Mathematics Home Learning Activities

- Learning together

Reception

Children will be learning to:

□ Count objects, actions and sounds to 10 with accuracy □ Subitise to 5 (recognise quantities without counting) □ Link the number symbol (numeral) with its cardinal value □ Say number names beyond 20 □ Compare numbers □ Understand the 'one more than/one less than' relationship between consecutive numbers □ Explore the composition of numbers to 10 □ Recall number bonds for numbers 0-10 □ Select, rotate and manipulate shapes in order to develop spatial reasoning skills □ Recognise shapes within shapes □ Continue, copy and create repeating patterns □ Compare length, weight and capacity.

'The most important home learning opportunities occur through conversations and play between the child and others at home'
Grenier 2020 – 'Principles into Practice'

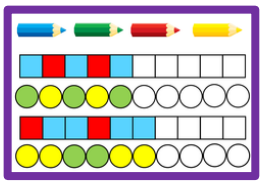
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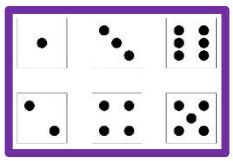
Daily Routines to practise Number and Numerical Patterns…	
Stair Count	Walking up and down the stairs - encourage your child to say the number name as take each step.
Toy Count	Support your child to count in their play and when tidying up, *e.g. number of duplo/lego bricks to make a model / number of cars in a box*
Snack Time	Together count out the snack items for the family, *e.g. the number of pieces of fruit.*
Dinner Time	Ask your child to set the table with the right number of plates, cups, knives and forks.
Number Rhymes, Songs and Stories	Together sing number rhymes; model using fingers to represent numbers
Board Games	Play simple board games such as snakes and ladders, counting each move.
Dominoes	Talk about the pattern of each number.
Jigsaws	Complete different jigsaw puzzles together.
Family Calendar	Display a family calendar encouraging your child to count larger numbers, countdown to key events and find out what day/date is coming next.

By the end of Reception children at the expected level of development will:

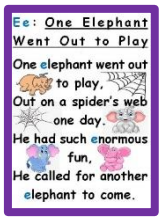
□ Have a deep understanding of number to 10, including the composition of each number □ Subitise (recognise quantities without counting) up to 5 □ Recall number bonds to 5 and some number bonds to 10, including double facts □ Count beyond 20, recognising the pattern of the counting system □ Compare quantities, recognising when one quantity is greater than, less than or the same as the other quantity □ Explore and represent patterns within numbers to 10; including evens and odds, double facts and how quantities can be distributed equally.

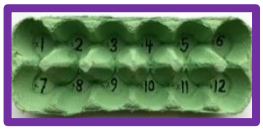
Number & Numerical Patterns Games:

Activity	Description	What you will need?
Nature Patterns 	Collect a range of multiple objects to create patterns. Make a pattern and name it. Can your child copy the pattern? Can they continue the pattern? Can they make their own pattern for you to copy / continue? *Example* (i) **leaf** / **leaf** / stone / **leaf** / **leaf** / stone (ii) **leaf** / **leaf** / stone / stone / **leaf** / **leaf** **Challenge** Ask your child to make their own pattern for you to copy / continue?	Natural collections – sticks, stones, leaves, pine cones etc
Rainbow Patterns  	This game can be played the same as 'Nature Patterns' (see above), replacing natural objects with recording on paper using coloured pens / pencils. Make a pattern and share it with your child. Can they name /describe the pattern. Can they copy / continue the pattern. Make your patterns more complex … *Example* (i) **red** - **blue** - **red** - **blue** (ii) **red** – **red** – **blue** – **red** – **red** - **blue** (iii) **red** – **blue** – **blue** – **green** **Challenge** Ask your child to make their own pattern, can they explain the pattern to you?	Paper Coloured pencils / pens
Dance Count  	This game needs a set of number cards (or playing cards) and some music. Ask your child to select a number card then choose an action / dance move. Together perform the number of actions / dance moves to the beat of the music e.g. *6 jumps / 10 claps* **Challenge** Encourage your child to put a sequence of three different actions / dance moves together, e.g. *4 spins, 3 hops and 6 toe taps.* Ask some questions to develop mathematical understanding *e.g Which move did you complete the most/least? How many moves did you complete altogether?*	Number cards (or set of playing cards) Music (play from phone, tablet or CD player)

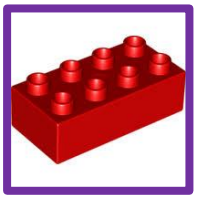
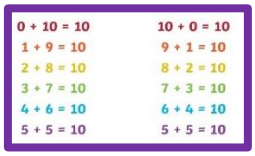
Activity	Description	What you will need?
Hopscotch   	This outdoor game needs a grid, drawn in chalk or made by arranging stones. Ask your child to write one numeral in each square on the grid, encouraging the correct formation. Ask your child to throw a stone and say which number it lands on. They then complete the correct number of hop-scotch actions to reach the number. Ask your child if the number they land on each time was more/less than the previous number? Can they throw to a greater number next time? **Challenge** On a post-it record the numbers the stone has landed on. Can these numbers be put in order: (i) smallest to largest? (ii) largest to smallest?	Chalk Stones Post-its Pencils/Pens
Nature Hunt   	Together collect a range of leaves, stones, sticks and sort them into different groups. As you child to: (i) estimate which group contains the most/fewest (ii) count the items in each group (ii) was the estimate correct? Throughout the process record with a focus on matching correct numeral to set and number formation **Challenge** Collect one more / less for each group. What is the new total?	Post-its / paper Pencils / pens
Dice Play  	Take turns to roll the dice and count the presented dots. Discuss how the dots are always arranged the same for each number, helping us to identify the number without counting e.g. 5 is represented by 4 dots making a square and 1 dot is in the centre. Practise identifying the number rolled on each dice without counting. Record correct counts using a tallying system. **Challenge** Create a dice number poster – drawing the face of each side of the dice with correct dot arrangement.	Dice (more than one if possible) Paper Pencils / pens

Activity	Description	What you will need?
Hide and Seek **1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20…** 	This game can be played either indoors or outdoors. Encourage your child to count up to 20 whilst other family members go and hide. Ensure each number is chanted correctly and in the correct order. **Challenge** How long does it take to find each person hiding? Are the times getting quicker or slower? ** Counting used to measure time*	
Kim's Game   	Place objects on a tray, up to 6, using a dice arrangement. Name each object with your child and then cover over with a cloth. Ask your child to look away as you remove one of the objects. Can work out which object has been removed? **Challenge** Child leads the game, arranging objects like dots on a dice.	Tray Cloth Small objects
Number Cards  	Together make a set of number cards (0-20). On one side write the numeral and on the other side decorate them with matching number based on interest, *e.g. dinosaurs, unicorns, pet …* Activities: □ Place the cards in order □ Cover one card, which is it? **Challenge** Order even / odd numbers only	Card Stickers / pictures linked to their interest Pencils / felt pens Small toy

Activity	Description	What you will need?
What's the time Mr Wolf?  	This game can be played indoors or outdoors. One person pretends to be the wolf and faces away from the rest of the group. The rest of the group call, 'What's the time Mr Wolf?' With the Wolf replying back different times e.g. '1 o'clock'. After each given time, the group take the same number of steps towards the wolf. This is repeated until the wolf replies 'dinner time' and tries to catch someone. **Challenge** A shy wolf is playing and writes down the numbers instead of shouting them out.	Group of friends or siblings Paper Pencil / pen
Number Rhyme Time  	Sing number rhymes, to develop understanding of the concept of one more/one less, adding and subtracting. *Examples:* □ **More:** One elephant went out to play; The animals went in two by two **Less:** Ten green bottles; Ten in the bed; Ten fat sausages **Challenge** Encourage your child to represent the rhyme in drawing form and use whilst singing.	Access songs from YouTube
Fill it up!   	Together: □ collect 5 large plastic bottles and a watering can □ number each bottle 1 to 5. Explain to your child that you want them to listen to put the right amount of water in each bottle, listening carefully to the instruction. Ask your child to fill each container as follows: 1. Full 2. Empty 3. Nearly full 4. Nearly empty 5. Half full (Add food colouring or paint to the water for your child to see the water level easier). **Challenge** Child gives the instructions for someone else to fill the bottles.	5 small or large plastic bottles Jug or watering can Food colouring or paint (optional)

Activity	Description	What you will need?
Target Throw  	Place an open container on the floor and walk back 5 steps. Take turns to throw a stone / soft toy into the container. Record score by tallying. Repeat the game, discuss and compare scores. Which score is more/less? **Challenge** Take 10 steps back, increasing the distance. Is it now going to be easier or harder? Why? Increase number of objects being thrown. Use two buckets and add the number of objects in each container at the end. Use a sentence to give a number answer. *Example* Bucket 1: 3 stones in Bucket 2: 2 stones in 3 + 2 = 5	Bucket(s) or large container (s) Stones Post-its / paper Pencils / pens
Rainbow Skittles  	This game can be played outdoors. Make your own set of rainbow skittles (10) using empty plastic bottles, fill with water and add a drop of paint or food colouring. Once the skittles are set up, agree a starting line, ask your child to roll a ball to see how many they can knock down. Encourage your child to write their score down as a tally or numeral. **Challenge** Encourage your child to orally discuss as a subtraction *Example* I had 10 skittles, 3 skittles are knocked down, now I have 7 left	Plastic bottles Food colouring or paint (optional) Ball Post-its / paper Pencils / pens
Egg Box Addition  	Using an egg box, label the inside/bottom of each egg indentation with a numeral 1-12. Place two pom-poms or pennies in the egg box. Ask your child to shake it with the lid closed. Open the egg box up to reveal where the two items have landed. Draw the calculation to combine the two numbers. *Example* The items land on 2 and 4. Draw 2 spots and 4 spots to calculate the total is 6. **Challenge** Encourage your child to record the corresponding calculation using cards: 2 + 4 = 6.	Egg box Small items – pom-poms or beads or cheerios Paper / post-its Pencils / pens

Activity	Description	What you will need?
Toy Box Tidy   	Ask your child to choose a number card and select that number of toys (e.g. toy cars or small figures). Explain that some of the toys are going to jump into a toy box, as they are going to be tidied away. Discuss with your child how many toys they started with and how many were taken away. Are they left with more or less / fewer toys? **Challenge** Encourage your child to orally discuss as a subtraction *Example* I had 6 toys, 2 went in the toy box, now I have 4 left	Small toys Small box Paper / post-its Pencils / pens
Picnic Time  	Ask your child to set up a picnic for three toys. Using toy or real food (e.g. raisins, dried pasta) encourage your child to share some food out equally, so each toy receives the same amount. **Challenge** Roll a dice – collect number of food pieces e.g. 6 pieces of pasta, and share equally amongst the toys. What do the children notice about some numbers?	Toys Cloth/rug Plastic / paper plate Food (toy/real) Dice
Breakfast Halving  	Child selects two toys, providing each with a small plate. Task is to make breakfast for the toys, making sure they each get half. Start by using a piece of bread/toast and discuss how they could give each toy half. What would they need to do to the piece of toast? Repeat with other food items such as piece of fruit. **Challenge** Use a set of number cards and ask your child to select one. Ask them to collect given number of breakfast items and share them between both toys *Example* Select number card 4, collect 4 cheerios, putting 2 on each toy's plate.	Two toys Plastic plates Breakfast food items Number cards

Activity	Description	What you will need?
What's in? **What's out?** 	This game can be played outdoors using a bucket/ large open container and a small set of stones. Ask your child to throw each stone and then count how many they get in and how many fall outside of the bucket/container. Can they talk about their score? Support them to see that they always have the total number. Example: I have 4 stones in my bucket and 1 outside my bucket **Challenge** Work with numbers (stones) beyond 5	Bucket or larger container Stones Post-its / paper Pencils / pens
Doubles Jewellery  	This game can be played using a dice or number cards to generate a double. Ask your child to: □ roll the dice or select a number card □ collect the right number of objects twice, creating double the given number. They make their necklace / bracelet. **Challenge** Ask your child if they can tell you what a double number is	Dice or number cards Dried pasta or cheerios or cut up straw String / pipe cleaners Paper / post-its Pencils / pens
Tower Bonds    	Take a construction kit Lego/ Dulpo, ask your child to build a tower using a set number of bricks with the same colour (numbers to 5). Can they then make a second tower with the same number of bricks, but using two different colours? *Example* **Tower 1:** built from 5 red bricks **Tower 2:** built from 2 blue bricks + 3 green bricks Break up tower 2 and build with a different combination of bricks (1 blue brick + 4 green bricks) Support your child to begin to spot the numerical pattern **Challenge** Repeat activity with numbers beyond 5	Construction kit – Lego / Duplo Paper/Post-its Pencils/Pens

Activity	Description	What you will need?
Shape Detective   	Plan a shape detective walk. Draw some shapes that you are going to try and find. Estimate how many you think you are going to find of each shape. Photograph the different shapes spotted on the walk. Back at home answer some questions: Did we find all the shapes? Did we estimate the right number we would see? Did we see more or less of what we estimated for each shape? **Challenge** Encourage your child to describe different shapes found. Ask questions to extend their use of mathematical vocabulary *Example* How do you know the road sign is a triangle?	Phone or camera to record findings Paper Pencils/Pens
3D Shopping    	This game takes place in the kitchen looking at different food packets and containers. Give your child a shopping bag or toy basket and remind them about the 3D/solid shapes they know. Ask them to go shopping to find some of these shapes. Once their shopping is complete ask them to sort the items into the different 3D shape groups. Example Find a tin of soup (cylinder), packet of crackers (cuboid), stock cube (cube) **Challenge** Encourage your child to explain how they know an item is a particular shape using mathematical language *Example* How do you know that the tin of soup is a cylinder? It has 1 curved face and 2 flat circular faces.	Shopping bag or basket Food items (in kitchen cupboards)
Stick Wands 	Go on a stick hunt, gathering a bundle of varying lengths. Order the sticks by length. Line them up shortest to longest, longest to shortest. Number the sticks and take turns to remove a stick from the line using the language of length… *Example* This stick is shorter than stick 5 but longer than stick 3 **Challenge** Repeat the activity cutting pieces of paper / card	Sticks Paper/card Scissors

Websites to support Number and Numerical Patterns	
Games can be accessed from the following websites, covering a range of aspects	
Topmarks	**www.topmarks.co.uk/maths-games/3-5-years/counting**
ICT Games	**www.ictgames.com/mobilePage/**
Oxford Owl (Videos section)	**www. home.oxfordowl.co.uk/kids-activities/fun-maths-games-and-activities/**
Crickweb:	**www.crickweb.co.uk/Early-Years.html**
Maths Seeds	**www.mathseeds.co.uk/**