St Cuthbert's Early Years Medium Term Plan: Reception

Mathematics

Autumn Term	Spring Term	Summer Term
Just Like Me ***Match:*** Similarities and Differences Notice and Compare size, shape, colour Find exact matches/ identical pairs Identify a missing pair/match ***Sort:*** Know collections can be sorted into sets Know that a collection of the same objects can be sorted in different ways. They can create their own criteria for sorting Sort by 2 criteria then advance to more. ***Digging Deeper:*** Identify sorting rules Create their own sorting rule for someone to guess. Identify the odd one out and give reasons why ***Compare Amounts:*** Know more, most fewer, fewest, equal, same Use 5 frames with 1 to 1 correspondence ***Compare Size, Mass and Capacity:***	**Alive in 5** ***Introducing Zero:*** Counting back songs, noticing fewer, then nothing representing 0. ***Comparing Numbers to Five:*** Knows a quantity can be more than, the same as or fewer than another Notice different quantities and make comparisons Sort visual representations of amounts into same, more, fewer Place numerals/amounts in order ***Composition of Four and Five:*** Subitise small quantities (double sided counters/5 frames/number shapes) Notice numbers can be composed in 2 or more parts. How do you see 5? (4+1, 3+2) Explore making 4 and 5 in different ways ***Digging Deeper:*** Work out how many are missing from a group of 4 or 5 objects. How do you know? Exploring number bonds to 5 ***Compare Mass (2):***	**Consolidating Key Skills:** Subitising Counting Composition Sorting and Matching Comparing and Ordering _____ **To 20 and Beyond** ***Building Numbers Beyond 10:*** Build & Identify numbers to 20 and beyond. Recognise number patterns (10+2 more = 12) Notice how numbers are represented/composed (ten frames/number shapes) and identify similarities and differences. Make representations beyond 10 and talk about the patterns they notice. Match and order numerals and pictorial representations. Estimation ***Counting Patterns Beyond 10:*** Count on and back from given numbers Place sequences of numbers in order

Know objects can be compared and ordered by their size.
Understand and use 'big, little, large and small, tall, long and short'.
Explain what they notice

Digging Deeper:
Compare the mass id playdough balls, explore using the balance scales and consider how to make the balls equal.
Find out how to balance the scales, exploring finding equal weights.

Making Simple Patterns:
Copy, continue and create simple repeating patterns
Explore AB visual, action and sound patterns

Digging Deeper:
Notice pattern mistakes and explain/sort the problem
Create and replicate sound patterns

It's Me 123

Representing 1, 2, 3:
Identify representations of 1, 2 and 3.
Count 3 out of a larger amount.
Subitise and count to make their own sets.
Match number names to numerals & quantities.
They count sounds and actions.
They count up to 3 in different arrangements.
They know the final number the say names the quantity of the set.
They use marks to represent writing 1, 2 and 3

Comparing 1, 2 and 3:
They understand as we count that each number is 1 more than the number before.
They understand as we count back that each number is 1 less than the previous number.
Explore adding 1 more and taking away 1 less
Knows which set has more, fewer, the same.
Can order quantities of 1, 2 and 3.

Explore heavy and light
Identify heaviest and lightest
Use balance scales to check weights
Compare weights of different objects
Find objects of similar weight

Compare Capacity (2):
Explore Capacity
Identify full, empty, half full, nearly full/empty
Order containers according to their capacity
Explore different shaped containers and how much they hold, making comparisons

Digging Deeper:
Explore the balance scales and use the language of equal to when finding how many different ways you can find the same weight.

Make predictions about weight and capacity, explore and record.

Growing 6, 7 and 8

6,7 and 8:
Represent 6, 7 and 8 in different ways
Count out amount from a larger group
Conceptually subitise
Notice 1 more/less as they count on and back to 8
Compare and sort representations of 6,7,8
Identify/subitise 6,7, 8 on a ten frame

Making Pairs:
Know that a pair is two.
Discuss same and different and matching pairs.
Arrange small quantities into pairs and identify when an odd one is left over.
Begin to identify some quantities that will make pairs and which will have one left out.

Digging Deeper:

Spot larger numbers on a 100 square
Solving missing number problems
Order numerals ascending/descending

Digging Deeper:
How many is 100?
Grouping into 10s using 10 frames
Creating sets of 100
Make predictions about amounts and about which containers will hold the most.

Spatial Reasoning (1):
Select & rotate shapes to fill a space
Explain their thinking/choices
Match arrangements of shapes
Use positional language to describe the position of shapes within a pattern
Select shapes to complete picture boards or tangram outlines

Digging Deeper:
Select and rotate shapes to complete more complex shape puzzles.
Create their own shape picture and create a template so it can be recreated

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First, Then, Now

Adding More:
Count on
Knows that 1 more is the same as adding 1

Taking Away:
Subitise/re-count to find how many are left
Knows that 1 less is the same as subtracting 1.

Use 10 frames and number tracks to represent number stories.

Digging Deeper:

Composition of 1, 2 and 3:
They realise that all numbers are made up of smaller numbers.
Explore sharing 3 between two in different ways.
Use number shapes to explore which smaller numbers fit inside 3.
Notice how many altogether.

Digging Deeper:
Count up to 3 objects just by feeling them.
Identify out of a set of 3, how many are hidden.
Visualise 1 more and 1 less without counting

Circle and Triangles:
They know that circles have 1 straight side and triangles have 3 straight sides.
They recognise these shapes in their environment.
Notice differences between shapes.
Notice shapes in different orientations.
Use shapes to create pictures.

Spatial Awareness:
Understands and uses positional language in order to describe how items are positioned.

Digging Deeper:
Take part in a treasure hunt following clues.
Explain where they travelled, found items.
Create their own treasure hunt.
Follow and give instructions in a barrier game on how to build a simple model.

Light and Dark

Four:
Count on and back to 4.
Count and subitise to 4.
Match number names to numerals and quantities.
They which sets have more/fewer.
Investigate '5-wise' and 'pair-wise' ten frame patterns.
Compare patterns, noticing what is the same and different.
Subitise using the ten frame representations.
Solve hidden addition and subtraction problems.
Discuss different compositions they can make and what they notice.

Combining Two Groups:
Find how many altogether
Subitise where possible
Math total amount to numeral

Digging Deeper:
Use a 'part part whole' model to combine amounts to make a given total.
Solve missing number problems to create given totals.

Length and Height:
Use language to describe length and height
Make comparisons (longer, shorter, taller, wider, narrower)
Use non-standard measurements to measure a range of everyday items as well as rulers, tape measures and height charts.
Find objects that are the same length/height
Place items in order of size
Find ways to measure, compare and record

Time (2):
Order and sequence familiar events
Recognise familiar repetitive routines in a day
Use language to describe past, present and future events happening on the same/different days.
Notice that some things take longer than others.
Know the days of the week and can place them in order.

Digging Deeper:
Solve problems including height and how to measure distance. Explore different strategies and discuss how they did or did not work. Record their findings.
Solve addition problems such as How many did I add/take away from an amount?
Explain how they know the amount taken/added.

Spatial Reasoning (2)
Know that shapes can be combined and separated to make new shapes.
Explore creating shapes using smaller shapes
Explore making squares and rectangles

Digging Deeper:
Explore creating triangles of difference sizes
Explore rearranging shapes to create a star
Notices differences between their shape compositions
Explore Tangrams

Find My Pattern

Doubling:
I know that doubling means 'twice as many'
Sort and explain doubles and non-doubles
Explore making and matching doubles

Sharing and Grouping:
Identifies equal and unequal groups
Knows when things have been shared fairly
Halves an amount
Realises there is sometimes some left over
Can group objects in different contexts
Can spot similarities and differences in groupings

Even and Odd:
Knows that some quantities can be shared equally into two groups and some wont.
They can group into pairs and realise some can be

When counting they know the final number they say is the quantity of the set.
Use own mark making to represent numbers to 4.
They can arrange 4 in different ways.

Five:
As above.
They realise when the 5 frame is full there are 5.

Digging Deeper:
Explore making models with 4 and 5 blocks.
Can they identify a model with 4 or 5 blocks just by feeling it?

One More and 1 Less:
Count, subitise & compare while exploring more/less
Use a 5 frame to represent numbers and predict how many if when you add/remove 1.

Digging Deeper:
Order numerals and visual representations.
Notice missing numbers and explain how you know the missing number.
Count on and back 1 mentally.

Shapes with Four Sides:
Know that squares and rectangles have 4 straight sides and corners.
They know squares have equal sides.
They recognise shapes in the environment.
Compare shapes, similarities& differences.

Digging Deeper:
Combining Shapes
Explore making shapes by combining squares, rectangles and triangles in different ways.
Fill outlines of shapes with smaller shapes.
Can you build a square using rectangles?

Building 9 & 10

Counting to 9 & 10:
Counting forwards and backwards
Represent and arrange 9 and 10 in different ways
Conceptually subitise
Use 10 frames, fingers and bead strings to subitise
Solve missing number and ordering problems

Comparing Numbers to 10:
Compare with 1:1 correspondence and through counting sets and comparing their position in the counting order.
Knows more, fewer, same
Estimating and checking

Bonds to 10:
Identifies how many more on a tens frame, fingers, bead strings and number shapes.
Exploring sharing 10 between 2.

Digging Deeper:
Solve the dice magic trick (top and bottom numbers – what is the pattern?)
Can they make 10 by combining 3 numbers?

3D Shape:
Identifies which shapes stack and which roll.
Sort by similarities and differences.
Name the shapes and discuss properties

Pattern (2):
Explore different units of repeat
ABB, AAB, AABB, AABBB.
Describe, copy and continue repeating patterns
Create repeating patterns in lines & around shapes
They complete visual and physical patterns
Compare two different patterns
Identify pattern errors

left over.
Identify odd and even patterns using the pair-wise pattern on ten frames

Digging Deeper:
They understand how to check if they have an odd or even number.
They can add 1 more to a group and explain what they notice/what has changed.
The can share quantities equally between 3 or more groups.

Spatial Reasoning (3):
Can replicate simple models
Uses positional language to describe where to position bricks when constructing a model.
Follow and give instructions on how to create a model.

On The Move

Deepening Understanding:
Problem solving and critical thinking skills
Discuss ideas and strategies about what worked well / did not work
Records their thinking process

Patterns and Relationships:
Copy and continue a range of repeating patterns and symmetrical constructions.
Identify the unit of repeat in an ABBC pattern.
Explore Cuisenaire rods to find relationships between number2.
Explore adding in 2s.

Spatial Reasoning (4):
Know that we can use maps and plans to represent spaces and place.

Night and Day: Talk about night and day. Order key events in daily routine. They describe using language such as 'morning, afternoon, before, after, today, tomorrow'. They begin to measure time by how many sleeps and use timers to measure durations of events.	***Digging Deeper:*** Explore which patterns will fit around a given frame. (AB, ABC, AABB, AABBC etc.) Test out own patterns in a similar way and discuss findings.	Can draw a simple linear map Can place photographs of a familiar place on a map, discussing reasoning.
Autumn End Points	**Spring End Points**	**Summer End Points**
I can talk about and sort items into groups according to their attributes. I can find and match objects which are the same. I can compare small sets of objects using the words 'more', 'fewer' and 'same'. I can use language to compare size, mass and capacity. I can describe a simple pattern. I can copy/continue/create a simple repeating pattern. I can identify representations of 1, 2 and 3. I can count up to 3 objects accurately. I can use mark making to represent 1, 2 and 3. I know that when I count, each number is 1 more than before and when I count back it is 1 less. I can explore the different compositions of 2 and 3. I can explain the features of circles and triangles, recognise real life examples and build my own. I can use and understand positional language. I can count or subitise groups of up to 5. I count forwards and backwards to 5. I can show 5 on a 5 frame and understand it is full.	I recognise when there is zero. I can use language such as 'more than' and 'fewer than' when comparing sets of items I recognise when an amount is the same. I can find different ways to make 4 – 10. I can see these numbers in different ways. I can use a ten frame to recognise groups of 9&10. I can explore number bonds to 10. I know a pair is two. I can arrange quantities into pairs and recognise when I have 1 left over. I can combine two groups to find how many altogether. I can use mathematical language when making direct comparisons between objects (heavy, heaviest, light, lightest). I use language to describe length and height. I can make indirect comparisons using objects such as cubes. I recognise full, nearly full, half full, nearly empty and empty. I can name the days of the week and discuss events that happen in my week. I talk about 3D shapes and describe the similarities and	I can recognise numbers to 20. I can build numbers beyond 10 using a double ten frame. I recognise full tens and parts of tens. I recognise representations of numbers to 20. I identify shapes that look the same. I copy a simple arrangement of shapes. I can use the 'first, then, now' structure to say an adding more and taking away story. I represent adding more and taking away stories using a 10 frame. I work out a missing number in an adding more and taking away story. I can talk about how shapes can be combined and separated to make new shapes. I can explore how to arrange shapes and talk about what I see. I can make doubles. I can sort doubles and non-doubles. I can share a small quantity equally. I can arrange quantities into equal groups. I recognise that some quantities can be shared equally

I see a link between the one more and 1 less pattern. I recognise that squares and rectangles of different sizes have 4 straight sides and 4 corners. I can talk about day and night.	differences between them. I consider shape properties and how they can be used. I can talk about more complex patterns.	into 2 groups and some can't. I recognise the structure of odd and even numbers. I can use positional language to describe where objects are in relation to others. I can solve problems and find different possibilities. I can talk about how I have solved a problem. I can create more complex repeating patterns I can create a symmetrical arrangement.

Reception End Points

Number	Numerical Patterns
Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.	Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.