

Supporting the development of Literacy and Numeracy Milestones through Assistive Technology

The structure of the Literacy and English milestones is similar to the CfE Benchmarks documents and are linked to the CfE Experiences and Outcomes. This direct link supports the tracking of progression from this pre-early stage into the early level where this is possible for a learner. This resource should always be used in conjunction with [Section 1: Guidance](#) and [Section 2: Supporting resources](#).

The following framework has been created to identify assistive technology, available in Fife, that can support the skills and knowledge required to achieve these milestones. This document should be used in conjunction with the [Literacy Notebook](#) (Numeracy is being refreshed) which provides a wide range of resources, strategies and professional learning targeting further skills. To access this notebook, you can enter through *GLOW – SLS tile – ATSS – Resources*.

****If an asterisk is present, then the technology is available on trial through the ATSS team. This would require a provision to submit a request for assistance to support them in identifying the needs of the child or young person. Please email Supporting.Learners@fife.gov.uk for further information.***

Pre-early level Listening and talking

Listening and talking	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology
Curriculum Organisers	Curriculum Organisers	Curriculum Organisers	Curriculum Organisers
<p>Enjoyment and choice - within a motivating and challenging environment developing an awareness of the relevance of texts in my life.</p>	<p>I enjoy exploring and playing with patterns and sounds of language, and can use what I learn. <i>LIT 0-01a/LIT 0-11a/LIT 0-20a</i></p> <p>I enjoy exploring and choosing stories and other texts to watch, read and listen to, and can share my likes and dislikes. <i>LIT 0-01b/LIT 0-11b</i></p> <p>I enjoy exploring events and characters in stories and other texts, sharing my thoughts in different ways. <i>LIT 0-01c</i></p>	<ul style="list-style-type: none"> • Shows a response to familiar characters, songs, rhymes and/or stories • Generates meaningful vocalisations in response to familiar stimuli, objects, people and/or activities • Demonstrates likes or dislikes for characters, songs, rhymes and/or stories • Anticipates and responds to known events in familiar texts, songs, rhymes and/or stories • Joins in with actions, signs and/or movements relating to familiar texts, songs, rhymes and stories 	<ul style="list-style-type: none"> • Clicker Matching Sets - matching character picture to spoken target • Clicker Talking Sets - encourages vocabulary development by recording speech in a variety of contexts. • Clicker 7 Talking Sets – see above • Clicker Books + linked Talking set - to respond to stories & show comprehension. • Furry Friend, Talking Tom - iPad apps – supports communication – copies child's words • Bookbug App – symbolised resources to support exploring multisensory stories • ChooseIt! Maker – Choice Board Creator app - creates personalised resources • YouTube Bookbug songs and stories • Voice Memos app on iPad e.g., use to capture responses • Voice Recorder on Windows10 • Book creator – producing a personalised book (Switch accessible) • Video tool - part of computer/Chromebook/iPad • Clicker Matching Sets - matching character picture to spoken target; • Clicker Talking Sets - encourages vocabulary development by recording speech in a variety of contexts. • Clicker Books + linked Talking set - to respond to stories • Garageband iPad app – cause and effect

Listening and talking Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology
			<ul style="list-style-type: none"> • Big Mack - large single button/single message device for quick communication • Recordable buttons, pegs etc. - a range of speaking and listening devices
Tools for listening, talking and communicating - to help me when interacting or presenting within and beyond my place of learning.	As I listen and talk in different situations, I am learning to take turns and am developing my awareness of when to speak and when to listen. <i>LIT 0-02a/ENG 0-03a</i>	<ul style="list-style-type: none"> • Responds consistently to routines which are spoken or written • Identifies named objects, pictures or symbols consistently • Listens and responds to different words and phrases appropriately • Can use single words to communicate • Can use a few words together to communicate • Uses short phrases to communicate • Shows awareness of others in a conversation • Demonstrates an awareness of others by taking a turn • Joins in with a conversation using a preferred mode of communication • Uses sentences to communicate • Responds to simple questions by non-verbal or verbal means 	<ul style="list-style-type: none"> • Clicker 8 Talking Sets – support for pupils who struggle to express themselves in written form • Clicker 7 Talking Sets – as above • Talking panel recordable device – supports transitions/speech practice/sequencing • Recordable devices - range of devices to support speech activities • Camera and Photos – personalisation of activities to maximise pupil engagement • Any Document with images - Clicker with visuals e.g., photograph/Boardmaker symbols • Book creator – as above • Clips iPad app – add audio and effects to visuals • Big Mack device – use to share message/join in repetitive story • Step by Step device - as above

Listening and talking Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology
Finding and using information -when listening to, watching and talking about texts with increasingly complex ideas, structures and specialist vocabulary.	I listen or watch for useful or interesting information and I use this to make choices or learn new things. <i>LIT 0-04a</i>	<ul style="list-style-type: none"> Understands and responds to objects, pictures, symbols and/or key words from a familiar story, song or rhyme Makes a choice between a few objects, characters, songs, rhymes and/or stories based on information presented to them 	<ul style="list-style-type: none"> Clicker Learning Grids – a range of ready-made Clicker grids. Many of them can be edited Pictello app - paid app for creating social stories Keynote – iPad app – can add in media and save as pdf/video Choice Board Creator app - how to use webinar Choose + Tell Nursery Rhymes/ More Nursery Rhymes/Legends/Fairy Tales (Inclusive Technology software)
Understanding analysing and evaluating -investigating and/or appreciating text with increasingly complex ideas, structures and specialist vocabulary for different purposes.	To help me understand stories and other texts, I ask questions and link what I am learning with what I already know. <i>LIT 0-07a/LIT 0-16a/ENG 0-17a</i>	<ul style="list-style-type: none"> Responds to repetitive words in a story or text Anticipates repetitive words in familiar stories or rhymes Responds to repetitive elements within stories Recognises omissions and alterations to familiar song, rhyme, story or text Recalls some aspects of a song, rhyme, story and/or text 	<ul style="list-style-type: none"> Clicker Sentence Sets and Books - many ready-made/editable grids within Learning Grids or create personalised grids from scratch Tar Heel Reader - free and accessible books which can be speech enabled Book Creator Libraries - create your own books and access to pre-made books My Story School eBook Maker app – create and share eBooks and movies See Touch Learn app – pictorial visual instruction See Hear Touch Animals app - pictorial representation of animals with their sounds
Creating texts - applying the elements others use to create different types of short and extended texts with increasingly complex ideas, structures and vocabulary.	Within real and imaginary situations, I share experiences and feelings, ideas and information in a way that communicates my message. I enjoy exploring events and stories and other texts and I use what I learn to invent my own, sharing these with others in imaginative ways. <i>LIT 0-09a</i> <i>LIT 0-09b/LIT 0-31a</i>	<ul style="list-style-type: none"> Demonstrates that they can follow pattern, sequence in a song, rhyme, story or text by joining in Shares a familiar experience demonstrating some awareness of sequence and structure Expresses ideas through different types of play 	<ul style="list-style-type: none"> Special Story Plus - paid iPad app to create stories Book Bug Songs and Rhymes – as above Clicker 8 Book Collections - traditional tales, nursery rhymes, themed stories Clicker 7 books - a wide collection of ready-made books available in LearningGrids- Story Corner Chatterpix Kids free iPad app – many good apps by this developer for early learning Sounding Board app – communication technology to create custom boards using symbols and words

Listening and talking Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology
	As I learn and take part in conversations and discussions, I discover new words and phrases which I use to help me express my ideas, thoughts and feelings. <i>LIT 0-10a</i>	<ul style="list-style-type: none"> • Creates imaginary characters, rhymes and/or stories and communicates this to others • Begins to identify new vocabulary and can use this to convey their ideas, thoughts and feelings • Creates a text using an alternative method, for example, photographs, symbols, etc. 	

Pre-early level Reading

Reading Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology and Possible Contexts for Learning
<p>Enjoyment and choice - within a motivating and challenging environment developing an awareness of the relevance of texts in my life.</p>	<p>I enjoy exploring and playing with the patterns and sounds of language and can use what I learn. <i>LIT 0-01a/LIT 0-11a/LIT 0-20a</i></p> <p>I enjoy exploring and choosing stories and other texts to watch, read or listen to, and can share my likes and dislikes. <i>LIT 0-01b/LIT 0-11b</i></p>	<ul style="list-style-type: none"> • Shows an interest in rhymes, stories and/or text • Shows an interest in and makes a choice between a familiar rhyme, story and/or text • Anticipates or reacts to parts of a rhyme, story and/or text • Demonstrates an awareness of the conventions of handling a storybook or text for example: <ul style="list-style-type: none"> ○ Turning a page ○ Left to right ○ Holding book right way up ○ Identifying front and back of a book ○ Knowing the difference between a picture and text • Explores a storybook or text in order to find objects, pictures and/or words 	<ul style="list-style-type: none"> • Phonic, Rhyming and Alliteration activities - Clicker Learning Grids English Sounds and Letters and Alphabet Animals (Switch/Eyegaze accessible) • Clicker Learning Grids - Story Corner- Nursery Rhymes and Songs (Switch/Eyegaze accessible) • Book creator – producing a personalised book (Switch accessible) • Handling Digital Text through Clicker Learning Grids - Story Corner, Traditional Stories; Decodable Stories etc. • Tar Heel Reader – ready made accessible books • Bookbug App – symbolised resources to support exploring multisensory stories • Keynote and Pages (iPad core apps) – to support the conventions of handling a story book or text with audio support • ATSS Literacy Notebook – holistic overview of Literacy Support Tools to engage and enhance learning
<p>Tools for reading - to help me use texts with increasingly complex or unfamiliar ideas, structures and vocabulary within and beyond my place of learning</p>	<p>I explore sounds, letters and words, discovering how they work together and I can use what I learn to help me as I read and write. <i>ENG 0-12a/LIT 0-13a/LIT 0-21a</i></p>	<ul style="list-style-type: none"> • Recognises when a story starts and finishes • Matches objects, photos, pictures, symbols and/or text • Sorts objects, photos, pictures, symbols and/or text • Demonstrates an awareness that symbols and print carry meaning; for example, by pretending to read the print 	<ul style="list-style-type: none"> • As above Clicker Learning Grids • Nessy – online website – explores sounds, letters and words, and how they work together • Clicker Books - create books with audio, video and picture support • Clicker Matching Sets - to create matching activities with or without audio support • Clicker Boards - create sorting activities and to demonstrate understanding with pictures and audio available to support

Reading Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology and Possible Contexts for Learning
			<ul style="list-style-type: none"> • Big Button – using a recordable response to interact with a story • Getepic! - audio books with tracked text • Books for All / ClaroPdf – books and textbooks made accessible for pupils with a print disability • Book Creator – as above • Tar Heel Reader – as above • RNIB Bookshare - provides digital text for pupils with a print disability • Chooselt! Literacy software and app – a range of choice-based games and activities • Doorway – Matching, First sounds and Early Phonics, Initial blends, First words
<p>Finding and using information - when reading and using fiction and nonfiction texts with increasingly complex ideas, structures and specialist vocabular</p>	<p>I use signs, books or other texts to find useful or interesting information and I use this to plan, make choices or learn new things. <i>LIT 0-14a</i></p>	<ul style="list-style-type: none"> • Scans and tracks symbols and/or pictures • Makes a choice using symbols and/or pictures • Recognises and begins to read social sight words • Recognises familiar words and/or names • Recognises some familiar words in a storybook or text • Comments on some ideas within a story and/or text • Gives a response to a simple question about a text 	<ul style="list-style-type: none"> • Talking photo album - both picture and audio can be included to increase engagement with non-fiction/fiction • *Reading pen used to encourage the tracking of a story, matching text to sound, supporting reading skills. • Doorway - moving targets - a game involving a variety of objects that encourages tracking, clicking and develops understanding of cause and effect • Boardmaker – text supported by symbols (across languages) to support choice, storytelling, labelling etc. (<i>Contact SLS for account details</i>) • Clicker Learning Grids – Matching Sets, Story Corner etc. (as above for link) • *Chooselt! (as above) High Frequency words • *Chooselt! (as above) Maker Board • Camera Mark Up - edit photos, add text, pictures etc.

Reading Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology and Possible Contexts for Learning
			<ul style="list-style-type: none"> • Book creator - personalise stories with familiar pictures, interests and motivators. • Pocket Charts - picture and word matching activities with audio support • Screening Shorts website - a short film library to provide a range of media • I can Animate? and Stop motion animation – provide tools to produce animated films
<p>Understanding, analysing and evaluating - investigating and/or appreciating fiction and non-fiction texts with increasingly complex ideas, structures and specialist vocabulary for different purposes</p>	<p>To help me understand stories and other texts, I ask questions and link what I am learning with what I already know. <i>LIT 0-07a/LIT 0-16a/ENG 0-17a</i></p> <p>I enjoy events and characters in stories and other texts, sharing my thoughts in different ways. <i>LIT 0-19a</i></p>	<ul style="list-style-type: none"> • Recognises a character/object in a picture • Identifies an object/character within a story that is read to them • Recalls a character, object or event in a story that is read to them • Sequences parts of a story • Makes simple comments/responses or asks questions about a story • Responds to a simple question about a story or text 	<ul style="list-style-type: none"> • Clicker Talking Sets - provide a visual story or sequence that the pupil can retell using audio recordings • Clicker Voice Notes - provides an opportunity to record your own audio notes, to capture ideas, and rehearse sentences before writing. • Keynote – as above for link- sequencing stories, moving through independently and using interests to engage. • Clicker Books – using Clicker tools to support engagement with a story (as above for link) • Clips - inspire your pupil to tell stories with engaging visuals, record Live Titles to caption their videos • Using screenshot functionality to capture an event or sequence a real story. • Recordable devices - low tech supports to encourage engagement, interaction, participate in the story telling and respond to location within a text or characters. • Voice Memos - use this app to record rather than write parts of a story, character descriptions, responses to questions.

Reading Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology and Possible Contexts for Learning
			<ul style="list-style-type: none"> <li data-bbox="1462 268 2051 368">• Book creator – create personalised, stories of interest, or recreate the story to confirm comprehension

Pre-early level Writing

Writing Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology to Support Milestones
Enjoyment and Choice - within a motivating and challenging environment developing and awareness of the relevance of texts in my life	I enjoy exploring and playing with the patterns and sounds of language and can use what I learn. <i>LIT 0-01a/LIT 0-11a/LIT 0-20a</i>	<ul style="list-style-type: none"> • Interacts with a range of objects using different senses • Shows an interest in print through exploring different ways that print is presented; for example, shopping lists, cards, posters • Shows an interest in making marks • Experiments with mark making through different media • Produces specific mark making such as scribbles • Recognises that the function of writing is to convey meaning 	<ul style="list-style-type: none"> • Clicker Matching Sets – sets can be edited to match Picture to Word; Word to Word etc. • Clicker Sentence Sets – create simple sentences and build knowledge of sentence structure. • Clicker Connect Sets - create more varied sentences and build knowledge of sentence structure. • Clicker Custom Sets - within Learning Grids. Encourages children to explore text by providing support and choice within a specific context. • Mark Making Activities: Clicker Document - Insert Paint – to paint and mark make. On blank document or uploaded image. • Smartboard – magic pens – for mark making and letter formation • Using a stylus - Apple Pencil or Logitech Crayon. • Useful iPad Apps for mark making - Finger Paint, Joy Doodle (also sends to Book Creator) • Drawing tools on iPad e.g., within Notes or Paint on Windows based devices • Camera – mark up • PowerPoint – add photos with key word – adult led creating environmental print
Tools for writing - using knowledge of technical aspects to help my writing communicate effectively within and beyond my place of learning	I explore sounds, letters and words, discovering how they work together, and I can use what I learn to help me as I read or write. <i>ENG 0-12a/LIT 0-13a/LIT 0-21a</i> As I play and learn, I enjoy exploring interesting materials for writing and different ways of recording my experiences	<ul style="list-style-type: none"> • Demonstrates arm and/or hand movements and/or alternative method; for example, assistive technology during tactile, digital and/or multi-sensory activities • Demonstrates ability to hold, grasp and release tools for writing • Demonstrates control of preferred tool for writing in order to create patterns and sequences that convey meaning • Uses fingers, hands and other media or tools to overwrite pre-written shapes and words 	<ul style="list-style-type: none"> • As above • Useful iPad letter formation/handwriting apps - Little Writer, Writing Wizard, ABC Writer, Handwriting Heroes • Pocket Phonics Stories - handwriting practice – including cursive • Word Art - in Microsoft Word – a quick way to make text stand out with special effects • Drawing apps – develops pencil control

Writing Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology to Support Milestones
	<p>and feelings, ideas and information.</p> <p><i>LIT 0-21b</i></p>	<ul style="list-style-type: none"> • Copies shapes and letter forms • Demonstrates preferred hand to hold tools for writing 	<ul style="list-style-type: none"> • Doorway Letter and Number Formation to practice upper/lower case letters and numbers to 10 • Drawing and painting apps - Tayasui Sketches, Brushes, Sketchbook • Book Creator • Microsoft Office 365 – Dictate in Word Online • Notes app on iPad – Dictation and embed media • Camera and Photos on iPad • Touch Typing Practice - Nessy Fingers, BBC DanceMat, TuxType, Doorway typing etc.
<p>Organising and using information - considering texts to help create short and extended texts for different purposes</p>	<p>Within real and imaginary situations, I share experiences and feelings, ideas and information in a way that communicates my messages.</p> <p><i>LIT 0-26a</i></p>	<ul style="list-style-type: none"> • Produces marks/drawings that they are able to share as having a meaning • Produce meaningful marks that convey their own name • Looks at/explores objects, photos or pictures from a personal/shared experience • Uses objects, photos, pictures or other media to share feelings, ideas and information about a recent experience • Uses objects, photos, pictures or symbols in sequence to create a story or a message • Uses photograph/name card to label their own work • Conveys a message/idea/information using their preferred mode of communication 	<ul style="list-style-type: none"> • Clicker Document - Insert Picture - Paint can also mark up an image or photo • Use Clicker Boards or Talk sets to insert voice recording to capture pupil voice or plan with them • Speech to text speech support to read back text within Clicker, Word, PowerPoint etc. • Speak accessibility functions on iPad • Adding Speak onto Windows toolbar - to hear text read aloud. A text box can be added to a Word page with key words • Read Aloud at editing stage – within Word – Review Tab or View Tab – Immersive Reader- listen to their text and amend, add more detail • Picturised Word bank within Clicker 8 (Picture Bank – Clicker 7) to provide supportive images and key words – read aloud using right click • Talking Word wall – double clicking Shift Tool within Clicker to enable all text to be read aloud on touch • Cloze procedure – select the correct answer within Clicker 8 • Comprehension - match beginnings and endings – Clicker Connect Sets

Writing Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	Assistive Technology to Support Milestones
			<ul style="list-style-type: none"> • Clicker Books with supported word banks- core vocabulary appears when writing • Notes – draw tools • Tayasui Sketches – drawing tools • Choose and Tell Nursery Rhymes. Fairy Tales, Legends etc. • Target and Touch Patterns - Music • Boardmaker • Office Lens • Clips – voice appears as text • Book Creator – speech to text, audio • ChatterPix Kids
<p>Creating texts - applying the elements which writer use to create different types of short and extended texts with increasingly complex ideas, structures and vocabulary</p>	<p>I enjoy exploring events and characters in stories and other texts and I use what I learn to invent my own, sharing these with others in imaginative ways.</p> <p><i>LIT 0-9b/LIT0-31a</i></p>	<ul style="list-style-type: none"> • Groups letters and leaves spaces between words • Following a familiar story, uses objects, photos, pictures or symbols to create their own story in a sequence • Begins to create a short piece of functional writing using objects, photos, pictures or symbols 	<ul style="list-style-type: none"> • Clicker Documents • Clicker Writer app (Links to Learning Grids); Sentence Sets- and Connect Sets • PowerPoint linking images with brief amount of text (typed or dictated) • Smartboard using Clicker Keyboard e.g., rainbow keyboard with predictor (can be picturised)- word banks • PowerPoint – build up repetitive phrases + link with photos • Clips – iPad app • Claro read Edge extension

Numeracy & mathematics Milestones

Pre-early level Number, Money and Measure

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
Estimation and rounding	<p>I am developing a sense of size and amount by observing, exploring, using and communicating with others about things in the world around me.</p> <p><i>MNU 0-01a</i></p>	<ul style="list-style-type: none"> Shows a recognition of one, none and lots in a range of practical contexts Shows recognition of more or less in a range of practical contexts 	<ul style="list-style-type: none"> Doorway Activity Pack available in search bar on every device - add and subtract to ten Doorwayonline – activity pack available, currently being updated Duck Duck Moose App available on Self Service e.g., Fish School, numbers of shapes and colours ; Park Math – count, add, subtract and sort, continue sequence etc.: Moose Math Toytheatre - Virtual manipulatives Mathsbot.com - counters, manipulatives, dice Endless numbers for quantity and counting available on Self Service app www.isee.maths.com- subitising Cbeebies - Number Blocks - learn about number, counting Boardmaker Online - Create grids with a variety of objects and sizes.
Number and number processes including addition, subtraction, multiplication, division and negative numbers	<p>I have explored numbers, understanding that they represent quantities and I can use them to count, create sequences and describe order.</p> <p><i>MNU 0-02a</i></p> <p>I use practical materials and can 'count on and back' to help me to understand</p>	<ul style="list-style-type: none"> Participates in nursery rhymes and songs which involve an introduction to number Calls out/demonstrates an awareness of numbers that come next in a familiar sequence Recognises some familiar numbers within the environment Carries out familiar tasks that involve one to one matching 	<ul style="list-style-type: none"> * Software Counting Songs 1 and 2 (both numbers to five) First 8 Studios - range of Gracie and Friends apps available on self-service. Resources and Teacher Guide available on website – subitising; partitioning, sharing *Tapfun Frog Hop - iPad app ICTgames.com - rekenrek games (bead string) Toytheatre – ten frames, bear counters, number charts

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
	<p>addition and subtraction, recording my ideas and solutions in different ways. <i>MNU 0-03a</i></p>	<ul style="list-style-type: none"> • Recognises and/or uses the sequence of 1,2, 3 to lead into or out of an activity • Says or signs the number words in order • Recognises and identifies some numerals • When asked 'how many?', recognises that they should respond with a number • Follows along a sequence of numerals while communicating the words • Begins to show one-to-one correspondence by indicating (for example, by pointing) at each item and/or reciting the appropriate number words • Uses counting to accurately identify 'how many?' there are in a small group of items • Gives a requested number of items in a practical setting • Adds one more and/or takes one away from a group of items on request • Identifies when there is none left • Demonstrates an understanding of first and last in a familiar routine 	<ul style="list-style-type: none"> • Cbeebies Numberblocks - counting activities, videos, and games • Subitising (mathsbot.com) - quantities appear and disappear, the range of quantities and the speed can be varied • Counting (mathsbot.com) - options to move through using numerals and quantities starting from 0 • Letter and Number Formation (doorwayonline.org.uk) • Doorway Activity Pack available in search bar on every Fife device - add and subtract to ten • Doorwayonline – activity pack available, currently being updated • Five Frame (nctm.org) for desktop or iPad range of activities within five • Ten Frame (nctm.org) range of activities e.g., how many, how many more • Early Years Maths - Topmarks Search - range of activities covering early years • lernsoftware-mathematik - click to add counters; click on numeral to hide/reveal • Splat! - Steve Wyborney's Blog: I'm on a Learning Mission. - splat through 10 (how many dots under the splat – downloadable PowerPoints) • Teacher Tools (dreambox.com) includes number sense and equivalence • Quantity Cards for Subitizing (erikson.edu) - downloadable subitizing dot cards • Flip Counter A demonstration tool for counting f'wards or b'wards in steps of 1, 10, 100 or 1000 - mobile friendly (ictgames.com) • Kindergarten Math Free, Online Math Games Math Playground – subitising e.g., Jumping Chicks

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
			<ul style="list-style-type: none"> • iPad Camera /Photos to take images of quantities for Photo Chat – How many do you see? • Keynote iPad app - to create your own number activities • Explain Everything iPad app add images for numeracy activities - also audio and visuals • Duck Duck Moose apps available on self-service – Moose Maths • Tapfun apps • Priory Woods School & Arts College - Program Resources - 0-10 games and songs • Numeracy - CBeebies - BBC - 0-10 games and activities • Manipulatives - MathsBot.com - range of visual teaching aids • Virtual Manipulatives Mathematical Modelling Toy Theater - range of visual teaching aids • Virtual Manipulatives for Math (didax.com) - range of visual teaching aids • Polypad – Virtual Manipulatives (mathigon.org) Numbers, includes manipulatives for a variety of supports, bars, frames, tiles etc. • EYFSKS1CurriculumLinkedtoNRICH.pdf (maths.org) mapping NRICH activities to curriculum including links to games (English Curriculum) • Early Years NCETM - ideas and suggestions for practical activities • Hungarian Number Frame (mathsbot.com) develop awareness of how numbers are composed using a five pattern; links to Hungarian Number Frame — Spot On With Numbers with examples at concrete level

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
			<ul style="list-style-type: none"> • Number Rack by The Math Learning Center bead string also available as iPad App • Zahlenkarten (mathemonsterchen.de) - play based ideas and suggestions for teaching Primary Maths • K-2 IWB Resources: Number (k-5mathteachingresources.com) links to resources e.g., Topmarks (Smartboard Resources from across the web to develop counting, numeration, addition and subtraction skills) • JMP Johnnie's Math Page the Best Math for Kids and their Teachers (jmathpage.com) - links to other web-based resources • https://www.learningtrajectories.org/ free sign up to access range of activities including subitising • Deck of Cards practising sight facts using player cards- seeing number patterns – early addition and partitioning; arranging by quantity – to Zoom use ellipsis (...) • Visual Cluster Cards – Mathematics for All (wordpress.com) learning sight facts with video for staff development • Clicker Learning Grids – missing number/sequencing • Feed the Monkey iPad app - self service • BitsBoard app – range of activities to create or adapt (link to CALL Scotland webinar) • * Software Choose IT Ready Made Numeracy 0-5 • * Software Choose IT Ready Made Numeracy 5-10 • Lumio – ready-made resources. More information on Fife intranet - Digital in Schools – Software and Systems- SMART Learning suite

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
			<ul style="list-style-type: none"> • abcmouse paid subscription ABCmouse.com teaches numbers, addition and subtraction, shapes, patterns, measurements • *Software Monkeys Ducks and Frogs –recognise numerals 1-5; changes in quantity; one to one correspondence; early 'taking away' • Software Numbergym (Paid for software) • Software Numicon Interactive Whiteboard Paid for software. • Free resource Mathigon.org - Number Frame • Recordable devices – Recordable talking panel sequence numbers • * Software Touch Balloons (see also Doorway) • Cbeebies - assorted games subject to change • Teach Your Monster Number Skills - free sign up • Learn to Count More Than, Less Than Activity • ABCya! - counting activities • Whiteboard (mathlearningcenter.org) - create quantities etc. • Early Number Sense (maths.org) - range of activities and ideas for number sense and place value • Curious George . George's Busy Day Teachers PBS KIDS - range of early numeracy concepts e.g., make the train have the same number of carriages • * Software Fizzy's First Numbers – early number skills 1-9 • * Software Fizzy's Number Skills – extension into addition + subtraction concepts • * Software 123-CD – number lines, digits and pictures • * Software Number Run – early number skills – names digits • * Software Making Sense with Numbers – 1-9 activities

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
			<ul style="list-style-type: none"> • * Software Counting Songs 1+2 – early number • YouTube Counting Songs • Sheppardsoftware.- early maths range of activities - activities and games • Play the Choose the Larger Block Game (mathsisfun.com) identify which block of chocolate is larger.
Fractions, decimal fractions and percentages including ratio and proportion	<p>I can share out a group of items by making smaller groups and can split a whole object into smaller parts.</p> <p><i>MNU 0-07a</i></p>	<ul style="list-style-type: none"> • Splits an item into smaller pieces • Puts smaller pieces back together to make the whole • Takes part in distributing a collection of items between a group • Distributes items one at a time 	<ul style="list-style-type: none"> • Clicker Learning Grids - Fractions - fractions activities • Gracie and Friends Breakfast Time iPad App – splits items into smaller pieces, divides items (paid app) • Gracie and Friends Birthday Cafe iPad app - distributes items (paid app) • Feed the Monkey iPad app - distributes items available on self-service • Polypad – Virtual Manipulatives (mathigon.org) - fraction bars • https://lernsoftware-mathematik.de/rechentablett2.html - distribute the counters • Fraction Games (maths-games.org) • Percentage Games (maths-games.org) • https://www.learningtrajectories.org/math/learning-trajectories - Fractions • * Software Choose It Numeracy - a variety of early numeracy learning games • Kidspuzzles app self service - jigsaws • * Software Choose IT Ready Made Early Number • www.iseemaths.com - part whole games, how many dots • Mathsbot.com - maths manipulatives • Cbeebies - games

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
			<ul style="list-style-type: none"> • Fractions by The Math Learning Center web version or iPad app – choose a fraction bar or fraction circle; divide each whole into 1 to 100 equal parts; fill in parts of the whole with colour to show a fraction; hide and reveal fraction labels. • Fun Kids Online Math Games (sheppardsoftware.com) variety of activities e.g., Fraction Splat range of options e.g., slow mode
Money	<p>I am developing my awareness of how money is used and can recognise and use a range of coins.</p> <p><i>MNU 0-09a</i></p>	<ul style="list-style-type: none"> • Exchanges an item for something else • Exchanges a range of media including coins, cards or other forms of money in exchange for something • Handles a range of real money that demonstrates an awareness of money, for example, puts it into a purse or a till or other relevant item. • Finds coins in a group of mixed items • Matches coins or notes that are the same • Sorts some coins from other coins • Identifies some coins • Uses language of money in a real-life situation, e.g., pay, coin, change, buy, pounds, pence 	<ul style="list-style-type: none"> • Clicker Learning Grids - Money - money activities • Choose It Numeracy iPad app - Money - money activities • * Software Choose IT Ready Made Money • www.mathsplayground.com - money games • Toytheatre – manipulate/match money • Doorway Activity Pack available in search bar on every device - add and subtract to ten • Doorwayonline – activity pack available, currently being updated • * Software Percy's Money Box • Topmarks – toyshop money game • Tapcount app – available in Self Service • Cbeebies JoJo and Gran - activity for visiting the shop to buy items • Boardmaker- Create money activities using symbols/pictures.
Time	<p>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</p>	<ul style="list-style-type: none"> • Demonstrates awareness of start and finish by responding to a start and finish signifier such as a tune, object, etc. 	<ul style="list-style-type: none"> • Clicker Learning Grids - Measuring Time - how long does it take • Clicker Learning Grids – getting dressed • Clicker Learning Grids - seasons

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
	<p>clocks, calendars and other methods.</p> <p><i>MNU 0-10a</i></p>	<ul style="list-style-type: none"> • Moves on to doing something different in response to a simple timetable (for example, objects, photos, symbols) • Follows a sequence of activities in response to a timetable (e.g., objects, photos, symbols) • Identifies that there are different activities that happen at different times of the day and different days of the week • Shows an awareness that there are different days of the week • Shows some awareness that there are different features associated with different seasons such as weather, clothes, festivals • Shows some understanding of time passing, e.g., through waiting for a timer, or waiting for a turn or activity • Shows some awareness of the language of time, e.g., before, after, time for, tomorrow, today, afternoon, morning, night, now, next, finished and wait 	<ul style="list-style-type: none"> • * Choose It Numeracy iPad app - Time - various time activities • Start and Finish activities using *Switch software. e.g., Big Bang • * Software Choose IT Ready Made Numeracy Time • Interactive telling time app (self-service) – day/night focus • Mathsplayground.com – Time Game • Mathsplayground.com - Time words • Boardmaker- Create Time activities using symbols/pictures. • NLC Communication Friendly - routines • To support reading time- pdf - make a clock face
Measurement	<p>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.</p> <p><i>MNU 0-11a</i></p>	<ul style="list-style-type: none"> • Explores different items in their world in relation to size, weight, length and capacity through a variety of actions, e.g. filling and emptying • Identifies items by size and/or amount, for example, big and small, heavy and light, full and empty, from a choice of two • Matches items by size and length • Sorts items by size and/or amount, for example, big and small, heavy and light, full and empty • Responds to directions by more or less 	<ul style="list-style-type: none"> • Clicker Learning Grids - Measurement - length, mass, capacity • *Choose It Numeracy iPad app – Foundation Stage and Key Stage 1: Shape, Space and Measure - shape, space and measure activities • Topmarks – let's compare game • Cbeebies – assorted games subject to change

Number, Money and Measure Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
Patterns and relationships	<p>I have spotted and explored patterns in my own, and the wider, environment and can copy and continue these and create my own patterns.</p> <p><i>MTH 0-13a</i></p>	<ul style="list-style-type: none"> • Finds familiar items that go together and matches them • Responds to a change in a familiar pattern or routine 	<ul style="list-style-type: none"> • https://papunet.net/games - puzzles and games e.g. choosing shape and number of pieces to recreate jigsaw picture; matching picture to outline etc. • Clicker Matching Sets - create matching sets for various items • Environmental photos using Camera and Photos iPad app • Switch software (for list of ATSS titles see below) – replaces a keyboard/mouse to perform an action. e.g. switch and *software • Doorway matching activities are available through Doorway Activity Pack. • ICTgames – matching/sorting game • Mathigon– shapes available to use on screen • Toytheatre – Pattern games • CBeebies - a range of games with familiar characters • Fuzz Bugs patterns • Fuzz bugs Counting sorting comparing • Boardmaker- Create pattern activities using symbols/pictures.

Pre- early level Shape, Position and Movement

Shape, Position and Movement Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
<p>Properties of 2D shapes and 3D objects</p>	<p>I enjoy investigating objects and shapes and can sort, describe and be creative with them.</p> <p align="right"><i>MTH 0-16a</i></p>	<ul style="list-style-type: none"> • Investigates the properties of shapes and objects through play activities such as posting shapes, stacking objects, inserting puzzle pieces • Uses objects in a way that demonstrates an awareness of their properties • Matches real life 3 D objects • Matches 2 D shapes • Recognises the names of some simple shapes, for example, circle, star, square 	<ul style="list-style-type: none"> • https://papunet.net/games - memory games with colour and shape – range of challenge options • Clicker Learning Grids - 2D Shape - 2D Shape activities • Clicker matching activities - create your own • Mathsplayground.com – Shape Name Game • https://www.learningtrajectories.org/ 2D and 3D shapes • * Software Choose IT Ready Made Numeracy Key Stage 1 Maths Shape Space and Measure • Recordable box – what's in the box game? • Polypad – Virtual Manipulatives (mathigon.org) • Topmarks – Shape Patterns and shape monster / shadow shapes / shape puzzle / 2D shape class clips • Geometry Interactive Whiteboard Resources (k-5mathteachingresources.com) • Cbeebies – Mr Maker Songs Mr Maker program Shapes Quiz • Pattern Blocks Manipulatives Coolmath4Kids - creating patterns with shapes; can also extend to pattern puzzles • Pattern Blocks Math Playground- click on the shape to add it to the workspace; can also be used for counting and matching • Pattern Shapes The Math Learning Center • Boardmaker- Create 2D & 3D shape activities using symbols/pictures • Pattern Shapes by The Math Learning Center range of activities with 2D shapes

			<ul style="list-style-type: none"> • Boardmaker- Create 2D & 3D shape activities using symbols/pictures. • Fun Kids Online Math Games (sheppardsoftware.com) variety of activities e.g., Shape Splat range of options e.g., slow mode
<p>Angle, symmetry and transformation</p>	<p>In movement, games, and using technology I can use simple directions and describe positions.</p> <p style="text-align: right;"><i>MTH 0-17a</i></p> <p>I have had fun creating a range of symmetrical pictures and patterns using a range of media.</p> <p style="text-align: right;"><i>MTH 0-19a</i></p>	<ul style="list-style-type: none"> • Demonstrates an understanding of simple positional language such as in, on, under, up and down • Joins in familiar movement games and activities • Follows some simple directions within familiar movement games and dance, e.g., turn around 	<ul style="list-style-type: none"> • Recordable devices – record position and encourage active participation games • Switch adapted toys to ‘make go’ or ‘dance’ e.g., Train and Dance toy • Clicker grids – position and direction • Clicker Books – part of Clicker – create a story using positional language • Topmarks – hungrypirates and Hiding the Bone • Pattern Shapes by The Math Learning Center - make symmetrical picture using • Beebot – directional language linked with number

Pre- early level Information Handling

Information Handling Curriculum Organisers	Experiences and Outcomes for planning learning, teaching and assessment	Milestones to support practitioners' professional judgement	
Data and analysis	<p>I can collect objects and ask questions to gather information, organising and displaying my findings in different ways. <i>MNU 0-20a</i></p> <p>I can match objects, and sort using my own and others' criteria, sharing my ideas with others. <i>MNU 0-20b</i></p> <p>I can use the signs and charts around me for information, helping me plan and make choices and decisions in my daily life. <i>MNU 0-20c</i></p>	<ul style="list-style-type: none"> • Collects or chooses a group of objects that share one property • Matches specific objects to other objects, pictures or symbols • Sorts a group of objects using a given criteria • Uses signs/symbols/pictures/objects of reference to help plan and make choices 	<ul style="list-style-type: none"> • Clicker Boards – Venn Diagrams to drag and drop/ categorize images • Recordable devices – labelling/sorting: Talking Buttons, Talking Photo Album. • Boardmaker - Create matching activities using symbols/pictures. Create a variety of Choice boards. • Photographs and objects of reference to support choice making • NLC communication friendly - making choices • Book Creator - Create books about sorting. • Clicker Learning Grids – Variety of Grids (Sorting) • Topmarks – sorting box • Bobbie Bear (nctm.org) how many outfits can be made using different coloured shirts and shorts- customise setting to vary difficulty level

ATSS also have access to these titles which cover a range of these skills in one piece of software. These can be accessed from the RFA process for SLS.

- Percy Gets into Shapes – Matching outlines to pictures of everyday objects, distinguishing between commonly found shapes, finding and sorting objects according to size, instructions to colour images correctly.
- Percy’s Thinking Skills - Activities covering puzzles, sequencing, thinking and visual perception.
- Percy’s World of Numbers - Covers counting, recognising numbers, number sequences and ordinal numbers.
- Percy Teaches Maths - Consolidates counting, grouping, comparison, sequences, simple addition, subtraction, and number recognition.
- Percy’s Money Box – Recognising different coins, purchasing items using the correct coins, converting between differing amounts of money, giving correct change, and recognising prices in a shop, including on a shopping list.
- Percy Keeps Counting - Counting on from a number and counting in twos, fives and tens, counting organised and randomly placed objects, sort items before counting.
- Tizzy’s Toy Box – Comparison of totals, identifying sounds, positional language, matching, one to one correspondence, spatial awareness, pairs and opposites, sizes, ordering, rhymes, colours.
- Counting Songs 1 + 2 – Early number
- Switch It software titles – Bob the Builder; Dinosaurs Extra; Farm Extra; Sports Extra; Wildlife Extra