Spring Scheme of Learning

Reception

#MathsEveryoneCan

Year Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	Getting to Know You			Just Like Me!			It's Me 1 2 3!			Light and Dark			Consolidation	
Spring	Alive in 5!			Growing 6, 7, 8			Building 9 and 10			Consolidation				
Summer	To 20 and Beyond			First Then Now			Find my Pattern			On the Move				

- We have divided the Reception Year into 10 Phases. Each phase roughly lasts 3 weeks long, allowing time for flexibility and consolidation.
- Each phase has a number focus and suggested links to measure, shape and spatial thinking.

Spring Term Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Phase	Alive in 5!			Growing 6, 7, 8			Building 9 & 10		
Number	Introducing Zero Comparing Numbers to 5 Composition of 4 & 5			6, 7 & 8 Making Pairs Combining 2 Groups			9 & 10 Comparing Numbers to 10 Bonds to 10		
Measure, Shape and Spatial Thinking	Compare Mass (2) Compare Capacity (2)			Length & Height Time			3d-Shape Pattern (2)		

Phase 4 – Alive in 5!

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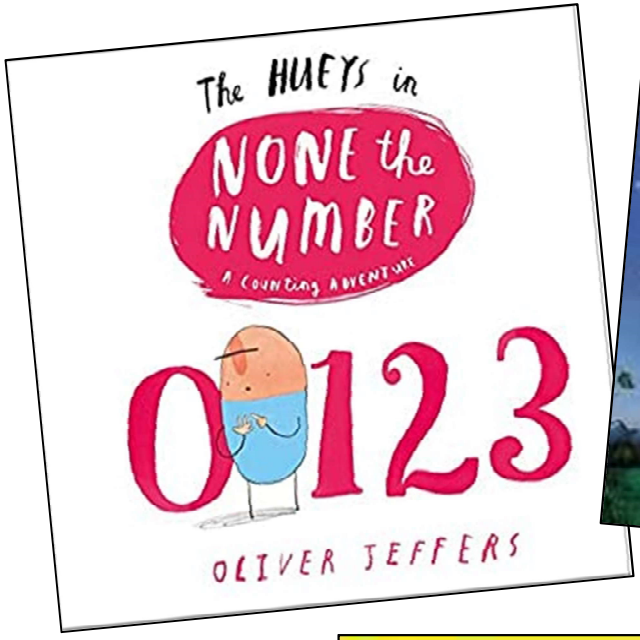
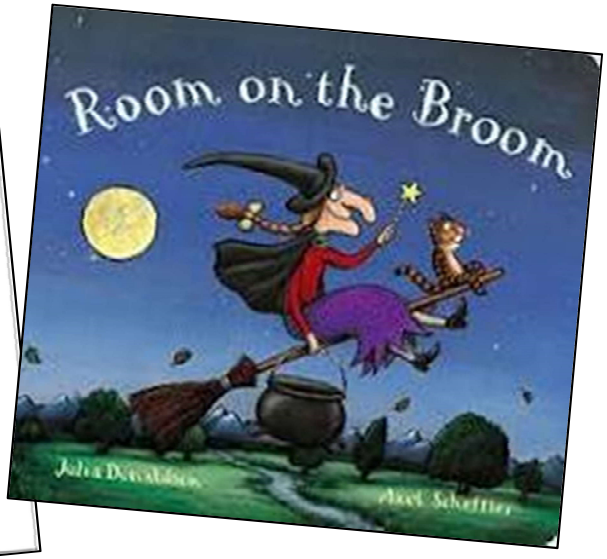
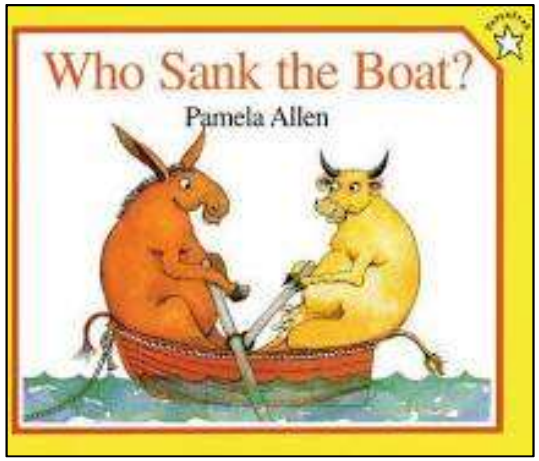
Phase 4 – Book List

Reading to children is an essential part of their development. Any of these books would be useful during Phase 4

None the Number - Oliver Jeffers
Zero is the Leaves on the Tree – Betsy Franco
A Squash and a Squeeze – Julia Donaldson
Room on the Broom – Julia Donaldson
I Spy Numbers – Jean Marzello
Who Sank the Boat – Pamela Allen
Balancing Act – Ellen Stoll Walsh
A Beach for Albert – Eleanor May
Anno's Counting book – Mitsumasa Anno
The Ugly Five – Julia Donaldson
The Blue Balloon – Mick Inkpen







Introducing Zero

Guidance

The children will already have some practical understanding of 'nothing there' or 'all gone'. Here, they learn that the number name zero and the numeral 0 can be used to represent this idea.

The children should be given opportunities to apply this understanding within the classroom.

E.g. There are 0 children playing in the sand.

Number songs which count back help to develop the understanding that 0 is one less than one.

Other Resources

Numberblocks Series 3 Episode 5: Zero

None the Number - Oliver Jeffers

Zero is the Leaves on the Tree – Betsy Franco

Alice the Camel

10 in the Bed

Prompts for Learning

Use popular counting back songs such as 5 Little Monkeys Jumping on the Bed. Encourage children to take on the role of the 5 monkeys. Represent each verse with counters on a 5 frame, displaying the numerals alongside.

Ask them to predict how many monkeys will be left as each one falls off the bed. What about the last monkey? How could we show this on our 5 frame? Which numeral should we use?

Provide examples contrasting familiar numbers with 0 to support the children's understanding that 0 represents the absence of something. How many apples on each tree? How many people on each bus? Which field has 0 horses?

Encourage the children to represent numbers including 0

Show me 3 fingers, show me 5, show me 0

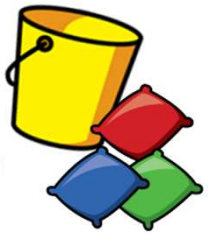
Show me 4 apples in the basket, show me 2, show me 0

Show me 4 claps, 1 clap, 0 claps.

Introducing Zero

Outdoors

Provide equipment for throwing and rolling games such as skittles, beanbags and buckets. Encourage the children to notice when they knock over 0 skittles or when 0 beanbags land inside the bucket.
How could they record their score?



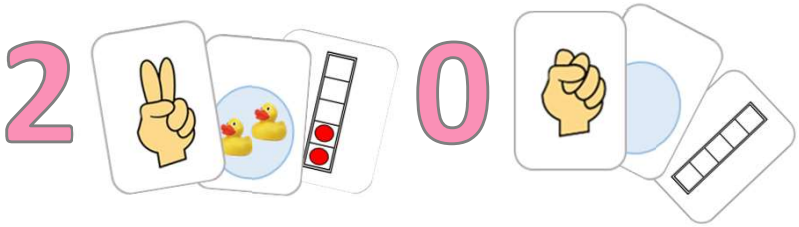
Small World

As the children play, prompt them to notice where they see 0
E.g. Could we park 0 cars in this car park?
If there are 5 horses and 2 fields, how many horses could be in each field?
If all 5 monkeys have fallen off the bed, how many are left on the bed?

Enhancements to areas of learning

Maths Area

Provide a range of loose parts and labelled pots including 0 for the children to count items into. Picture cards and dot plates to represent different quantities including zero can also be sorted and matched to numerals.



Outdoors

Have a bag containing numerals from 0 to 5. As you pull out a numeral combine it with a task for the children to do. For example, if you pull out a 2, the children could take 2 giant strides or 2 tiptoes, do 2 jumps, run to the hoop and back twice, find 2 pebbles and bring them back etc.

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

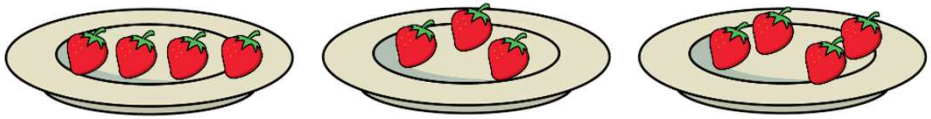
One Elephant Came Out to Play

5 Little Monkeys Swinging in a Tree

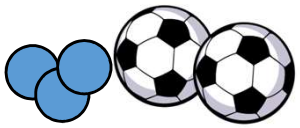
Prompts for Learning

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?

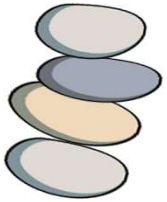


Provide opportunities to compare smaller quantities of large items with larger quantities of small items to help children make the distinction between size and quantity.
E.g. 2 large balls take up more space than 3 small balls but there are more small balls.



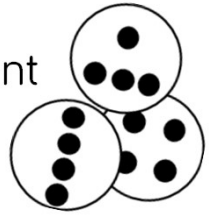
Comparing Numbers to 5

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

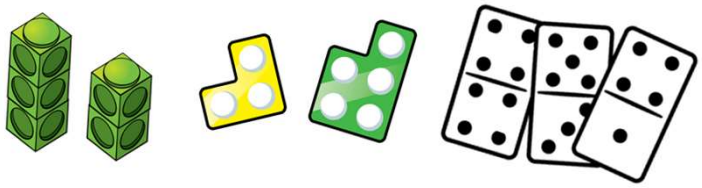


Provide a set of dot plates with different arrangements of 0-5 dots.
Can you find a plate with 4 dots?
With more/fewer than 4 dots?
Can you put the plates in order?
One of the plates is missing.
Can you work out which one?

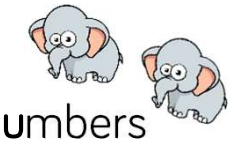
Enhancements to areas of learning

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 there the same, more or fewer dots?



Small World

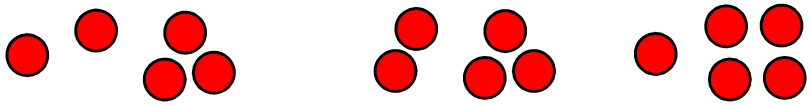


Provide children with the numbers 1 – 5 on cards and various small, similar items such as people, toy cars, plastic animals, etc.
Ask them to show you fewer, the same or more than the number they choose.

Composition of 4 and 5

Guidance

Children will continue to develop the understanding that all numbers are made up of smaller numbers. Allow them to explore and notice the different compositions of 4 and 5. For example 5 can be composed of 1 and 1 and 3 or 2 and 3 or 1 and 4.



Encourage them to subitise (instantly recognise these small quantities without counting).
Encourage them to notice how numbers can be composed of 2 parts or more than 2 parts.

Other Resources

Number Blocks - The Whole of Me

The Ugly Five – Julia Donaldson

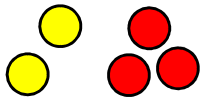
I Spy Numbers – Jean Marzello

5 Friends Counting – Oxford Owls

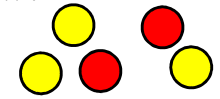
Prompts for Learning

Give the children 5 bean bags. Ask them to throw them into a hoop noticing how many land inside the hoop and how many land outside. Encourage them to record their results.
Is there ever 0 inside or outside the hoop?

Ask the children to count out 5 double-sided counters.
Shake and drop them onto the table.
How many are red? How many are yellow?

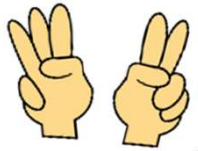


Look at your partners. Is it the same?
Drop them again. What has changed?



Could you show your counters on a 5 frame?
If you had 5 red counters, how many yellow would there be?
(Butter beans with one side painted are an alternative to double sided counters and are easily manipulated by little fingers.)

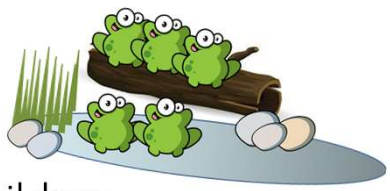
Play Bunny Ears



Using 2 hands to be the ears, how many ways can you show 4 or 5 fingers? Can you see what number I have made?
Can you make ears the same as mine?
Can you make the same number in a different way?
How many different ways can we find?

Composition of 4 and 5

Water



Set up a log and pool and provide 5 speckled frogs for the children to re-enact the song. Encourage the children to sing the song as they play and to count how many frogs are on the log and in the pool at the end of each verse.

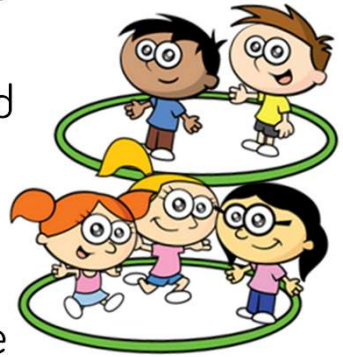
Number Shapes

Use the number shapes to investigate which smaller numbers combine to make exactly 4 or 5. Check by sitting them on top of the whole number.
Is there more than one combination?
Which number has the most combinations?

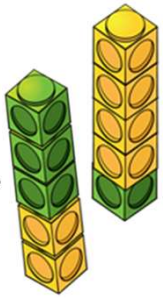
Enhancements to areas of learning

Outdoors

Provide 4 children with 2 hoops labelled yes and no.
Children take turns to ask questions and sort themselves into the hoops. For example: Do you like carrots?
Have you got a sister?
Can you find a question which sorts the children into 4 and 0?



Construction



Provide cubes in 2 different colours.
Ask the children to build a tower of 5.
Compare the towers.
What is the same? What is different?
How many different towers can you build?
What if you make towers of 4 cubes?

Digging Deeper

How Many are Hidden?

Show the children 4 or 5 small world creatures.
Ask them to close their eyes whilst you cover some with a blue cloth to resemble a pool. Can they work out how many of the ducks you have put into the 'pool'?

Practise in different contexts for example teddies and a 'tent', horses and a 'stable' cars and a 'garage'. Encourage children to use concrete objects, draw a picture or use their fingers to help them explain how they know what is missing.

Exploring Possibilities

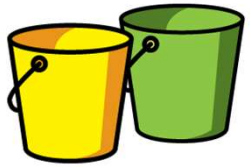
Show the children an empty feely bag.
Together, count 4 pebbles into the bag.
Take out an unseen amount in your hand.
Ask the children to discuss how many could be in your hand and how many could be left in the bag.

Key Questions

How many are hidden? How do you know?
Can you draw a picture to show me?
Can you show me with these cubes?

How many pebbles could I have in my hand?
If I have 3 pebbles in my hand, how many will be in the bag?
Could I still have 4 pebbles left inside the bag?
If there are 4 in the bag, how many will be in my hand?
Could I have 0 pebbles in my hand?
Could there be 0 in the bag?
Could I have 5 pebbles in my hand? How do you know?

Hidden Bonds



Show the children 2 buckets.
Explain that you have 5 pebbles hidden inside the buckets.
Ask the children how many pebbles could be in each bucket.
Could this bucket have 0 pebbles?
Could this bucket have 4 pebbles? How do you know?

Compare Mass (2)

Guidance

Children may already have some experience of weight through carrying heavy and light items.
Encourage them to make direct comparisons holding items to estimate which feels the heaviest then use the balance scales to check. Prompt them to use the language of heavy, heavier than, heaviest, light, lighter than, lightest to compare items starting with items which have an obvious difference in weight. Avoid the common misconception that bigger items are always heavier by providing some small, heavier items and some large, lighter ones.

Other Resources

Who Sank the Boat – Pamela Allen

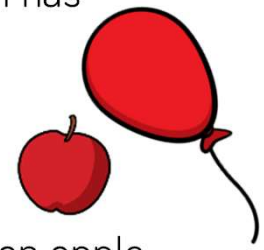
The Blue Balloon – Mick Inkpen

Balancing Act – Ellen Stoll Walsh

Prompts for Learning

Bring in a heavy case or box. Show the children that it is difficult to lift and carry because it is really heavy.
Ask if they have ever carried anything heavy?
Ask the children to discuss what could be inside.

Ask the children to be human balance scales – place an item on each hand and ask them to tip to show which item is heavier and which is lighter. Use the balance scales to check the children's estimations. The children could also hold buckets or bags in each hand and place items inside to feel which has the stronger downward pull.



Give the children an item, for example, an apple.
Challenge them to find things which feel heavier and lighter than the apple and sort them into sets.
Use the balance scales to check their estimation.
Are all the heavier things larger than the apple?
Can they find anything which is larger than the apple but lighter?

Compare Mass (2)

Dough

Add a set of balance scales to the dough area and encourage the children to compare the weight of different size balls. To provide further interest, encourage the children to use loose parts to balance the dough on the scales.

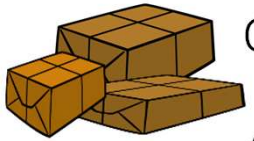
Loose Parts

Provide a set of balance scales and an assortment of loose parts to compare. Encourage the children to use the mathematical vocabulary of heavier than and lighter than as they compare the different items.

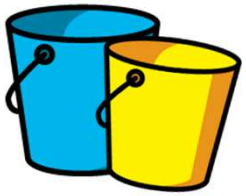
Enhancements to areas of learning

Post Office

Provide a selection of wrapped parcels of various shapes and sizes. Ask the children to compare parcels to see which are heavier and lighter than others.



Can they find the heaviest parcel?
Can they find the lightest?
Are larger parcels always heavier?



Outside

Provide buckets with strong elastic bands attached to the handle. Ask the children to hold the elastic band and watch how far it stretches when they add an item to their bucket. What do they notice when they add a heavy item? A light item?

Compare Capacity (2)

Guidance

Encourage the children to build on their understanding of full and empty to show half full, nearly full and nearly empty. Provide opportunities to explore capacity using different materials such as water, sand, rice and beads. Provide different sized and shaped containers to investigate. Prompt them to use the language of tall, thin, narrow, wide and shallow.

Encourage the children to make direct comparisons by pouring from one container into another. They can also use small pots or ladles to make indirect comparisons by counting how many pots it takes to fill each container.

Other Resources

There's a Hole in my Bucket!

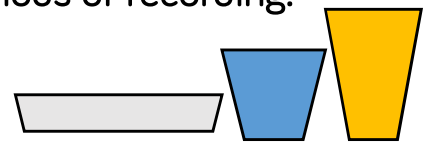
Mary Poppins clip – emptying the carpet bag

A Beach for Albert – Eleanor May

Prompts for Learning

In a small group perhaps during snack time, provide each child with a cup. Ask them to make their cup full, make it empty, nearly full, nearly empty, about half full. Can they find a container which holds more than their cup? Can they find one which holds less?

Provide a selection of containers of different shapes and sizes and ask the children to investigate which holds the most. They may do this by pouring directly from one container to another. They could also use a small cup to fill each container, counting how many small cup-fulls the containers hold. Encourage them to record their results using their own methods of recording.



Provide sets of similar containers in different sizes such as sets of nesting bowls or boxes. The children will enjoy comparing and ordering them and seeing how many loose parts such as beads, cubes or corks they will hold.

Compare Capacity (2)

Sand

Provide each child with a bowl or cup and a selection of different sized spoons and ladles. Ask them to investigate how many small spoons it takes to fill their container. How many large spoons?
How many ladles? Which sized spoon was the best? Why?

Mud Kitchen

Provide a variety of pans, bowls, spoons and ladles for the children to use. Add daily recipes on a chalkboard to encourage the children to measure out ingredients. They could also design and create their own recipes.

Enhancements to areas of learning

Outside

Provide a small matchbox for each child. Ask them to hunt for things to put inside. Points could be awarded for specific criteria such as the most items, the prettiest leaf, the smallest pebble, the largest item, the softest item, something yellow etc.

Role Play

Set up a pop-up café or picnic area providing a variety of jugs and beakers. Encourage the 'waiters' to take drinks orders and bring out the drinks. Play alongside the children to model the language of nearly full, half full, nearly empty etc and enjoy your delicious drinks! (Discuss why we don't want the cups to be absolutely full!)

Digging Deeper

Number Shapes Balance

Provide a set of balance scales and some number shapes. Explore how to balance a number shape for example 5 by putting the 5 piece on one side of the scale and exploring different combinations to make it balance.
How many different ways can they find to balance 5?
What other combinations of shapes balance?

Encourage the children to use the language of equal to, heavier than, lighter than, heaviest, lightest.

Key Questions

What happens if I put a 5 piece on one side of the scale and two 3 pieces on the other?
Which is heavier, two 2 pieces or one 5 piece?
Which is the heaviest number shape? Which is the lightest?
How many ways can you find to balance 5 exactly?
Can you find ways to balance 4 or 3?

Which Holds More?

Provide a tall narrow container and a wide shallow one. Ask the children to predict which will hold more water? How could they check? Encourage the children to try different methods.
More containers could be added and the children asked to order them from smallest capacity to greatest.