy and continue these and create my own patterns.<br>**MTH 0-13a** | ▪ explore environmental patterns e.g. paving slabs, blockwork, fence, shadows.<br>▪ explore pattern through play with stones, found objects etc.<br>▪ join in with simple rhymes, rhythms and movements e.g., clapping, stamping, singing, ascending/descending melodies, stories with patterns.<br>▪ observe and explore repeating patterns e.g., in clothing, nature, daily activities.<br>▪ take turns.<br>▪ set the table and notice sequences, patterns e.g., fork, spoon, cup, fork, spoon, cup. | ▪ join in and create with simple clapping/ movement patterns - hop hop jump...<br>▪ try to follow the rhythm with percussion instruments<br>▪ notice change in routine, e.g., not having to do something that they normally do.<br>▪ Explore patterns in a sensory way e.g., taking a stick along a fence, run finger along a tyre groove<br>▪ respond to language or movement cues to explore patterns e.g., "stand up, sit down, stand up, sit down"<br>▪ enjoy repeating language patterns in familiar stories<br>▪ play games that involve dice dot patterns<br>▪ sing number rhymes and songs and join in with finger patterns<br>▪ encounter and explore patterns in play outdoors and indoors, e.g. lego bricks, leaves, pebbles<br>▪ explore growing patterns (ascending & descending) e.g., creating a staircase using blocks<br>▪ notice an error or irregularity in a pattern | ▪ experiment with simple alternating patterns with paint/ leaves/sticks /blocks (may not always follow the pattern). observe number sequences in the environment.<br>▪ discuss patterns in the environment and describe what they see e.g., 'It goes up, down, up, down.' etc.<br>▪ recognise regular patterns e.g., dice/dominoes/fingers<br>▪ explore regular patterns in the environment e.g., egg boxes, stripey socks<br>▪ share their ideas about what they see in regular dot/array patterns e.g. baking tray<br>▪ notice doubles patterns on dice/dominoes/five frames/tens frames<br>▪ purposefully create a rhythm with an instrument<br>▪ create linear patterns in emergent writing e.g., zig-zag<br>▪ noticing and correcting simple errors in patterns or sequences either of objects or actions<br>▪ join in with simple hand clapping patterns with a partner<br>▪ experiment with different ways to group items e.g. in 2s, 10s, 5s<br>▪ Talk about what they notice about numerals in various counting sequences e.g. counting in 2s<br>▪ May identify a missing number in a short sequence (e.g. 6 to 10), but may have to start at the beginning to count. They may do this with visuals and/or numerals<br><br>. | *Copies, continues and creates simple patterns involving objects, shapes and numbers.*<br><br>*Explores, recognises and continues simple number patterns.*<br><br>*Finds missing numbers on a number line within the range 0 - 20* |

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| **SHAPE, POSITION and MOVEMENT**<br><br>**Properties of 2D shapes and 3D objects**<br><br>I enjoy investigating objects and shapes and can sort, describe and be creative with them.<br>**MTH 0-16a** | ▪ Through trial and error attempt to:<br>  ○ fit shapes inside each other.<br>  ○ build towers<br>  ○ stack items<br>  ○ rotate objects to get them to fit<br>▪ collect objects that are similar/same<br>▪ explore properties of objects and shapes e.g. balls roll, cylinders roll and stack<br>▪ use movement and gesture to describe properties of shapes e.g., round, pointy.<br>▪ use hands to follow large shapes on walls/tyres.<br>▪ walk around larger shapes and objects e.g., playground markings, bins, trees, etc. | ▪ recognise and identify differences of shapes during play<br>▪ use gestures/language to express differences of shapes during play<br>▪ experiment putting different shapes together.<br>▪ recreate simple images/pictures using shapes e.g., pattern blocks.<br>▪ sort objects & shapes by sorting into categories of their own choosing e.g., may select all the large blocks<br>▪ experiment with and discover properties of shapes through 3D junk modelling.<br>▪ start to name and talk about the properties of shapes and objects | ▪ recognise similarities between objects.<br>▪ recognise shapes in different orientations<br>▪ build using cardboard boxes<br>▪ use shapes to create pictures<br>▪ recognise shapes and properties of shapes in the environment (eg the star is pointy, the ball is round, the door is a rectangle).<br>▪ start to sketch and plan a model they will build<br>▪ create a model using a variety of objects<br>▪ name and talk about the properties of shapes and objects<br>▪ adults to model vocabulary to describe the attributes.<br>▪ experiment by rolling appropriate shapes down ramps | *Recognises, describes and sorts common 2D shapes and 3D objects according to various criteria, for example, straight, round, flat and curved* |

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| **SHAPE, POSITION and MOVEMENT**<br><br>**Angle, symmetry and transformation**<br><br>In movement, games, and using technology I can use simple directions and describe positions.<br>**MTH 0-17a**<br><br>I have had fun creating a range of symmetrical pictures and patterns using a range of media.<br>**MTH 0-19a** | ▪ explore positional language through stories and games.<br>▪ explore orientation and placing of different objects in their play.<br>▪ begin to respond (through actions, emotions or words) in a way that suggests they understand the language of position and direction adults use to comment on play.<br>▪ begin to understand 'my space' in relation to others and objects.<br>▪ copy an action whilst learning actions to a song, a simple dance routine and/or playing follow the leader.<br>▪ place items in correct places e.g. shoes on shelf, jackets on peg, litter in the bin.<br>▪ encounter/discover symmetry in the environment e.g. faces/images/ patterns/ladybirds/butterflies?<br>▪ create maps and pathways in play | ▪ Identify symmetry in nature and the environment.<br>▪ continue to explore orientation and placement of different objects e.g., they may say 'You put it here'. 'It goes in front of the car.'<br>▪ use gestures to support where they are positioning objects.<br>▪ begin to follow suggestions and/or ideas of position if adult comments linked to the play e.g., 'Let's put the cow behind the sheep.' 'I wonder if you can step backwards over the stick?'<br>▪ move an object in games e.g., snakes and ladders<br>▪ rolling and passing balls to each other<br>▪ enjoy adult directions to physical tasks e.g., obstacle courses and action songs.<br>▪ explore mirrors<br>▪ create/explore/experiment with symmetrical pictures<br>▪ create detailed maps and pathways in play | ▪ use positional and directional language in their play e.g. giving directions on the telephone to describe how to get the park, shoe shop, cafe etc.<br>▪ steer the tricycle in left/right and have an understanding of directions. Adults may say 'A little bit to the left.' (children may continue to make errors with right/left language at this stage).<br>▪ use positional language to describe where something is e.g. 'The fire engine is behind the garage'<br>▪ make adjustments when aiming e.g. throwing/catching balls, avoiding collisions, placing counters during games<br>▪ play showing awareness of mirror images, e.g., "writing" or mark making; language may include "it's the other way round"<br>▪ make a symmetrical image they have created using beads/ blocks/paint<br>▪ create representational maps and pathways in play | *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.*<br><br>*Identifies, describes and creates symmetrical pictures with one line of symmetry.* |

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| **INFORMATION HANDLING**<br><br>**Data and Analysis**<br><br>I can match objects, and sort using my own and others' criteria, sharing my ideas with others.<br>**MNU 0-20b**<br><br>I can use the signs and charts around me for information, helping me plan and make choices and decisions in my daily life.<br>**MNU 0-20c** | ▪ sort items into categories of my choosing e.g., select large blocks, teddies, all the cars, specific animals<br>▪ match items that are the same e.g., pine cones<br>▪ remove items/push items away that are not the same category<br>▪ explore loose parts e.g., button boxes.<br>▪ know where items go when it is time to tidy up (may not always follow the rules)<br>▪ make choices about where to play and what to do<br>▪ use simple hand washing charts<br>▪ record information using concrete materials e.g.<br>○ buttons in jars,<br>○ pictorial recording of information. Pegs on choices.<br>○ Like and don't like<br>○ Choice of story<br>○ Menu chart for snack | ▪ talk about height/age/hair colour<br>▪ observe categories in the wider environment e.g., car colours, wellies, shoes, jackets, tractors etc.<br>▪ place name/photo on display for register/snack<br>▪ engage in simple checklists e.g., bird spotting, treasure hunts, use pictograms or own mark making to record information<br>▪ Collect data or record information of interest using symbols or mark making e.g. ,<br>○ tally marks/dots<br>○ photographs<br>○ stickers | ▪ purposively create checklists and use them in play and in simple tasks<br>▪ engage in simple conversations making comparisons, e.g., who has more sweets, is taller, etc<br>▪ collect data, alongside adults, for a real purpose e.g. lunches, register etc.<br>▪ vote to pick things as a group or class, e.g. the activity that will be completed first, the colour that should be used<br>▪ provide explanations about why I have organised the objects this way e.g. small world animals that live on land/water<br>▪ engage more or less correctly with provocations such as using hoops on the floor as Venn diagrams to sort themselves on instruction, etc.<br>▪ predicting comparatives (e.g., more children will want sprouts than want peas) but not necessarily absolute values (how many will want sprouts) | *Asks simple questions to collect data for a specific purpose.*<br><br>*Collects and organises objects for a specific purpose.*<br><br>*Applies counting skills to ask and answer questions and makes relevant choices and decisions based on the data.*<br><br>*Contributes to concrete or pictorial displays where one object or drawing represents one data value, using digital technologies as appropriate.*<br><br>*Uses knowledge of colour, shape, size and other properties to match and sort items in a variety of different ways.*<br><br>*Interprets simple graphs, charts and signs and demonstrates how they support planning, choices and decision making.* |

Credits:

Work on this progression was begun by Seonaid Cooke as a numeracy development officer at Highland Council.

The development group comprised educators, occupational therapists, speech and language therapists and educational psychologists from Highland and Shetland Council.