

## How is Maths taught in Reception?

Self registration – children add picture to tens frames. How many children are here? How many children are away?

Date – days of the week song, count up to the date number.

Daily nursery rhymes – number links

Daily Maths lesson (from week 4) – Review, Teach, Practise in groups, Apply 3x Number 2x Shape, Space, Measures

Number Sense – 5 mins daily (from week 2)

Maths opportunities within the environment as part of continuous and enhanced provision

Mathematics				
Number				
Getting to know children and, through their play, assessing children's ability to:  Recite numbers past 5.  Say one number for each item in order: 1,2,3,4,5.  Experiment with their own symbols and marks as well as numerals.  Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').  Show 'finger numbers' up to 5.  Identify which group has the largest/smallest amount.  Identify which group has most/more and least/less.  Put two groups of objects together and count them to find the total amount.  Solve simple real world mathematical problems with numbers up to 5 with apparatus and support.	Count objects, actions and sounds. 1:1 correspondence to 10  Developing fast recognition of up to 3 objects, without having to count them individually ('subitising').	Link numerals and amounts: for example, showing the right number of objects to match the numeral (numbers to 3)  Developing fast recognition of up to 3 objects, without having to count them individually ('subitising').	Link numerals and amounts: for example, showing the right number of objects to match the numeral, (numbers to 5).  Developing fast recognition of up to 3 objects, without having to count them individually ('subitising').	More than / less than Identifying groups with the same number of things  Compare quantities using language: 'more than', 'fewer than'.
Numerical Patterns				
Getting to know children and, through their play, assessing children's ability to:	Begin to describe a sequence of events, real		Make their own AB pattern (stick, leaf, stick, leaf)	

Copy and continue an AB pattern Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc.	or fictional, using words such as 'first', 'then'  Link to sequencing events from the story		Spotting an error in an AB pattern Identifying the unit of repeat  Link to patterns in the story				
Spatial Awareness							
Getting to know children and, through their play, assessing children's ability		Talk about and explore		Describe the position of			
to:		2D shapes (squares,		something ('Where is the			
Name some familiar shapes. Beginning to select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. Understand position through words alone – for example, "The bag is under the table," – with no pointing.		circles, triangles, rectangles) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.		teddy? 'On top of the table.')			

Wee	Focus Skills and	Link to End of Year	Possible activities	Enhancements	Key vocabulary		
k	Knowledge	Objectives					
1	Getting to know children	Getting to know children and, through their Interactions within the environment – lots of opportunities to explore manipulatives in different ways.					
2	play, assessing children's	ability to:					
3	Recite numbers past 5.		Opportunities to explore number, shape, pattern, measures within the environment – indoor and outdoor continuous provision.				
	Say one number for each item in order: 1,2,3,4,5.		Counting songs and rhymes				
	Experiment with their own symbols and marks as well as numerals.		Counting games – hopscotch, games with a dice				
	Know that the last numb counting a small set of o		Hide and seek – using positional language				
	many there are in total (	'cardinal principle').					
	Show 'finger numbers' u	p to 5.					
	Identify which group has	the largest/smallest					
	amount.						
	Identify which group has	most/more and					
	least/less.						
	Put two groups of object	s together and					
	count them to find the to	otal amount.					

Solve simple real world mathematical problems with numbers up to 5 with apparatus and support. Copy and continue an AB pattern Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. Name some familiar shapes. Beginning to select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. Understand position through words alone – for example, "The bag is under the table," – with no pointing. Count objects, actions and sounds. 1:1 correspondence to 10

> **Developing fast** recognition of up to 3 objects, without having to count them individually ('subitising').

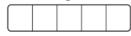
Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' Link to sequencing

events from the story

Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5

## STRUCTURES AND REPRESENTATIONS

Five frame: The five frames help to give children a sense of the numbers, and support their early understanding of number bonds to 5.



Multilink cubes: Multilink cubes provide a physical representation of an amount, which children can handle and move as they count to support their early counting skills.



## Representing 123

#### Guidance

Children identify representations of 1, 2 and 3. They subitise or count to find how many and make their own collections of 1, 2 and 3 objects. They match the number names we say to numerals and quantities. They count up to three objects in different arrangements by touching each object as they count

the quantity of the set. They use their own mark-making to represent 1, 2 and 3 for example to record their score during a game.

and recognise that the final number they say names

## Other Resources

Hickory Dickory Dock 123 at the Zoo - Eric Carle I'm Number One - Michael Rose

One Bear at Bedtime - Mick Inkpen

## **Prompts for Learning**

Prepare a set of dot plates or cards which have 1, 2 or 3 dots in different arrangements. Hold up the plates and ask the children how many dots. The children could match plates to the numerals 1, 2 and 3





Do they count or subitise to find how many Ask the children to count out 1, 2 or 3 objects from a larger group. For example, we are going to play a game. You will each need 3 beanbags.

Don't forget to count sounds and movements too. Use a drum to sound beats to count or ask the children to do 2 claps. 3 jumps. 1 twirl etc.

## Power Maths Unit 1 – Numbers to 5

## Representing 123

#### Dough

Making playdough - work with a small group of children to make = the playdough. Use a recipe that involves measuring 1, 2 or 3 cups Ask children to measure out the ingredients and count the cups.

Enhancements to areas of learning

#### Maths Area

Have sets of picture cards representing 1,2 and 3. Ask the children to match and sort the cards. E.g. Collect all the cards which show 2. Which card does not show 2?



## **Loose Parts**

Provide a collection of various loose parts or natural objects and some small pots labelled 1, 2 and 3 for the children to fill. Include some unlabelled pots and encourage the children to make their own labels to show how many they put inside.







#### Outside

Provide a selection of equipment such as beanbags, hoops, quoits, sponges and buckets. Encourage the children to devise their own games. Provide an easel or clipboards so that they can record their scores

two, three, four, five number count – count forwards, count backwards how many? total altogether five frame cube

1,2,3,4,5, one,

first then before after next finally

same

different

arrange

Link numerals and amounts: for example, showing the right number of objects to match the numeral (numbers to 3)

> **Developing fast** recognition of up to 3 objects, without having to count them individually ('subitising').

> Talk about and explore 2D shapes (squares, circles, triangles, rectangles) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.

Make their own AB pattern (stick, leaf, stick, leaf...) Spotting an error in an AB pattern Identifying the unit of repeat (link to shapes) Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5

## Circles and Triangles

#### Guidance

Children learn that circles have one curved side and triangles have 3 straight sides. They begin to recognise these shapes on everyday items in the classroom and outside. Encourage the children to build their own circles and triangles. It is important to show a variety of different sized

circles and triangles in different orientations and with sides of different lengths.

#### Other Resources

Circle - Mac Barnett and Jon Klassen Triangle - Mac Barnett and Jon Klassen The Mr Men Books - Roger Hargreaves Three Little Firefighters - Stuart J Murphy Round is the Moon Cake - Roseanne Thong My Hat, It has 3 Corners song

#### Prompts for Learning

Show the children a variety of circles and triangles in different sizes and orientations. Choose one of the shapes. Ask the children to tell you what they notice. Are the sides straight or curved? Can they see another shape like this? What if we turn it around, is it still the same shape? Can they find a different shape? Why is it different?



Show the children a picture which has been made of different shapes. E.g. a boat, a rocket, a house. What shapes can you see in the picture? How many triangles can you count? Can you make your own picture using the shapes?

Go on a shape hunt. Where can you see circles and triangles on the surface of everyday objects?

Look at shapes in art such as Kadinsky's Concentric Circles or Stained in Triangle. Ask the children to discuss the images. How many shapes can they see?

## Power Maths Unit 1 – Numbers to 5

Power Maths Unit 3 – Shape (2D shapes)

## Circles and Triangles

#### **Printing**

Ask the children to print with the flat faces of the 3-D shapes. Which 3-D shapes will print a triangle? Which will print a circle? Can they print a pattern using circles and triangles? Ask them to describe their patterns.



Display works of art featuring circles and triangles to inspire the children. Ask the children to make their own art using a variety of media such as paint, collage or transient art using loose parts.

## Outdoors

Use planks, sticks or ropes to create large circles and triangles. Can they make stick triangles?

How many sticks did they use for each? Is it possible to make a circle using sticks? What would be better for making a circle?

#### areas of learning Dough

Enhancements to

Provide a range of items such as cups, bottle tops, jam jar lids, beads, cubes, etc Ask the children to press the items into the dough. Which make circle shapes and which don't? Which objects make the best circles? What else could you use to make circles? Can you make a pattern? Can you find any items which will leave a triangular shape?

1,2,3,4,5, one, two, three, four, five number count – count forwards, count backwards how many? total altogether five frame cube same different arrange

corners sides circle triangle big little flat pointy straight curved

Link numerals and amounts: for example, showing the right number of objects to match the numeral, (numbers to 5).

> **Developing fast** recognition of up to 3 obiects, without having to count them individually ('subitising').

Talk about and explore 2D shapes (squares, circles, triangles, rectangles) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.

Make their own AB pattern (stick, leaf, stick, leaf...) Spotting an error in an AB pattern Identifying the unit of repeat (link to shapes)

Link to patterns in the story

Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5

Four

Five

When counting, they continue to learn that the final

number they say names the quantity of the set.

They use their own mark-making to represent numbers

Other Resources

Pete the Cat and his 4 Groovy Buttons - Eric Litwin

Washing Line - Jez Alborough

Anno's Counting Book - Mitsumasa Anno

Guidance

Children continue to subitise up to 5 items and to

count forwards, and backwards, accurately using the

counting principles. They represent up to five objects

on a five frame and understand that if the frame is full

then there are five.

This is a good opportunity to link to birthdays as

children will soon be five. Five is also the focus of

many number songs and rhymes.

Other Resources

Kipper's Birthday - Mick Inkpen

5 Little Fiends - Sarah Dyer

Five Little Men in a Flying Saucer - Dan Crisp

5 Small Stars - Ladybird Five Currant Buns

One Elephant Went Out to Play

Guidance

Children learn that squares and rectangles have 4

straight sides and 4 corners. They begin to recognise

these shapes on everyday items in the classroom and

outside. Encourage the children to build their own

squares and rectangles. It is important to show

squares and rectangles in a variety of different sizes and orientations. Can they spot any other shapes with

4 straight sides.

(Note for teachers: In mathematics, squares are classed as special

rectangles with 4 equal sides)

Other Resources

Square - Mac Barnett and Jon Klassen

Mr Strong - Roger Hargreaves

Bear in a Square - Della Blackstone

Number blocks Series 1 Episode 6 - Four

Shapes with 4 Sides

Witches Four - Marc Brown

### Prompts for Learning

#### Note: All the prompts for counting to three can be applied to counting to four, plus these extra ideas Guidance

Have a basket of something interesting to count. Ask the children Children count on and back to 4. They count or subitise to count out 4 items and arrange them on a whiteboard. sets of up to 4 objects to find how many and make their own collections of objects. They match the number names to numerals and quantities and are able to say How many are there altogether? Does your 4 look the same as mine? which sets have more and which have fewer items.

Rearrange the items. How many are there now? Can you make yours look the same as mine? Can you arrange your 4 in a different pattern to mine? What smaller groups can you see in your 4? 

SA Arrange 4 items on a 5 frame - what do you notice? Prompt the children to notice that 4 is one less than 5 so there will

## 

Circle game. Everybody stand up. Count round the circle 1, 2, 3, 4 1, 2, 3, 4 1, 2, 3, 4, etc. The person who says 4 sits down each time. Continue to count round the circle until there is only one person remaining. You can also count back 4, 3, 2, 1 and sit down on 1.

#### Prompts for Learning

All the prompts for counting to three and four can be applied

Can we count to five on our fingers? Can we count back from 5? Ask the children to show numbers to 5 using their fingers. Is there more than one way? As they become more confident encourage them to do this without counting



Have a feely bag filled with cubes. Ask the children to predict how many cubes you can collect in one handful. Grab a handful and then lay them down one by one so the children can see how many Ask who else would like to try. Can they hold the same as you? Try again. Do they get the same amount each time?

Who will be 5 next?

Fill five frames with a variety of objects. How many do we have? How do we know there are five without counting? 

#### Prompts for Learning

Show the children a variety of squares and rectangles in different sizes and orientations Choose one of the shapes. Ask the children to tell you what they notice.

How many corners can they see? What if we turn it around, is it still the same shape? Compare a square and a rectangle. What is the same?



Show the children pictures of buildings or street scenes. What shapes can you see in the picture? How many squares and rectangles can you count? Can you make your own pictures using squares and rectangles?

#### Go on a shape hunt. Where do you see squares and rectangles on everyday objects? How many different squares and rectangles can you find inside and outside?

## Four

Hanging clothes - linking to the book suggested, provide children with items to hang on the washing line. Can they count as they hang the items? How many items do they have altogether? Can we count them back into the

basket?

Washing Line

## Enhancements to areas of learning

## Small World

In the small world area, create two areas (barns, fields) with signs that say 'two legs' and 'four's legs'. Can children sort the animals into the correct areas by counting their legs?

## Five

Outdoors You will need 5 beanbags, fly swatters, numerals 1-5 and a bucket or witches hat., Arrange the numerals around the edge of the area. Hide a quantity of bean bags under the bucket or hat and then reveal. The children subitise how many and then

run to swat the correct number

## Mark Making

Provide birthday cards with an assortment of ages for the children to match, sort, order and compare. This could start with cards from 1-5 and easily be extended to larger numbers. Blank cards can also be available in case the children would like to make their own cards.

#### Shapes with 4 Sides

#### Modelling

Using the street scene images, discuss the different types and shapes of different homes. Provide a variety of boxes and ask the children to build their own models to create a street scene. Can they add square and rectangular windows and use torches to light the homes up from the

## Enhancements to Maths Area

Show the children how 4 multilink cubes can be joined to build a square face. Can they build squares using 4 cubes? What other quantities of cubes will build a square

face? How many different rectangles faces

can they build using the cubes?

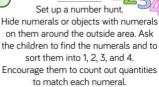
## areas of learning

Provide a range of items such as wooden blocks, a pattern like the bricks on a wall?

#### Outdoor

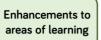
In the parking bays, place signs for 2 wheels, 3 wheels and 4 wheels. When children park their bikes or toy cars, can they match the vehicle to the correct bay?





#### Outdoors

Provide children with a tray that has a range of natural items in - leaves, pebbles, conkers etc. Set out buckets that have the numbers 1 - 5 on the front. Can we put the right number of items in each bucket? Can we take a bucket and go and find up to 5 items?





Maths Area



Set up a number rhyme table to

encourage the children to re-enact

the songs and rhymes you sing.

Provide characters, numerals, books

The rhymes can be changed regularly.

and resources to enhance the area.

Loose Parts

Provide square and rectangular frames of

different sizes and a selection of loose parts.

Ask the children to fill each frame with

different loose parts. Which frames hold the

most? Compare how many different sized

loose parts can fit inside a frame E.g. fir cones,

pebbles and shells.





square big little flat pointy straight curved

long

short

two, three, four, five number count – count forwards, count backwards Outdoor how many? total altogether five frame cube

1,2,3,4,5, one,

# corners sides rectangle

same

different

arrange

## Art Area

duplo, lego etc for the children to print with. Which objects make the best square and rectangle prints? Can you make a repeating pattern? Can you make



## Power Maths Unit 3 – Shape (2D shapes)

More than / less than Identifying groups with the same number of things

> Compare quantities using language: 'more than', 'fewer than'.

Describe the position of something ('Where is the teddy? 'On top of the table.')

Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.

## **Power Maths Unit 2 – Comparing groups** within 5

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## Comparing 123

#### Guidance

Children begin to understand that as we count, each number is one more than the number before. Similarly as we count back, each number is one less than the previous number.

Use a range of representations to support this understanding and encourage the children to represent the one more and one less patterns as they count. Support the children to make comparisons in different contexts as they play.

## Other Resources

The Three Bears

The Three Little Pigs

The Little Bear and the Wish Fish - Debi Gliori When Goldilocks Went to the House of the Bears song

Pink Tiara Cookies for Three - Maria Dismondy

## Comparing Numbers to 5

#### Guidance

Children continue to understand that when comparing numbers, one quantity can be more than, the same as or fewer than another quantity.

Use a range of representations to support this understanding and encourage the children to compare quantities using a variety of objects and representations. Support the children to make comparisons in different contexts as they play.

#### Other Resources

A Squash and a Squeeze - Julia Donaldson Room on the Broom - Julia Donaldson



### Spatial Awareness

#### Guidance

Children hear and begin to use positional language to describe how items are positioned in relation to other

They build life-sized journeys outdoors and travel through them, exploring them from different

They begin to represent real places they have visited or places in stories with their models, drawings or maps.

### Other Resources

We're Going on a Bear Hunt - Michael Rosen Rosie's Walk - Pat Hutchins Little Red Riding Hood - Traditional Tale Mrs Wishy-Washy - Joy Cowling Me on a Map - Joan Sweeney

Song: In and Out the Dusty Bluebells

#### Prompts for Learning

Use stories and number songs which count on and back to introduce the one more and one less patterns. Represent the patterns using bricks or cubes to support the understanding that each number is one more/less than the number before.

Using a range of real objects in different contexts ask the children to compare sets. Which set has more? Fewer? Can you find 2 sets with the same amount?





The dot plates can also compared and ordered Ask: How many dots does this plate have? Can you find a plate with more dots? With fewer dots? With the same number of dots? Can you put these 3 plates in order? What would come next?

Ask the children to compare how far they can travel in  $\ensuremath{\mathfrak{Z}}$ giant steps and in 1 or 2. In 1, 2 and 3 tiptoes.

#### Prompts for Learning

Show the children 3 fingers – ask them how many fingers? Can they hold up 3?

Can they hold up more than 3 fingers? Is there more than one way to do this? Can they hold up fewer than 3 fingers? How many do they have?

Working with a small group, provide each child with a plate and give them each a handful of snack such as grapes or crackers. Does everyone have the same? Is it fair? Encourage them to notice that some children have more snack and some have less and to share out the snack fairly. Can they check that everyone now has the same?







items with larger quantities of small items to help children make the distinction between size and quantity. E.g. 2 large balls take up more space than 3 small balls but there are more small balls.

#### Prompts for Learning

Positional language can be modelled and practised on a daily basis with the children through their play. Tidy-up time in particular is full of opportunities to use positional language for a real purpose. E.g. Put the bricks into the basket. Sit teddy on the shelf next to the books.





Many stories focus on positional language or journeys. Encourage the children to use actions to represent the language such as over, under, around, through as you read. Children could also build models of the story journeys and real life journeys they have made to include the places passed or visited along the way.

Outside the children can build large-scale representations of places and journeys.

## Comparing 123

Provide an assortment of loose parts for the children to build their own one more/one less patterns. The children may like to extend these beyond 3

Maths Area

Game for 2 players:

Provide picture cards showing different

representations of 1, 2 and 3. Place the picture

cards face down. Ask each player to pick a card

and then compare to see which card has more.

The player with more keeps both cards.

Comparing Numbers to 5

Sand

Make towers of pebbles.

Who can make the tallest tower?

How many pebbles are in each tower?

Does your tower have more or less

pebbles than your friend's tower?

Can you each make a tower using the

same number of pebbles?

Carpet

arrangements of 0-5 dots.

Can you find a plate with 4 dots?

With more/fewer than 4 dots?

Can you put the plates in order?

One of the plates is missing.

Can you work out which one?

Small World

Modelling and encouraging positional

language as the children play in the small

world. E.g. 'Where shall we put the horse?

'We'll put it in the field behind the tree.

'Where is the frog?' 'The frog is on the

chair beside the window.

Outdoors

Set up your own bear hunt by hiding bears

around the outdoor area. Ask the children

where each bear was found.

You could extend this into everyday

practice by having a bear which 'hides' in a

different place in the classroom every night

for the children to find.

to describe where they could look and

Spatial Awareness

Provide a set of dot plates with different

## Loose Parts

## areas of learning

Enhancements to

**Enhancements to** 

areas of learning

Maths Area

Teach the children simple number

track games and encourage them to

1, 2 or 3 counters to fill their track.

Compare - who has the most

counters? How many more counters do

they need to fill their track?

eate their own. Roll a dice and collect

Read children the story of the 3 bears explain that we need to set the table in the home corner ready for breakfast. Do we have enough plates, cups and spoons for all the bears? Provide small, medium and large cups, bowls and spoons to compare and match to the bears.

#### Maths Area



Children use the number shapes, linking cubes and numeral cards to match and compare quantities.

Provide a set of dominoes to explore. Ask the children to compare the number of spots on each side of the domino. Are









Small World Provide children with the numbers 1 - 5 on cards and various small, similar items such as people, toy cars, plastic animals, etc.

Ask them to show you fewer, the same or more than the number they choose.



Set up an obstacle course around the outdoor area.

Ask the children to work in pairs - one giving directions to their partner. E.g. 'Go over the bridge, through the tunnel. around the cones, between the bricks... Encourage the children to create their own obstacle courses.

## Enhancements to areas of learning

As you read together, take the opportunity to build in positional language. Many stories (Janet & Allan Ahlberg - Each Peach Pear Plum, Quentin Blake -Cockatoos) involve pictorial hide and seek. Ask the children to find the hidden objects and to describe where they are.

Reading

two, three, four, five, none, zero number count – count forwards, count backwards how many? five frame first then now one less one more order fewer take away add altogether number story five frame represent

1,2,3,4,5, one,

where on top under next to underneath above at the side of