Rockwood Nursery School

Sequence of Learning for Mathematics

	Intent for Mathematics *for children to grasp number and become familiar with shapes, space and measure*

	INTENT					
	Cardinality and Counting The quantity of things	Comparison Knowing which numbers are worth more than others	Composition Understanding that one number can be made up from two or more smaller numbers	Pattern	Shape and Space	Measure
Stage One	Explore many different objects alongside an adult to understand the term "more" and to recognise when there is zero. Use simple mathematical vocabulary to describe amounts. For example, lots, more, I've got some, random number names. Share objects within a group for example giving the	Recognise who has more or less than them within play.	Explore and investigate collections of objects which can be separated and placed in different containers.	Explore and make arrangements with different objects. Make a collection using a range of different 'loose parts' objects. Notice when things are the same and when things are different. Position different objects with a purpose in mind. Participate in the pattern and	Exploring objects. Filling and emptying. Making arrangements with objects. Fitting objects into spaces	Explore and investigate resources which are different lengths. Use resources in the sand and water to explore and investigate filling and emptying. Build and construct models using wooden bricks which are different sizes. Take part in the daily routine

	milk to every child in the group so that each child has 1 and recognising if more is needed. Respond to an adult when they say "please can I have another one?" or "some more" within play.			routines of the day.		with an adult supporting them.
Implementation	Role play area (Food- sharing out) Simple jigsaw (up to 5 pieces) Interactive toys such as the bus with numbers. Books visible in all areas of the classroom and many reflect number work.	Building towers/blocks recognising if others are longer/taller.	Areas of play- sorting objects- into weight size WellComm snowman building game- knock over 1 then 2 then 3 etc.	Fruit and veg printing for making patterns.	Looking at books containing shapes. Shape sorting toys. Sticky kids- encouraging the children to move around their space.	Sand/water- small/big containers funnels etc. Block- building "big" robe=ots "Long blocks for legs"
Stage Two	Play and respond to games such as 1,2,3 go! Use number names when attempting to count different objects. Join in with singing number rhymes and songs	To use the word 'more' in play. Explores different quantities and amounts Explores different amounts in the	Separates a group of objects into two different containers. Arrange and sort toys into different locations, for examples the small world animals in a toy zoo.	Notice how the same object can also have differences. For example tigers both have stripes but one is larger than the other. Use words to describe the	Builds with a purpose. Attempts to complete a simple jigsaw. Arranges objects with more of a purpose.	Compare two different items and observe differences between two objects, such as something very tall / small. Follow the daily routin

		home corner. Enjoys number songs and rhymes.		patterns they see. Anticipate the routine of the day and talk about what is going to happen next. Group objects according to their properties. To match items with the same pattern. For example, a pair of socks.		
Implementation	All areas of play to encourage Stage 1 then E.g. using the changing table steps 123 Counting going up stairs Toilets labelled 1 23 Tidy time- knowing the sequence of the day i.e. what will happen after this tidy session. Tidy time0- numerals on the equipment/shelves to show where things go.	Singing a birthday sing according to their age. Using lines and dots to record numbers.	Group time using lots of props to encage lots of attention.	Using real life objects such as conkers and sticks to create patterns.	Using shape cutters to make playdough shapes. Using shape sand moulds to create sand castles.	Sorting socks according to size in the home corner and hanging on the washing line

Stage Three	Say number names in order to five, but children may not be able to count the correct number of objects for a number at this stage. Recognise some personal and significant numbers such as 3 if they are three years old. Give a response when asked "How many?" Begin to correctly count 1 or 2 objects from a larger group. Use their own marks to represent an amount. Use their fingers when counting. Sing counting rhymes and songs. Find out what happens if more objects are added or some things re taken away, using simple terms to describe this. Know that you start to	Shares out amounts in the role play area. Groups items together comparing the amounts.	Join in with rhymes and songs which separate a number. For example 5 little speckled frogs – some in the waters and some in the pond or 5 current buns.	Explore many resources and make a repeating pattern of two with adult support. (red, green) Make patterns using objects they find in the environment. Continue a repeating pattern of two which an adult has started. Spot errors in a repeating pattern. Use words to compare two different patterns.	Begins to notice simple shapes in the environment. Builds for a sustained amount of time.	Measure ingredients for baking using scales with adult support. Begin to name the day of the week correctly. Building tall and short towers with blocks. Using language big and small to compare objects in play. Anticipates key times of the day e.g. lunch time and home time.

	count from number 1. Solve simple number problems.					
Implementation	Using fingers to represent numbers when counting. Props set out to aid number songs. Forest School- seats are numbers and dots visible for counting. Many outside provisions are displaying numbers.	Playing games such as Ladybirds whereby the children place the correct number of objects on a numeral.	Two groups of objects set out accompanied by a song to teach the beginnings of calculation.	Magnets shapes on the radiator allow shape naming and for the children to create sprawling patterns.	"What's in the Bag" game Climbing trees- Children gage How high they want to go. Shape stories written by TR and KH to teach shapes.	Pouring volumes of water from one container to another and making comparisons. Make comparisons between the size of the plants grown in the allotment.
Stage Four	Say number names in order to ten, but children may not be able to count the correct number of objects for each number name. Recognise different numbers in the environment. Begin to count up to five objects, from a larger group correctly including counting objects that are not in	Joins in with number songs, realising that a group can change when things are added and taken away.	Sing rhymes and songs which require a number to be partitioned. Begin to count the number of objects in each set. For example, 3 frogs on the log and 2 in the pond See and discuss smaller numbers within a larger group. For	Listen to and copy a repeating pattern using sounds or actions. Create a pattern which an adult has asked them to. For example, "Can you make a red, blue pattern" Make their own patterns using resources they find in the	Names simple shapes. Uses shapes according to their properties e.g. a triangle for a roof. Understands positional language. Creates pictures using 2D shapes.	Comparing lengths and heights of objects in the provision e.g. long and short snakes with the playdough. Show an understanding of full and empty when filling and emptying containers. Shows an understanding of the word heavy. Shows an

	a regular arrangement. Recognise that amounts have been rearranged but the amount is still the same if nothing is added to or taking away. To solve number problems involving counting numbers to 5. To begin to represent quantities using their own marks or number symbols.		example, in my treasure tub I have 3 green pegs and two blue ones.	environment. Confidently have a go at creating their own patterns.		awareness that a clock tells us the time. Role plays with money.
Implementation	Group time- lots of props held up by the children to aid singing number songs. Children to focus on total left. Wellies have numbers on the side for the children to select to correct sized wellies for their feet.	Sharing food in the home corner- starting with one for you- can I have 3 etc.. challenge the children to observe who has more/less.	Counting the total number of children in school today. Games- such as corners- how many are still in? …are out?	Patterns are everywhere – display boards/ within nature eg leaves	Small world- Animals look similar/of same type but range in size so the children can order them. Draw around shapes and practice cutting skills as they cut them out.	Playdough- e.g. cake shop using the weighing scales. Discuss length and height of models created. "How long will it take to cook? Timers next to microwave.
Stage Five	Say numbers beyond ten. Say number names 10-0 in the	Compares groups of objects	Begin to investigate and talk about different	Make more complex repeating	Names 2D shapes. Understands flat	Orders items by length and height. Measure items

	correct order. Count a group of up to five objects and know that the final number is the total number for the set. Match a number symbol from 0-5 to a number of things. Begin to say what is one more and one less than a number using objects to support them to 5. Know how many are in a group without needing to count them all, for example reading a dice.	noticing when they have more, less or the same. Counts to check how many in a group.	ways to separate five objects, recognising that the number can be separated in different ways but the total remains the same.	patterns. For example, red, red, green Use more language to describe the patterns they have made. Check and fix a pattern if there is a problem. Record their own pattern using pictures / symbols.	and solid. Uses positional language. Talks about shapes they use whilst they are constructing.	using non-standard units e.g. blocks. Shows an understanding of the language heavy and light. Understand language relating to time. Have an understanding of distance. Shows an understanding of what money is used for. Uses language full, empty and half full.
Implementation	Charging for services at the role play garage. Obstacle courses whereby children move on from cardinal number activities. Subitise when using dice	Number hunts- large scale hunts around the outdoor area whereby children hunt for pictures related to interests and record the corresponding number on the image.	Being by planting a number of seeds in the allotment and then record how many of those seeds/in plant pots/ have grown. Singing and producing rhyme maps for number rhymes such as "5 eggs and 5 eggs"	Give the children a task to create their own transient art frame in the front garden and fill it with patterns. Making flags using leaf and flower printing in Forest School	Shapes required for building in the outdoor construction area e.g. What shape is the roof for your house? What shape are the windows going to be?	Real baking- measuring the ingredients out and focusing on the time it takes in the oven to cook. Use a stopwatch to demonstrate "end of time" Using different lengths of strong to make bird

		Dots available to count of child cant read number.				feeders in Forest School.
Stage Six	Find the total of two groups by counting them all. Record an amount they have counted using the correct number symbol to number 5 Recognise the number symbols from 0 to 10 Order number symbols from 0 to 10 correctly. Recognise a missing number symbol from a set, for example 0,1,2,3,5 To solve number problems involving 10 objects.	Uses language more and less to compare groups. Finds one more or one less than a number to 10.	Find a hidden number from a group of five through playing hiding games with a number of objects in a box, den etc. Make a reasonable guess at the number of hidden objects	Choose their own rules for their pattern. Ask a friend to copy a pattern they have made. Continue a pattern which stops in the middle of the repeat. For example red, red, green , red, red, green, red …	Name 2D and 3D shapes. Selects a named shape. Sorts shapes according to their properties. Recreates models that they have seen. Uses their knowledge of shape and space to build strong structures.	Orders items by weight- heavy and light. Measure items using standard measurements e.g. a ruler and tape measure Use mathematical language to compare objects, weights and volumes. Solve problems relating to measure. Have an understanding of what resources measure time. Use language relating to time.
Implementation	Ice cream parlour- using money to buy ice creams. Tally charts on Pancake day- recoding which	Tatty bumpkins evaluation activity- children place an objects to vote for their	WellComm groups- School Leavers extension activity- skittles How many did you knock	Transient art – children use loose parts and picture frames to produce pictures and patterns using the	Questioning- What do you think comes next in our pattern- you have a go- first we have a brown stick, then	Creating their own run way and labelling the measurements (free hand) and recording where their aeroplane

	toppings the children opted for.	favourite element of the session and then count/compare and deduce which was the most popular.	down of each type. Begin early calculation work and record using tally charts. Counting how many children are in already then expecting a child to add on the missing children who will probably arrive soon.	imagination.	a green leaf- explore the environment to find the resources to carry on our pattern. Building bridges linked to Billy Goats Gruff story and spanning an area then comparing the size.	travelled to. Second go- compare with first attempt "Further" "shorter" "nearer" "Greater distance"
IMPACT	Children understand cardinality and use their strong counting skills to work out quantity. Children begin to subitise small numbers and use mathematical concepts such as 1 more to work out new values. Children know the place value of a number and are able to sequence a number line.	Children are able to understand the size of a group. They become confident problem solvers.	Children are knowledgeable enough to begin the basics of calculation. They grasp that 2 small values equal a total.	Children can use the language required to talk about pattern and are able to create patterns of their own.	Children are skilled in describing shapes and can name shapes in the environment. Children have sound spatial awareness.	Children develop an interests in find things out. They gain the skills required to find the size/ weight of an object.