Routes to numeracy

Strands	Elements	RfL routemap	A steps	B steps	C steps
		Learners have achieved the following on the Routes for Learning (RfL) routemap.	Learners are able to:	Learners are able to:	Learners are able to:
Developing numerical reasoning	**Identify processes and connections**	• Intentional exploration of the environment *[RfL 27]* • Shared attention *[RfL 40]* • Modifies action when repeating action does not work *[RfL 38]* • Object permanence *[RfL 34]*	• focus attention on objects, manipulating and exploring them using a range of methods • show an interest in number activities and counting with an adult, copy some actions, and/or vocalise at appropriate moments • use a favourite object in a new or different way after watching an adult do so • locate and remove a favourite object from among a collection of different objects	• pay attention, respond to and use number words in structured activities led by an adult • assist in counting and match identical objects when the task is structured by an adult • treat familiar items as similar despite differences in their appearance or their medium of representation (as objects, pictures, etc.) • watch an adult order a number of items in a particular way (*e.g. cars in a row*) then attempt to copy • search for all missing items when 2 or 3 objects are hidden	• use counting and comparing sometimes outside focused teaching activities • complete a task requiring several steps • select and manipulate objects in order to help solve a problem • make an attempt at a simple estimate, *e.g. how many objects will fit in a container*

	Represent and communicate			• respond appropriately to some words describing:
				  – quantity, *e.g. more*
				  – size, *e.g. big*
				  – position, *e.g. in*
				  when applied to real objects
				• sign or indicate to show responses or choices
					• respond appropriately to words describing:
					  – quantity, *e.g. some, more, a lot*
					  – size, *e.g. big, little*
					  – position, *e.g. in, on, under*
					• demonstrate an awareness of number in activities
					• record by making marks or drawing pictures

	Review				• recognise if the pattern is wrong, where items are in pairs, and put it right by completing the set or removing the odd item • interpret written numerals correctly (up to 3) in a practical task, *e.g. reads '3' and gives out corresponding number of drinks to others*
Using number skills	**Use number facts and relationships**	• 'Looks' backwards/forwards between two objects (knows two objects are present) *[RfL 29]* • Shared attention *[RfL 40]*	• anticipate climax in familiar number songs or rhymes (showing emergent recognition of number words) • recognise which quantity is greater when numbers are small • point to an object or vocalise at an appropriate moment to indicate a number when an adult is counting	• count 2 or 3 objects with support • recite numbers from 1 to 3 • associate numerals (1 and 2) with number activities • recognise that '2' is more than '1'	• count reliably up to 3 objects • recite numbers from 1 to 5 • name and order numbers to at least 3
	Fractions, decimals, percentages and ratio				
	Calculate using mental and written methods				• 'add more' to, or 'take away' from, a set when the task is structured by an adult, and can re-count to find new total
	Estimate and check				
	Manage money	• Communicates choice to attentive adult *[RfL 37]*	• give a coin in exchange for an item after observing others do so in role play shop (may have no notion of coin's value but will engage in the social interaction)	• point to choice of item from two or three in role play shop then give coin(s) in exchange • find coins from a limited collection which are the same as ones shown by an adult	• give money in exchange for an item in a real shop when coins and choice are prepared in advance • sort coins according to one attribute, *e.g. colour, size or shape*

Using measuring skills	**Length, weight/mass, capacity**	• Selects from two or more items *[RfL 36]*	• explore the distinctions between objects by putting/holding them together, joining/stacking/breaking them apart/putting them into containers	• find the 'big' object from 2 otherwise similar items:
				  – where the difference in size is large and the activity is structured by an adult
				• find one the same from a small collection of objects when the activity is structured by an adult
					• independently compare the size of objects by lining them up or holding them together:
					  – find the 'big' one from two objects and order several objects according to their size

	Time	• Does two different actions in sequence to get reward *[RfL 35]*	• show growing awareness of rhythmical patterns and begin to coordinate some sounds with gestures or pointing	• adjust speed of clapping to match a model (faster or slower) • anticipate a routine event when it is represented by a picture/symbol or object of reference	• accept a wait for a more favoured activity by referring to a pictorial representation of their day (use the concepts of 'finished' and 'next') • use simple pictures to understand the sequence of events and activities in their day
	Temperature				• appreciate the difference of hot and cold
	Area and volume **Angle and position**				

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Using data skills	Collect and record data Present and analyse data Interpret results	• Selects from two or more items *[RfL 36]* • Purposeful action on everyday environment *[RfL 24]*	• 'gather' and hold onto several objects sharing a particular preferred property, while discarding others • touch, point to or give an object to indicate an 'answer' in a number activity.	• separate from a collection objects which share a common attribute (of their own choosing) • match an object to an identical object and a picture to an identical picture • match a very familiar object to a clear photo of an identical object • manipulate objects or pictures within simple number games and activities – the final position of the items records the solution.	• separate objects which share a specified attribute, *e.g. big/little, round* • consistently match pictures to objects (not necessarily identical) • match related pairs of objects or pictures, *e.g. knife and fork, cup and saucer* • use sorting and ordering to organise objects using them in context but not always correctly • record numbers by matching numerals to sets of objects (up to 3).