



**WHEELER**  
PRIMARY SCHOOL

*Mathematics*

**EYFS**

## **MATHS PLANNING AT WHEELER**

This document outlines the planning cycle for the full academic year. Each block from the LTP has further been broken down into small steps which have been developed from the Early Learning Goals & Educational Programme objectives (2020).

Each small step has been developed on an individual page which outlines the following:

- **Teaching points** taken throughout the concept are provided as a suggestion, these can certainly be added to as you see fit when you do your short-term plans. These don't necessarily mean one step per lesson!
- **Continuous provision ideas** – these are just suggestions and should be built-upon by the class teacher to ensure conceptual and procedural variation (intelligent practice);
- **Supporting resources** – links to other areas of learning (e.g. literacy and music) to support the teaching of the small step;
- **Depth of understanding** – at the end of the concept there is also a page which provides suggestions for deepening understanding with potential questions. These could be part of discrete Maths lessons or continuous provision.

## **FURTHER SUPPORT**

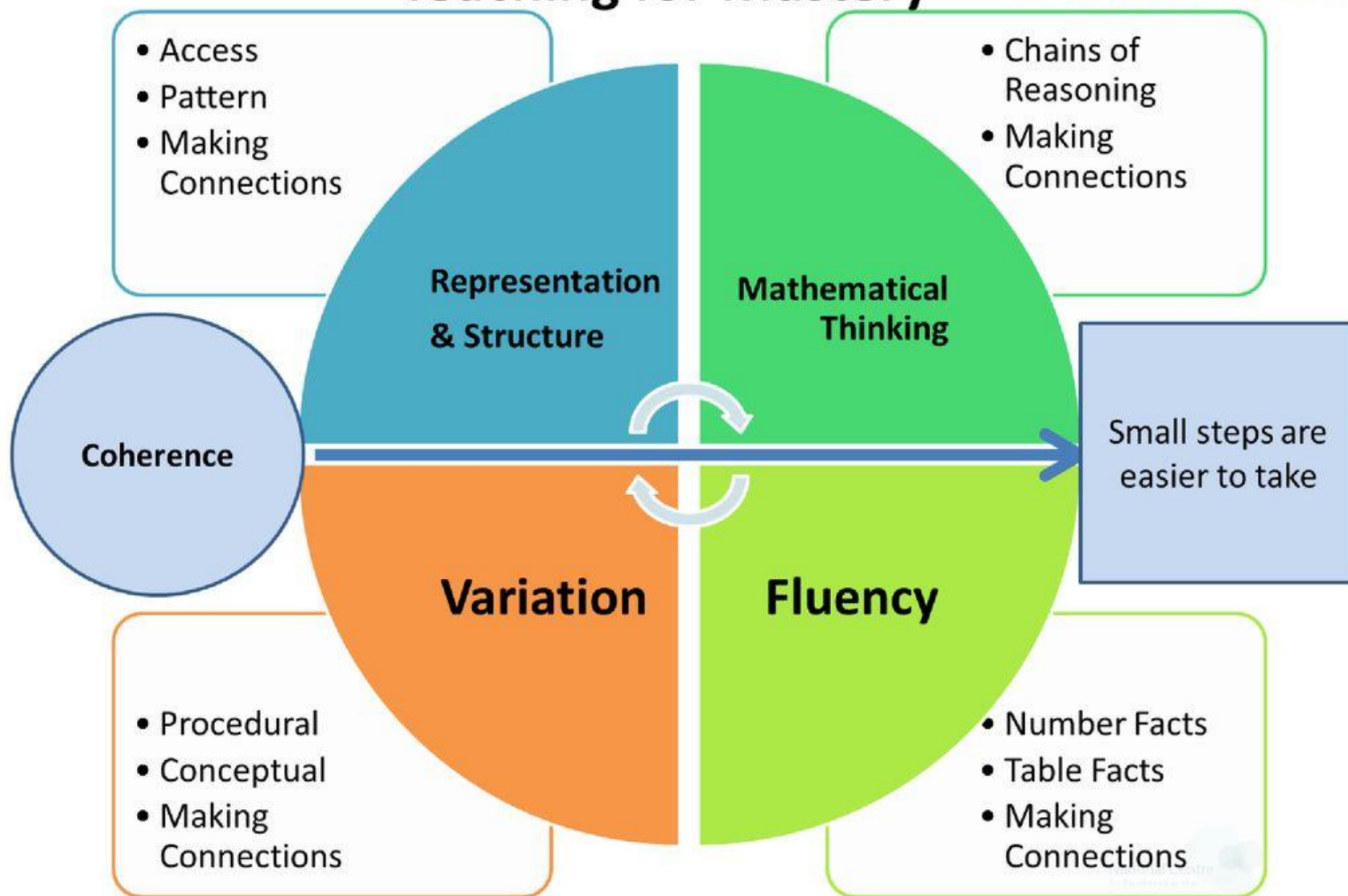
In addition to the medium-term planning, please also refer to the following resources to help with your Maths lessons:

- Maths policy
- Calculation policy
- Vocabulary progression document
- Numberblocks resources
- NRIC activities (mapped out on the progression document)

## Our mantra through all Maths lessons

### 5 big ideas

### Teaching for Mastery



## Yearly Overview

Autumn	<p>Number</p> <p>Developing number sense by focusing on 1 number a week: numbers 1-5 Comparing, sorting, subitising, one more and one less</p>	<p>Addition &amp; Subtraction</p> <p>Introduce zero and number bonds to 5</p>	Half Term	<p>Number</p> <p>Developing number sense by focusing on 1 number a week: numbers 6-10 Comparing, sorting</p>	<p>Addition &amp; Subtraction</p> <p>Number bonds to 10</p>	<p>Measurement</p> <p>Weight and capacity</p>
Spring	<p>Number</p> <p><b>Use Autumn resources</b> to consolidate numbers 1-10, place value and comparing, sorting and one more/less</p>	<p>Measurement: Time</p>	Half Term	<p>Number</p> <p>Developing Number sense focusing on numbers 11-20</p>	<p>Geometry: spatial awareness, 2D/3D shape and pattern</p>	
Summer	<p>Addition &amp; Subtraction</p> <p>Counting on and back</p>	<p>Multiplication &amp; Division</p> <p>Sharing, doubling &amp; halving</p> <p>Identifying odd and even numbers</p>	Half Term	<p>Measures: Length and height</p>	<p><b>Preparation for Y1</b> Number bonds to 10 Counting in 2s, 5s and 10s</p>	

## **Counting progression in EYFS**

Ensure the following progression when working with all numbers to ensure clarity and confidence in grasping number facts.



**The one-to-one principle:** This involves children assigning one number name to each object that is being counter. Children need to ensure that they count each object only once ensuring they have counted every object.

**The stable-order principle:** Children understand when counting, the numbers must be said in a certain order.

**The cardinal principle:** Children understand the number name assigned to the final object in a group in the total number of objects in that group.

**The abstraction principle:** This involves children understanding that anything can be counted, including things that cannot be touched like claps and movements like jumps and hops.

**The order-irrelevance principle:** This involves children understanding that the order we count a group of objects is irrelevant. There will still be the same number.

**The subitising principle:** This involves children being able to see the amount of objects without counting each one by turn.





**Autumn Term**

# Number and Place Value (1-5)

- Children will be taught to count forwards and backwards to 5
- Children will count up to five objects in different arrangements by touching them as they count, saying the names in stable order
- Children will say the total number in the group, understanding that the final number they have said is the total in the group
- Children will begin to subitise numbers up to 5 and will count out up to five objects from a set of more than five objects
- Children will link the number four to their current age and the number five to birthdays in the class
- Children will sing songs and listen to stories that include numbers from 1-5
- Children will use a five frame (one part of a ten frame) to represent numbers up to five and understand that a full frame is five

## EYFS Framework Objectives:

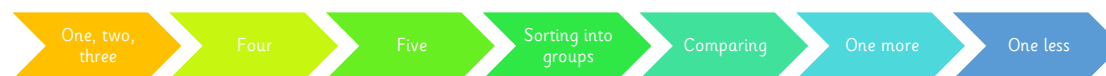
### Number ELG

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

### Numerical Patterns ELG

- Compare sets of objects up to **5** in different contexts, considering size and difference;

## Small Steps



## Key Vocabulary

zero	number	one, two, three, four, five	none	how many ...?	count, count (up) to, count on (from, to), count back (from, to)	is the same as			
more, less	odd, even	few	pattern	pair	ones	digit	the same number as, as many as	more, larger, bigger, greater	
fewer, smaller, less		fewest, smallest, least		most, biggest, largest, greatest	one more	one less	compare	order	size
		first, second, third, fourth, fifth		last, last but one	before, after	next	between		

## one, two, three

### Teaching Points

Ask children to count up to three identical objects.



Can you count the objects?

Can you line the objects up? Can you touch each object as you count? How many objects are there altogether?

Can you put the objects on the five frame? Can you put one object in each box?



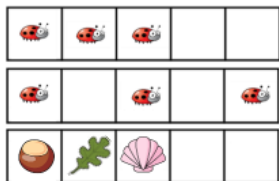
Ask children to count out up to three items from a larger group



Can you get me two pencils? I think there's two left in the pot. Am I correct? Can you check? Do you know how many pencils there are without counting? Does it matter if the pencils are different colours?



Which pictures show 3? Problem solving



### Continuous Provision

**Making playdough** - Work with a small group of children to make playdough. Use a recipe that involves measuring in cups. Ask children to measure out the ingredients and count the cups.

**Home corner** - Read the children the story of The Three Bears and explain that we need to set the table in the home corner ready for breakfast. Children can count out 3 of each items they choose.

**Junk modelling** - Making rockets. To encourage counting forwards and backwards to 3, provide pictures and photos of rockets. Once children have made them, you can count 3, 2, 1, blast off!

**Small world** - Linking to the story of the three bears, encourage children to make the doll's house into Goldilocks' house. They can count out three of each item that they need for the house.

### Supporting Resources

The Three Bears

The Three Billy Goats Gruff

The Three Little Pigs

Three Blind Mice

Series 1 Episodes 1-5





## Teaching Points

*Use ideas from previous step also*

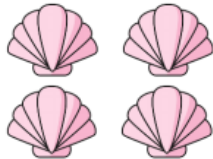
Have four baskets of different items e.g. shells, counters, cubes or marbles. Take four items out of one of the baskets and arrange them on a whiteboard.



How many are there altogether? Can you make the same as me?



Hide the whiteboard from the children and rearrange the items.



How many are there now? Can you make the same as me? Do you need to get any more items from the baskets?



Children make a number and ask their partners to match it



What other items from outside can you use to show me 4?



## Continuous Provision

**Washing Line** - Hanging clothes - linking to 'Washing Line', 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?

**Outdoor** - In '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?

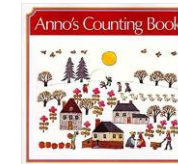
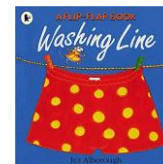
**All Areas** - Create signs for each area to show how many children can play there. Work with the children to make the signs and get the equipment you need e.g. Four people can paint, how many aprons do we need?

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

## Supporting Resources

Washing Line by Jez Alborough

Anno's Counting Book by Mitsumasa Anno



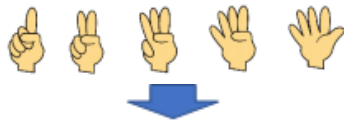
Series 1 Episode 6



## Teaching Points

*Use ideas from previous steps also*

Can we count to five on our fingers? Can we count back from 5? Use puppets on each finger to count to five on one hand. Can children look at your hand and subitise how many puppets there are?

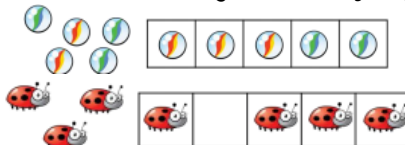


Show children a 5<sup>th</sup> birthday card. What number does it have on the front? Let's put the correct amount of candles on the cake.

Can we count them one-by-one? How many are there altogether? What else could we count out for the birthday party?



Use a five frame to count out five objects from a larger group. How do we know there are five? Is the five frame full?



Subitise numbers 1 – 5 using concrete and pictorial representations as well as numerals – children can see numbers 1-5 without counting each time

## Continuous Provision

**Writing Area** - Provide children with card to make birthday cards for the birthday party. Can they copy the numeral 5 on to the front of the card? What else could we draw to show 5?

**Home corner** - Provide children with party hats, plates, cups etc to set the home corner ready for a birthday party. How many guests can come to the party? What number shall we put on the banner?

**Outdoor** - Provide children with a tray that has a range of natural items in - leaves, 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?

**Water** - Act out the different songs we have been singing this week. Provide children with 5 ducks or 5 frogs. Can the children sing the song and act out the movements to count backwards from 5?

## Supporting Resources

Five Little Speckled Frogs  
Five Little Ducks  
Five Currant Buns  
Five Little Men in a Flying Saucer – Dan Crisp



Series 1 Episode 7



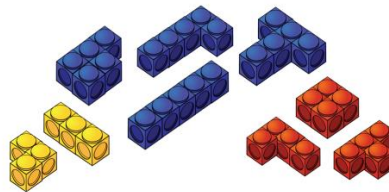
## Depth of Understanding – 1-5

Provide children with 5 Unifix cubes and encourage them to build a tower. Explore other shapes they can build with 5 blocks. How many ways can they find?

This task will reinforce the counting principles and allow you to assess the children's confidence in stable order, one-to-one correspondence, cardinality and especially order irrelevance (conservation of number regardless of the order). The children may build the same shape in different orientations so encourage them to turn their shapes around to check that they are not the same as another shape.

Ask the children to explore different shapes they could build using 2, 3 and 4 blocks. What do they notice about the amount of possibilities as the amount of cubes increases?

Put a selection of shapes made from Unifix cubes into a feely bag. Can the children identify a shape made of 4 cubes without looking? How did they know it was 4?



### Possible Questions

How many blocks are there?

Can you build a tower with the blocks?

Can you build them in a different way?

Can you find another shape like yours?

Can you make a shape different to all the others?

How many ways can you find with 3 cubes?

Are there more ways with 4 cubes or 5 cubes?

How many ways do you think there will be with 6 cubes?

## sorting into groups

### Teaching Points

Use 2 hula hoops to sort a group of children into sets – boys/girls, jumper/no jumper, glasses, etc. Can the children see what each set has in common and why it is different to the other set? Ask the children to suggest other ways of sorting the same group of children.



Sort children into more than two sets by different features such as hair colour



Sort real objects such as toy cars, Lego bricks, shapes, leaves, stones etc.



Use pictorial representations on the whiteboard for children to drag into two or more sets



Describe how objects have been sorted. Can you see how I have sorted the items? Can they be sorted a different way?

### Continuous Provision

**Funky Fingers** - Provide a large collection of beads in different colours, shapes, sizes etc and several small pots. Children to sort the beads into the pots and explain how they have been sorted (colour, shape, size, etc)

**Home corner** - Sort objects in the home corner by colour. Can the objects be sorted by type? Can the children find more than one way to sort objects?

Sort a pile of socks into pairs

**Outdoor** - Provide children with an opportunity to explore the outside environment and choose natural items to sort

**Blocks** - Sort building blocks by different characteristics, such as shape, size, if they can be stacked or if they roll.

### Supporting Resources

Frog and Toad – A Lost Button: <https://www.youtube.com/watch?v=ICWySmmJE-8>

The Button Box by Margarett Reid

Which one doesn't belong? <https://wodb.ca/>



Series 1  
Episode 5



## Depth of Understanding – Sorting

### Guess my rule

Begin with a large pile of items such as buttons. Tell children you have a sorting rule but they need to guess what it is. Place the buttons into piles based on a range of characteristics such as size, colour or number of holes. If children think they know the rule then they can use their pile of buttons to add to yours.

### Odd one out

Sort objects into sets where one of the objects doesn't belong. Children to identify which object is the odd one out and explain their reasoning.

### Sorting numbers

Provide a collection of numerals, pictures and dominos to 5. Ask children to sort the numbers in different ways.

### Possible Questions

What is the same about all the items in this set?

How is this different to the other sets?

Can you guess how I have sorted the objects?

Can you think of a different way to sort the objects?

Which object does not belong in this set? Can you explain why?

## comparing identical objects

### Teaching Points

Introduce the vocabulary for comparison: more than, fewer than, equal to and the same as



Compare groups of concrete objects up to 5 by lining them up underneath each other, moving on to pictorial representations when they are secure



Use five frames to compare objects



Provide children with an amount of objects up to 5 and they must make another set which is either equal, more than (without crossing 5) or fewer than the amount



Hold up 2 dot cards. Children to count and compare the dots using the appropriate vocabulary

### Continuous Provision

**Sand-** Make towers out of pebbles. Children count the amount of pebbles (up to 5) in each tower and compare the height to their friends' towers

**Small World** - Provide children with the numbers 1-5 on cards and a range of small items such as people, cars, animals, etc  
Children to show fewer, the same or more than the number card they choose

**Outdoor** - Children to find items in the natural environment and compare the amounts. Provide children with the numbers 1-5 on laminated cards for them to show items which are fewer, the same or more than the card they choose

**Maths Area** - Use number resources such as Numicon and unifix cubes and numeral cards to match and compare.  
Compare the dots on either side of a domino (up to 5)

### Supporting Resources

Dot cards – draw dots on paper plates or cards with a marker pen. Arrange the dots in different ways so the children can see the numbers in different ways



Series 1 Episode 10  
Series 3 Episode 2





## comparing non-identical objects

### Teaching Points

Ensure children understand the vocabulary for comparison: more than, fewer than, equal to and the same as



Use objects which are different for children to compare.  
Continue encourage lining up of objects to compare.



Make the distinction between size and quantity by comparing smaller quantities of large items and large quantities of small items e.g. compare 2 beach balls and 4 marbles

### Continuous Provision

**Funky Fingers** - Grab a handful of objects (up to 5) and compare them with their friend's. Organise the objects on a five frame to compare

**Maths Area** - Look at a new number each day and draw or arrange different concrete/pictorial representations to show the number, fewer than and more than (up to 5)

**Outdoor** - Build a tower using large outdoor blocks or creates and then build towers shorter and taller

**Teddy Bear's Picnic** - Look at the three bears. Children to provide chairs, plates, cups and cutlery for each bear. What if baby bear invites two friends? How many more?

### Supporting Resources

The Gingerbread Man - <https://www.youtube.com/watch?v=YoQyyB5xvLk>

The Enormous Turnip - <https://www.youtube.com/watch?v=mGw5yTOPTSQ>



Mr. Gumpy's Outing by John Burningham

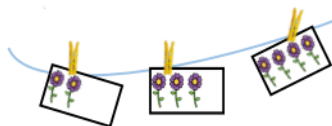
Series 1 Episode 11



## Depth of Understanding – Comparing

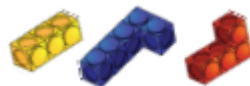
### Washing Line

Provide children with pictorial representations to arrange on the washing line in order. Begin with two pictures and add more as the children gain confidence. Encourage the use of the vocabulary 'more than' and 'fewer than' to compare and order the pictures. Encourage moving pictures when introducing new numbers e.g. moving 4 along to make way for 3.



### Hidden Shapes

Put a selection of shapes made with different amounts of Unifix cubes into a feely bag. Ask children to choose a shape and feel how many cubes there are before they look. Ask another child to feel for a shape that has fewer, the same or more cubes than the first shape.



### Possible Questions

Which is more/less?

Where will you place this on the washing line?

Can you find a picture with fewer than mine?

Can you find a picture with more than mine?

Are there any others?

Can you find a picture more than ... but less than ...?

Can you feel how many cubes there are before you look?

Can you order the shapes from fewest cubes to most cubes, and vice versa?

## one more

### Teaching Points

Use concrete resources to investigate one more – up to 5 – use a range of representations



Use five frames to investigate, pictorially, one more



Use a number track underneath a five frame for children to read the number they have and what one more is



Understand that one more than a number is the next number that we say when counting in ones

### Continuous Provision

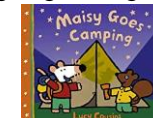
**Role Play** - Introduce children to the memory game "I went to the shops and I bought..." Provide bags and encourage children to act out the game, collecting the items from around the classroom. Count how many there are each time, checking that there is one more item each time.

**Construction** - Provide children with images of staircases built with different materials. Children to build their own staircases out of Lego, building blocks and bricks looking at how many items they use for each step.

**Outdoor** - Create a 'bus route' around the outdoor area. Start with a driver on the bus and have different stops around the route. Ask one child to stand at each stop. When the bus stops, one more child gets on. Encourage children to say how many there are on the bus altogether at each stop, noticing there is one more person each time.

### Supporting Resources

The Gingerbread Man  
The Enormous Turnip  
The Very Hungry Caterpillar by Eric Carle  
Maisy Goes Camping by Lucy Cousins



Series 1  
Episode 8 &  
14



## one less

### Teaching Points

Use concrete and pictorial representations from the previous step to investigate one less



Use the songs/stories suggested to role play e.g. five currant buns. How many buns are there altogether? Put the penny in the pot, how many pennies do we have? How many buns do we have now? Look at how there is one less bun each time, but one more penny



Play a game of musical chairs with a group of up to 5 children. What happens each time the music stops? How many chairs are left each time the music stops?



Clap, hop, jump, tap your head a number of times (up to 5). Children to repeat the activity but one less time.

### Continuous Provision

**All Areas** - Create labels for each area indicating how many children can be there at each time. Use bands that children can wear in certain areas. Highlight when there are too many or too few children in each area.

**Snack** - Label the fruit bowl with the number of items inside (up to 5). As children take an item, provide number cards (pictorial and numeral) so they can relabel the fruit bowl with how many are left.

**Water** - Provide 5 rubber ducks to encourage children to act out the 'Five Little Ducks' song. Use five frames to encourage children to count the animals back on to the five frame and to be able to see if there are less ducks than there should be.

**Maths Area** - Provide children with a table showing their number, one more and one less. Children to find things around the classroom to complete the table.

### Supporting Resources

Five Little Speckled Frogs

Five Currant Buns

Five Little Ducks by Penny Ives

Five Tiddly Widdly Tadpoles by Debbie Tarbett

Five Little Monkeys Jumping on the Bed by Eileen Christelow



Series 1  
Episode  
14



## Depth of Understanding – One More/Less

### Mystery Bag

Place three items in a feely bag. Tell the children that you think there are four items in the bag. Ask them to count the objects by feeling and tell you if you are right or wrong. Count the items out onto a large five frame to check if there are four. Use the language 'one more' and 'one less' to explain how many there are. 'I thought there were four objects. There are three. That's one less than four.'

Ask the children to help you count 3 objects into a bag. Add one more to the bag or take one out. Ask the children how many will be in the bag now. Line the objects on a five frame to check.

Build on this activity by dropping stones or pennies (up to 5) into a cup. Encourage children to count the sounds and know how much one more and one less would be.



### Possible Questions

How many objects can you feel in the bag?

How many pennies did I put in?

If I add one more, how many will there be?

If I take one out, how many will there be?

How many are in the bag/bucket now?

How do you know?

How can we check?

# Addition and Subtraction (1-5)

- Children will have an understanding of things being 'gone' or 'missing' and will learn the number name 'zero' and the symbol '0' to represent 'none'
- Children will understand that 0 is one less than one
- Children will understand that numbers can be made by combining other numbers including 0
- Children will explore the composition of numbers to 5 using five frames and the part-whole model
- Children will record their work using mathematical jottings

## EYFS Framework Objectives:

### Number ELG

- Automatically recall (without reference to rhymes, counting or other aides) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

## Small Steps



## Key Vocabulary

add    more    and    make    sum    total    altogether    one more, two more ... ten more    how many more to make ...?  
how many more is ... than ...?    how much more is ...?    take away    how many are left/left over?    how many have gone?  
one less, two less, ten less ...    how many fewer is ... than ...?    how much less is ...?    difference between



## introduce zero

### Teaching Points

Use popular counting back songs to show the one less pattern. Represent the buns with counters on a five frame alongside the numerals. What would happen when the last one is bought?



Look at different pictorial representations which show 'some' objects and some which show 'none'. Understand that '0' represents the absence of something



Represent numbers, including 0, using a variety of real objects and equipment. Show me 3 fingers, 0 fingers. Show me one clap, 0 claps.



### Continuous Provision

**Small World** - as the children play, prompt them to count and notice where they have 0 e.g. if all 5 frogs are on the log, how many are in the pool?

**Maths Area** - provide a range of loose parts and labelled pots including 0 for the children to count items into. Use picture cards to represent quantities including zero to match to numerals.

**Outdoor** - provide equipment for throwing and rolling games such as skittles and throwing beanbags into a bucket. Children to notice when they knock over 0 skittles or when 0 beanbags land inside the bucket. How would the score be recorded?

**Outdoor** - have a bag counting numerals from 0 to 5. Pull out a numeral to correspond with the amount of a task children must do. e.g. pull out a 3 for them to do 3 hops, etc...

### Supporting Resources

Five Little Men in a Flying Saucer - [https://www.youtube.com/watch?v=2E3p\\_51tJx0](https://www.youtube.com/watch?v=2E3p_51tJx0)

Five Little Ducks - [https://www.youtube.com/watch?v=TdDypyS\\_5zE](https://www.youtube.com/watch?v=TdDypyS_5zE)

10 in the Bed

Series 3 Episode 5



## number bonds to 5

### Teaching Points

*Use all the below to find number bonds for 1-5 (including 0)*

Use practical equipment to introduce number bonds to 5. E.g. through 5 bean bags into a hoop. How many land inside? Outside? Try with other amounts of bean bags up to 5.



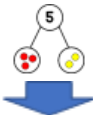
Introduce double-sided counters. Shake 5 and drop them on a table. How many are red, how many are yellow?



Sort the double-sided counters onto a five frame and use the stem sentence "The whole amount of counters is 5, one part is \_\_\_\_ and one part is \_\_\_\_"



Transfer the language of 'whole' and 'part' to introduce the part-whole model. Show the counters on the model.



Watch the Numberblocks episode 'The Whole of Me'

Play the bunny ears game. Hold some fingers up on each hand to make the total of 5



### Continuous Provision

**Numicon** - Use the Numicon to investigate which smaller numbers combine to make exactly 2, 3, 4 or 5. Check by sitting the smaller parts on top of the whole number. How many ways can you find?

**Construction** - Provide Unifix cubes in two different colours. Children to build a tower of 5. Compare the towers, looking at what is the same and what is different. Build towers of 2, 3 and 4.

**Outdoor** - Provide 5 children with 2 hula hoops labelled 'yes' and 'no'. Children take turns to ask a question and sort themselves into the hoops. Can you find a question which sorts children into 5 and 0?

**Water** - Set up a log in the water and provide 5 frogs for the children to re-enact the song. Sign the song as they play and count how many are on the log and how many are in the pool.

### Supporting Resources

Five Little Speckled Frogs

Five Little Ducks and Two Pools



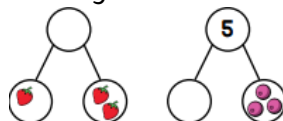
Series 1 Episode  
14-15



# Depth of Understanding – Addition & Subtraction

## What is missing?

Show the children a part-whole model with either one of the parts or the whole missing. Encourage children to use concrete objects or pictorial representations to help them explain how they know what is missing.



## Exploring possibilities

Show the children an empty feely bag. Together count 4 cubes into the bag. Take out an unseen amount. Ask the children to discuss how many could be in your hand and how many could be left in the bag. Repeat for other numbers to 5.

## Hidden bonds

Show the children 2 buckets. Explain that you have 3 pebbles hidden inside the buckets. Ask the children how many pebbles could be in each bucket. Repeat with other numbers to 5.



## Possible Questions

What is missing? How do you know?

Can you draw a picture to show me?

Can you show me with cubes?

How many cubes could I have in my hand?

How many could be left in the bag?

If I have \_\_\_\_ cubes in my hand, how many will be in the bag?

Could this bucket have 0 pebbles?

# Number and Place Value (6-10)

- Children will apply the counting principles (noted above) when counting forwards and backwards to 6, 7 and 8
- Children will represent 6, 7 and 8 in different ways and will count out the required number of objects from a larger group
- Children will use ten frames to subitise 6, 7 and 8 and see them as being 5 and 1, 5 and 2, and 5 and 3
- Children will continue to apply the counting principles when counting forwards and backwards to 9 and 10
- Children will represent 9 and 10 in different ways and will count out the required number of objects from a larger group
- Children will notice that a full ten frame represents 10
- Children will use ten frames, fingers and bead strings to subitise 9 and 10
- Children will compare numbers up to 10 by lining them up and counting each set and comparing their position in the counting order
- Children will order 3 or more sets of items and understand that a set can have more, fewer or the same amount of items as another set

## EYFS Framework Objectives:

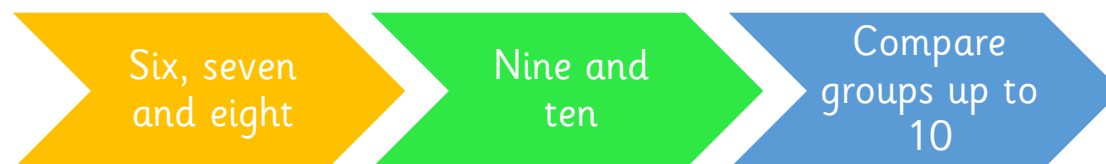
### Number ELG

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

### Numerical Patterns ELG

- Compare sets of objects up to 10 in different contexts, considering size and difference;

## Small Steps



## Key Vocabulary

zero    number    one, two, three ... to ten    none    how many ...?    count, count (up) to, count on (from, to), count back (from, to)    is the same as

more, less    odd, even    few    pattern    pair    ones    digit    the same number as, as many as    more, larger, bigger, greater    fewer,

smaller, less    fewest, smallest, least    most, biggest, largest, greatest    one more    one less    compare    order    size    first, second, third,

fourth, fifth    last, last but one    before, after    next    between

## counting to 6, 7 and 8

### Teaching Points

#### *Use ideas from counting to 5 also*

Discuss where the numbers 6, 7 and 8 are seen in real life.

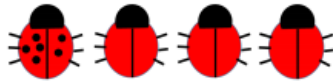
Make collections of 6, 7 and 8 objects from around the classroom



Count forwards and backwards to 6, 7 and 8 from 0



Show a ladybird and explore how many legs they have (6). Use counters to add 6 spots onto the halves of the ladybird. Can they find different ways of representing 6?



Repeat for 7 and 8

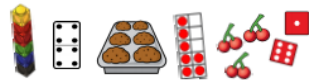


Investigate real-life situations which involve counting to 7 (days of the week, colours in a rainbow) Children to paint a rainbow with 7 colours (encourage the correct colours and order here).

Make rainbows using concrete objects but also including scrunching up paper and gluing onto a pre-made arch



Sort concrete and pictorial representations into 6, 7 and 8



Discuss other ways that 6, 7 and 8 could be represented, ensuring children see and recognise the numerals



Subitise 6, 7 and 8 as being 5 and 1, 5 and 2, and 5 and 3

### Continuous Provision

**Loose Parts** - Provide children with a range of small parts like buttons, beads, pebbles etc. and some ten frame. Children to count 6, 7 and 8 items onto the ten frames. *Ensure children make a row of 5.*

**Craft** - Make spiders with 8 legs using a paper plate and strips of paper. A good opportunity to work on motor skills by making the legs into zig-zags by folding the paper. Children may also know that spiders also have 8 eyes and could stick 8 googly eyes on!

**Outdoor** - Go on a minibeast hunt. Can they observe minibeasts and how many legs they have? Children could also draw the creatures they find.

**Weather Chart** - Provide a table, headed with the 7 days of the week. Record the weather daily and discuss what it is like today, what it was like yesterday and what they think it might be like tomorrow. How many sunny/rainy/cloudy/snowy days have we had?

### Supporting Resources

Days of the Week counting song

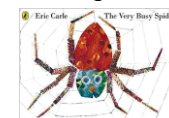
1, 2 Buckle My Shoe

Little Miss Muffet

The Bad-Tempered Ladybird by Eric Carle

The Very Busy Spider by Eric Carle

Series 2  
Episodes 1-3



## counting to 9 and 10

### Teaching Points

#### ***Use ideas from counting to 8 also***

Investigate the numbers 9 and 10 using concrete resources such as showing 10 fingers then showing 9. Children should recognise that they can show 10 without counting.



Introduce bead strings and show 10 and 9



Show 10 on a ten frame, recognising that the frame is full when there are 10 counters. Show 9 on a ten frame.



Count forwards from 0 to 10



Count backwards from 10 to 0



Explore dominos, how many can they find that show 10? 9?



Recognise that 9 and 10 can be broken into different parts



Count out 9 or 10 small objects. Can they find different ways to arrange the items?



Play a game of hopscotch and practice counting

### Continuous Provision

**Class Book** - Make a class counting book with a double page spread for each number 1-10. Stick in drawings or photographs of objects the children have collected. Discuss the different representations.

**Construction** - Provide a selection of bricks in different sizes and shapes. Children to make the tallest possible tower using 10 bricks. Discuss how they will place their bricks to make their tower as tall as possible.

**Outdoor** - Provide a starting line. Ask the children to take 9 giant steps, 9 tiny steps, 9 jumps, 9 tiptoes, etc. Who can travel the furthest/shortest? Repeat with 10.

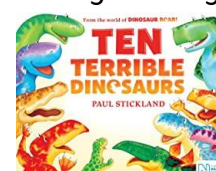
**Sand** - Add pebbles and shells into the sand pit. Set out buckets that have the numbers 6-10 on them. Children to put the right amount of items in each bucket.

### Supporting Resources

How do Dinosaurs Count to 10? by Jane Yolen & Mark Teague

Ten Terrible Dinosaurs by Paul Stickland

Feast for 10 by Cathryn Falwell



Series 2  
Episodes 4-5





## comparing groups to 10

### Teaching Points

Ensure children recall the vocabulary 'the same as', 'more than' and 'fewer than' and understand when each is used



Ask questions to make comparisons using real scenarios such as comparing who is packed lunch and who's hot dinners, how did people get to school and holding a vote for things in the class



Find dominos which have a given amount of spots. Can they make sets of dominos with more and fewer spots?



Play a game with dominos (up to 10) – turn them face down and choose one. Count how many spots on each domino. Whoever had the most gets a point. Explore how to record the points.



Fill a feely bag with Numicon. Children to work in groups of 3 to take it in turns to take a Numicon from the bag. Can they identify the number they have before they pull it out? Work together to compare the shapes.



Order 3 or more pieces of Numicon

### Continuous Provision

**Writing Area** - Children to build their name with letter blocks or write their name. How many letters are in their name? Does their friend have more or less letters in their name?

**Funky Fingers** - Make a caterpillar by threading 5 beads onto a pipe cleaner. Children to make caterpillars with more or fewer beads. Compare the caterpillars using 'longest' and 'shortest'. Order them from shortest to longest and vice versa.

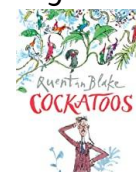
**Outdoor** - Play skittles with 10 pins. Record the amount they knock down each time. Did they knock down more or fewer than last time? Did they knock down more or fewer than their friend? Are their more skittles standing or knocked over?

**Loose Parts** - Provide children with a collection of items to sort. Encourage the children to sort the items into sets and then compare the quantity in each set.

### Supporting Resources

Cockatoos by Quentin Blake

Mr. Magnolia by Quentin Blake



Series 3 Episode 11



## Depth of Understanding – 6-10

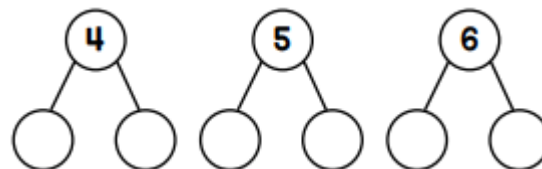
### Dot Cards

Provide children with dot cards from 0 to 5:



Ask the children to arrange the 6 plates onto the part-whole models so that they have:

- A pair of plates with a total of 4 dots
- A pair of plates with a total of 5 dots
- A pair of plates with a total of 6 dots



Find multiple ways to solve the problems.

### Exploring possibilities

Explore this problem: Jack rolled 2 dice and scored 10. Amir scored less than Jack. One of Amir's dice showed 5. What other number could Amir have rolled? Is there more than one answer? Which number could Amir not have rolled? Why?

### Possible Questions

How many dots does each card have?

How many dots are there on these 2 cards together?

Can you find 2 cards which have 4, 5, 5 dots?

Is there more than one way to make 4, 5, 6 dots?

Can you find more than one way to arrange your 6 cards on the part-whole model?

# Addition and Subtraction (Addition to 10)

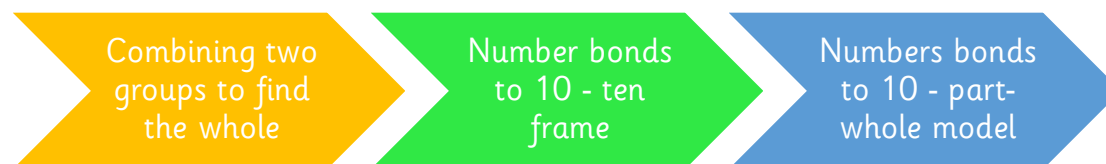
- Children will combine 2 groups to find how many there are altogether (aggregation)
- Children will use a range of real objects, manipulatives and pictorial representations to show the combination
- Children will subitise after counting in ones to find how many altogether
- Children will use a part-whole model to show the relationship between the parts and the whole (including with a part or the whole missing)
- Children will explore number bonds to 10 using ten frames (using the 5-and-a-bit and pair structures)
- Children will use the part-whole model to continue to explore number bonds to 10
- Children will see the part-whole model in different orientations so the whole is not always at the top

## EYFS Framework Objectives:

### Number ELG

- Automatically recall (without reference to rhymes, counting or other aides) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

## Small Steps



## Key Vocabulary

add    more    and    make    sum    total    altogether    double    one more, two more ... ten more    how many more to make ...?  
how many more is ... than ...?    how much more is ...?    take away    how many are left/left over?    how many have gone?  
one less, two less, ten less ...    how many fewer is ... than ...?    how much less is ...?    difference between

## combining two groups to find the whole

### Teaching Points

Use concrete resources to combine 2 groups of objects to make a total up to 10 – could use bead strings or a Rekenrek here



Use pictorial representations to understand the language of 'whole' and 'parts' e.g. how many red/green leaves? How many altogether?



Provide pictures of scenes where there are multiple opportunities to combine 2 groups using conceptual variation (e.g. children could add small and large fish or large fish and octopuses or blue octopus and yellow octopus, etc...)



Use part-whole models to combine 2 groups – concrete and pictorial before moving on to dots and numerals



### Continuous Provision

**Snack** - Work with groups of up to 8 children. Explain there are 2 choices for snack. Choose 2 of the group to be the waiters and ask what everyone would like.

**Funky Fingers** - Provide a coat hanger and up to 10 pegs. Ask the children to put the pegs onto the hanger and to explore how their number can be partitioned in different parts and recombined to see the whole.

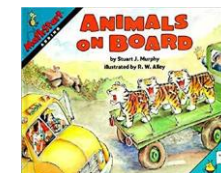
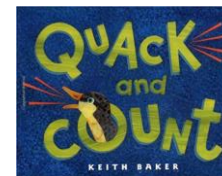
**Small World** - Look for opportunities to combine 2 groups during independent play. e.g. How many cars do you have? How many does your friend have? How many do you have altogether?

**Construction** - Provide blocks or cubes in 2 different colours. Ask the children to explore different ways of combining the 2 colours to make towers of different sizes.

### Supporting Resources

Quack and Count by Keith Baker

Animals on Board by Stuart Murphy



Series 1 Episode 12



## number bonds to 10 – ten frame

### Teaching Points

Ensure children see two ways to represent numbers on a ten frame

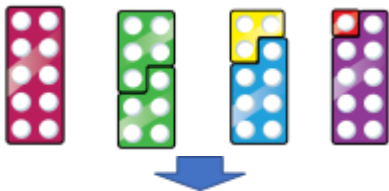


Children to build 10 on the 10 frames using counters, cubes or any other objects with 2 distinct groups, e.g.



Partly fill a 10 frame and children to say how many more items are needed to make a whole 10

Use 2 Numicon pieces to cover a 10 piece in different ways



Place one of each Numicon into a feely bag and have pictorial representation for children to refer to. Children to draw one piece out and represent it on a ten frame. What other Numicon piece would be needed to make 10?

### Continuous Provision

**Outdoor** - Place 10 chairs into 5 rows of 2 to resemble the seats on a bus. Ask how many passengers there are on the bus, how many more could ride on the bus, how many more are getting on/off at the next stop and how many are on now.

**10 Hunt** - Hide 10 items around the outside area and chalk a large 10 frame onto the ground. Children put the items into the 10 frame to help them see how many they have found and how many they have left to find.

**Carpet Games** - Have ten frame cards showing 1-10 (5 and a bit and pair)

Memory game: place the cards upside down. Children take it in turns to turn over the cards and match pairs.

Fish: Share out the cards. Make bonds to 10. e.g. if a child has 4 they will ask if anyone has a 6

Bunny ear bonds: Children work in pairs to make bunny ears which total 10

### Supporting Resources

#### Number bonds rhyme:

5 and 5 add up to 10  
6 and 4 make it again  
7 and 3 they also do  
Guess what! So do 8 and 2  
9 and 1, 10 and 0

Learn them all, you're a number bond hero!

Series 3 Episode 15

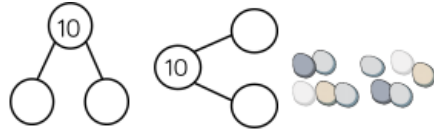


## number bonds to 10 – part-whole model

### Teaching Points

Provide part-whole models – shown in different orientations (with the 10 numeral as the whole) and a selection of concrete resources (cubes, cars, counters, etc).

Explore different ways that 10 can be made



Use beads and string for children to make their own bead strings using 10 beads



Children split the beads to show the bonds to 10, exploring all the possibilities



Hide some of the beads in your hand. Children to work out how many are hidden by looking at the remaining beads.



### Continuous Provision

**Role Play** - Provide 10 soft toys to encourage children to re-enact 10 in the bed in their independent play. Count how many are left in the bed and how many have fallen out. Use double-sided counters to represent the bears on a part-whole model.

**Small World** - Ask the children to build 2 fields and collect 10 farm animals. How many ways can the children find to arrange their 10 animals in the 2 fields? Can they record the ways they found on a part-whole model?

**Outdoor** - Provide a bucket and 10 items to throw. Take it in turns to throw the beanbags into the bucket. How many have landed inside/outside the bucket?

**Outdoor** - Provide children with 10 green bottles in a variety of shapes and sizes (e.g. 7up bottle, cleaned detergent bottle). Arrange them in size order on a wall. Encourage the children to count how many bottles have fallen and how many are left after each verse. Can this be represented on a part-whole model?

### Supporting Resources

Ten Green Bottles song

10 pin skittles

Series 3 Episode 15





## Depth of Understanding – Addition to 10

### Dice magic

Give each child a dice (could use large ones or standard size). Ask the children to roll the dice. Explain that you have a secret way to work out what number is on the bottom of each dice without looking (opposite numbers add to 7). Tell them and ask them to check. Record the pairs of numbers on the top and bottom of the dice. Allow children to discover the pattern. Encourage children to try the trick themselves and try it on their friends and family.



### Pots to 10

Provide pots labelled with numbers 1-10 and a selection of concrete resources (beads, cubes, pebbles, cars, etc.) Ask the children to count the correct number of beads into each pot. Can they find 2 pots which have 10 beads in total? Is there more than one way to do it? Can they find a way to make 10 by combining 3 pots? Is there more than one possible way? Children to draw what they see on a part-whole model.



### Possible Questions

What number did you roll?

Do you get the same number on the bottom each time you roll that number?

What do you notice about the top and bottom pairs?

Can you explain how to do the trick?

Can you tell me what is on the bottom of my dice?

Can you find 2 pots which have 10 beads in total?

# Weight and Capacity

- Children will apply their previous experiences of holding heavy and light items
- Children will use their hands to make direct comparisons to estimate which item feels the heaviest
- Children will use balance scales to weigh two items against each other to find which is heaviest and lightest
- Children will use comparison vocabulary in the context of weighing
- Children will see that bigger items are not always heavier than smaller items and vice versa
- Children will use non-standard units of measure such as cubes and blocks to balance various real items and record the weight using the non-standard unit
- Children will understand that the non-standard units must be exactly the same (e.g. can't use different types of cubes to measure a single item)
- Children will apply their previous understanding of containers being full and empty
- Children will recognise half full, nearly full and nearly empty
- Children will use a range of materials to investigate capacity – water, sand, rice etc
- Children will use smaller containers to find the capacity of larger containers (e.g. how many spoons of water do you need to fill a cup?) and record the capacity using the non-standard unit

## EYFS Framework Objectives:

### Maths Educational Programme

- children's curiosity about number, shape, space and measure should be encouraged and furthered through opportunities to apply their growing understanding of the mathematical world to the world around them

## Small Steps



## Key Vocabulary

heavy    light    full    empty    holds    container

# weight

## Teaching Points

Work on estimating the mass of objects by holding one in each hand and identifying which is lighter/heavier



Hold a bucket in each hand to weigh objects and feel the downward pull – which has the strongest? Weakest?



Use the balance scales to weigh the objects against each other to check the children's estimations



Hold an object such as a piece of fruit. Children to go around the classroom, finding objects which are heavier or lighter and sort the objects on a simple table



Use the balance scales again to check their estimations



Use a balance scale to balance different items, adding cubes to the other side until the scale is balanced



Count the amount of cubes an object weighs, using a ten frame to support (explore 5-and-a-bit and double model)

## Continuous Provision

**Loose Parts** - Provide a set of balance scales and an assortment of concrete resources like cubes, blocks and marbles. Encourage children to use the mathematical vocabulary of 'heavier than' and 'lighter than' as they investigate.

**Role Play** - 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? Lightest? Are larger parcels always heavier? Are smaller parcels always lighter?

**Outdoor** - 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?

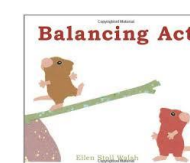
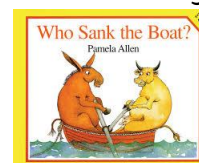
**Dough** - Add a set of balance scales to the dough area and encourage the children to compare the weight of different size balls. They could also use different concrete resources to balance the dough on the scales.

## Supporting Resources

Who Sank the Boat by Pamela Allen

How Much Does a Ladybird Weigh? by Alison Limentani

Balancing Act by Ellen Stoll Walsh



# capacity

## Teaching Points

Explore capacity with different containers (without scales) and different materials including water, sand, rice, cubes, etc...



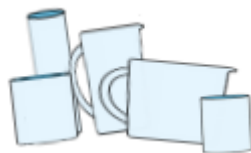
Use language of 'full', 'empty', 'nearly full', 'nearly empty' and 'about half full'



Find containers which hold more/less than their container



Use a range of containers (cups, buckets, boxes, bowls, etc) to investigate which one holds the most. Children to pour from one container to another.



Fill a small cup with material and pour it into a larger container and measure how many cups it takes to fill it Record using own methods (ten frame, cubes, pictorial representations, etc.)



Compare the amount of cubes or beads each container will hold



Compare and order containers based on their capacity

## Continuous Provision

**Loose Parts** - Create a filling station by providing a variety of concrete resources and different sized and shaped containers to fill. Ask the children to estimate first before filling the containers and counting to check.  
Larger quantities

**Mud Kitchen** - Provide a range of pans, bowls, spoons and ladles for the children to use. Add laminated recipe cards to encourage children to measure out ingredients. Children could also design their own recipe cards using the non-standard units

**Outdoor** - Provide a small matchbox for each child. Ask them to hunt for things to put inside. Give a set criteria such as 'who can find the smallest leaf?'

**Sand** - Act out the different songs we have been singing this week. Provide children with 5 ducks or 5 frogs. Can the children sing the song and act out the movements to count backwards from 5?

## Supporting Resources

Goldilocks and the Three Bears

There's a Hole in my Bucket! - <https://www.youtube.com/watch?v=xzm9urjQbWU>

## Depth of Understanding – Weight and Capacity

### How much does a \_\_\_\_\_ weigh?

If possible, use the book 'How Much Does a Ladybird Weigh?'. Provide a selection of objects like pebbles, beads or cubes to use on balance scales for children to create their own equivalences. For example, they might find that 5 beads weigh the same as one pebble and 3 pebbles weigh the same as one cube. Children to record their findings using mathematical jottings.



### Possible Questions

What weighs the same as one \_\_\_?

If three beads weigh the same as one pebble, how many beads will weigh the same as two pebbles?

Do all the pebbles/beads/cubes have the same weight?



**Spring Term**



# Number and Place Value (to 10) RECAP

- Children will recap their understanding of counting to 10 using a range of concrete and pictorial representations
- Children will explore Numberblocks resources to see the composition of numbers to 10 in different ways
- Children will compare numbers within 10 using vocabulary 'larger than' and 'fewer than'
- Children will find one more than a number within 10 using a range of resources including concrete resources, ten frames and pictorial representations
- Children will find one less than a number within 10 using a range of resources including concrete resources, ten frames and pictorial representations

## EYFS Framework Objectives:

### Number ELG

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

### Numerical Patterns ELG

- Compare sets of objects up to 10 in different contexts, considering size and difference;

## Small Steps



## Key Vocabulary

zero	number	one, two, three, four, five	none	how many ...?	count, count (up) to, count on (from, to), count back (from, to)	is the same as			
more, less	odd, even	few	pattern	pair	ones	digit	the same number as, as many as	more, larger, bigger, greater	
fewer, smaller, less		fewest, smallest, least		most, biggest, largest, greatest	one more	one less	compare	order	size
		first, second, third, fourth, fifth		last, last but one	before, after	next	between		

**Use the teaching points, resources and continuous provision ideas from the previous place value block to recap and consolidate the number system to 10. Take as much or as little time as you need at this point as it is vital that children are secure in their knowledge of counting within 10 in many ways, before moving on to the next stage of learning.**

# Time

- Children will order important times in their day (school day and non-school day – e.g. the weekend or school holidays)
- Children will use positional language to describe when events happen – now, before, later, soon, after and next
- Children will develop an understanding of the linear nature time and use the vocabulary 'yesterday', 'today' and 'tomorrow' to describe when relative events happen
- Children will measure time in simple ways e.g. the number of sleeps to an event
- Children will use simple timers to measure durations of real-time events and activities

## EYFS Framework Objectives:

### Maths Educational Programme

- children's curiosity about number, shape, space and measure should be encouraged and furthered through opportunities to apply their growing understanding of the mathematical world to the world around them

## Small Steps



## Key Vocabulary

time	days of the week	Monday, Tuesday ...	day	week	birthday	holiday	morning	afternoon	evening	night			
bedtime	dinner time	playtime	today	yesterday	tomorrow	before	after	next	last	now	soon	early	late
quick	quicker	quickest	quickly	slow	slower	slowest	slowly	old	older	oldest	new	newer	newest
takes longer						takes less time							

## my day

### Teaching Points

Relate time to the school day. Use a visual timetable to look at important events in the day.



Order the events each day and talk about what we are doing 'now', 'next' and 'later'



Use the vocabulary 'yesterday', 'today' and 'tomorrow' to discuss real-life events as part of a discussion



Use a calendar to introduce time durations and measure time by 'number of sleeps' to important events



Use pictures to order familiar activities and stories using key language to describe the sequence e.g. getting ready for school



Introduce the vocabulary 'minutes' and 'seconds' to the children



Allow children to feel how long a minute is and how long a second is



Provide a range of timers (sand timers and stopwatches) that measure different lengths of time. Children choose a timer and see what they can do in that period of time. Choose how to record the result e.g. in a ten frame or using numerals

### Continuous Provision

**Home Corner** - Put a calendar into the home corner. Can we put everyone's birthdays onto the calendar? Whose birthday is next? Can we put other important events on the calendar? How many sleeps is it until the next important event?

**Cooking Area** - Make recipe pictures for each of the recipes we use. Use the pictures in a recipe book and order the pictures so children can use them to follow the recipe. Can children think of their own recipes and order the recipe cards? Can we make a recipe book for the home corner?

**Outdoor** - Set up a circuit around the outdoor area. Challenge the children to see how much of each activity they can do in one minute. Use minute timers to measure the activity.

**Water** - Provide a fishing rod/net and fish in the water area. How many fish can the children catch in 30 seconds? Use a timer to measure the activity and then check the number by counting the fish out on to a ten frame.

### Supporting Resources

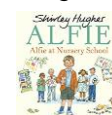
The Bad-Tempered Ladybird by Eric Carle

The Very Hungry Caterpillar by Eric Carle

A Second is a Hiccup by Hazel Hutchins

Peace at Last by Jill Murphy

Alfie at Nursery School by Shirley Hughes



## Depth of Understanding – Time

### **Obstacle Course**

Make an obstacle course in the outdoor area. What do we do first? What comes next? Can we make picture cards to explain the instructions to other children? Use a timer to measure how long it takes each child to complete the obstacle course. How will we know if we get faster at completing the course? Will the number of minutes go up or down? How can we work out who comes first? Can we count aloud to measure how long it takes us to complete the course? Encourage the children to make their own obstacle courses that take a longer or a shorter time.

### **Football**

Set up some goal posts and ask the children to score as many goals as they can in 2 minutes. Each time they score a goal, they can collect one bean bag (or other object) and take it back to their bucket. At the end of the 2 minutes ask each child to count their bean bags. How many goals did they score? Repeat the activity. If the children want to score more goals, ask them to decide whether they will need to work quicker or slower. Count the bean bags again and children to see if they have beaten their score. Could compare using ten frames.



### **Possible Questions**

What do we need to do first?

What do I do next/after than/then?

How many minutes did you take?

Who was the fastest?

Did they take more minutes or less minutes than you?

How many goals did you score?

How could you score more goals this time?

# Number and Place Value (to 20)

- Children will use understanding of numbers to 10 to count to 20, using the counting principles
- Children will learn the number names for numbers to 20 in order
- Children will match number names, quantities and symbols for numbers to 20
- Children will build on their understanding that, the last number we count is the total of the set
- Children will understand that each number is one more than the number before when counting
- Children will build 'staircases' with Unifix cubes or other resources to show the growing pattern within numbers to 20

## EYFS Framework Objectives:

### Number ELG

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

### Numerical Patterns ELG

- Compare sets of objects up to 10 in different contexts, considering size and difference;
- Count confidently beyond 20, recognising the pattern of the counting system;

## Small Steps



Counting  
to 20

## Key Vocabulary

zero	number	one, two, three ... to twenty and beyond	teens numbers, eleven, twelve ... twenty	none	how many ...?
count, count (up) to, count on (from, to), count back (from, to)	is the same as	more, less	odd, even	few	pattern
the same number as, as many as	more, larger, bigger, greater	fewer, smaller, less	fewest, smallest, least	most, biggest, largest, greatest	ones
more	one less	compare	order	size	first, second, third, fourth, fifth
					last, last but one
					before, after
					next
					between

# counting to 20

## Teaching Points

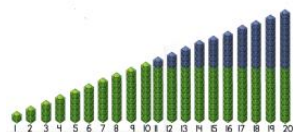
*Use ideas from previous place value blocks*

Introduce the children to the numbers 11-20, learning the names in order

Match the names and numerals for 11-20 with quantities and pictorial representations

Ensure children understand that as we count, we are adding one more to the number we have just said

Build staircases using Unifix cubes to show the pattern of numbers within 20



Watch the Numberblocks episodes: Series 5: Episodes 2 and 14 to explore numbers to 20 further

Play Last man standing (a variation of the game '21' but with numbers to 20)

Represent numbers to 20 in different ways using concrete and pictorial representations



Children to match pictorial representations for numbers to 20 with the corresponding numerals. Make sure to use representations for ten frames here also (5-and-a-bit and doubles representations)



## Continuous Provision

**All Areas** - Provide children with a variety of objects such as shells, buttons, beads, pebbles or cubes for the children to count. Encourage the children to estimate how many first and to arrange the items onto 10 frames as they count to help them see the full 10 and part of the next 10.

**Don't Say 20** - A game for 2 players. On their turn, the players choose to continue the count with 1, 2 or 3 numbers. The next player continues the count. Whoever says 20 is out. Use 2 ten frames to build and represent the numbers to support.

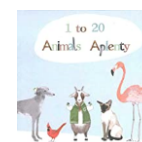
**Race to 20** - Provide a number track from 1-20 for each child. Children take turns to roll a dice. If they roll 1-5, they collect the corresponding counters to fill their track. If they roll a 6, they go back to the start.

**Bingo** - Have sets of numerals from 11 to 20 and corresponding pictorial representations (Numicon, ten frames, etc.) Ask the children to choose 4 picture cards each. Hold the numeral cards up one by one. If the children have a matching picture they place a counter on their card. The first player to cover all their cards wins.

## Supporting Resources

Numbers to 20 song - <https://www.youtube.com/watch?v=D0Ajg682yrA&v=en>

1 to 20, Animals Aplenty by Katie Viggers



Series 3 Episodes 21 – 30

Series 4 Episodes 1-15





## Depth of Understanding – Numbers to 20

### One more, one less

Use Unifix cubes to build a teen number. Ask the children to identify which number you have made and discuss what one more and one less would be. Encourage them to build each number and line them up to check. Can they continue the game beyond 20? What patterns can they find?

### Spot the Mistake

Make deliberate errors whilst counting up and down. Ask the children to listen carefully and stop you if they hear something wrong. Errors can include omitted numbers, repeated numbers or numbers in the wrong place. You could also play this game by asking children to watch carefully as you write number sequences.

12, 13, 41, 15, 16  
18, 17, 16, 14, 13

### Possible Questions

What weighs the same as one \_\_\_?

If three beads weigh the same as one pebble, how many beads will weigh the same as two pebbles?

Do all the pebbles/beads/cubes have the same weight?

# Geometry

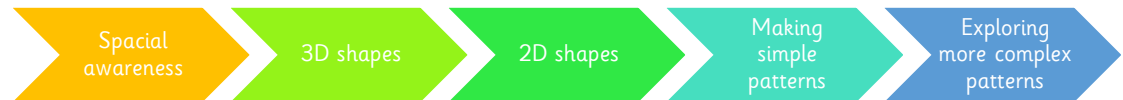
- Children will hear and use positional language to describe the relative position of items against other items
- Children will begin to represent real places they have visited or places in stories with drawings, maps and models
- Children will build life-sized journeys outdoors and travel through them, exploring them from different perspectives
- Children will explore 3D shapes through play and modelling
- Children will be introduced to the names for shapes: cube, cuboid, pyramid, cylinder, sphere and cone
- Children will explore similarities and differences between them and sort them according to simple characteristics (e.g. if they have flat parts, pointy parts, etc.)
- Children will consider which objects are good for stacking and which objects roll
- Children will link 3D solids with real-life examples (such as a Pringles can, a football and a box of cereal)
- Children will construct their own 3D shapes in different ways, such as with Play-Doh
- Children will see 2D shapes on the flat faces of 3D shapes and will name squares, rectangles, triangles and circles in different orientations
- Children will compare 2D shapes and say what is the same and what is different; they will also explore how shapes can be combined to make new shapes using resources such as tangrams
- Children will see and hear repeating patterns of increasing complexity and copy them in a range of ways including aural, pictorial and concrete

## EYFS Framework Objectives:

### Maths Educational Programme

- children's curiosity about number, shape, space and measure should be encouraged and furthered through opportunities to apply their growing understanding of the mathematical world to the world around them

## Small Steps



## Key Vocabulary

shape pattern flat curved straight round hollow solid sort make build draw size bigger larger smaller repeating pattern match corner side rectangle (including square) circle triangle cube pyramid sphere cone position over under above below top bottom side on in outside inside around in front behind front back beside next to opposite apart between middle edge corner direction left right up down forwards backwards sideways across next to close near far along through to from towards away from movement slide roll turn stretch bend whole turn half turn

## spatial awareness

### Teaching Points

Introduce positional language and model using real-life situations: into, on top, under, over, around, through, etc.



Practice using positional language on a daily basis, particularly during activities such as tidying up e.g. put the bricks into the basket and sit teddy on the shelf next to the books.



Use different stories which focus on journeys. Use actions to represent the language such as 'over', 'under', 'around' and 'through'



Sequence familiar journeys by drawing pictures or maps, e.g. the journey to school, plotting places they pass on the way



In the outdoor environment, build large-scale representations of places and journeys and use trikes to carry out the journey



### Continuous Provision

**Outdoor** - Set up an obstacle course around the outdoor area. Ask the children to work in pairs - one giving directions to the other. Encourage the children to create their own obstacle courses.

**Small World** - Modelling and encouraging positional language as the children play in the small world. e.g. "Let's put the horse behind the tree", "The doll is on the chair beside the windows."

**Outdoor** - Set up your own bear hunt by hiding bears around the outdoor area. Ask the children to describe where they could look and where each bear was found. Could extend this to a take on "Elf on the Shelf" each day but with a bear.

**Reading** - As you read together, take the opportunity to build in positional language.

### Supporting Resources

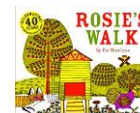
We're Going on a Bear Hunt by Michael Rosen

Rosie's Walk by Pat Hutchins

Little Red Riding Hood

Mrs. Wishy-Washy by Joy Cowling

Me on a Map by Joan Sweeney



## 3D shapes

### Teaching Points

Show 3D shapes using real objects such as Pringles tubes, footballs, party hats, etc. Children to identify that they are different shapes by feeling and looking at them.



Look at 3D shapes using solids resources. Choose one of the shapes and ask the children to tell their partner as many things as they can about the shape – can it be rolled? Does it have points? Is it smooth? Does it have flat parts? Can you stack them?



Using a 3D shape, ask children to find similar shapes from around the classroom using a combination of real objects and 3D solids. Children to find different shapes and explain how they are different.



Sort 3D shapes into different groups and encourage children to explain why they have grouped them in that way. Find different ways to group.



Build a tower using 3D blocks. Which shapes are best for stacking? Which shapes work best on top? (pyramid and cone) Are there any shapes which are not good for building? (spheres, children may also see that cylinders can be stacked on the circular faces but not on the curved surface so encourage different orientations)



Introduce the names for cylinders, cubes, cuboids, spheres, cones and pyramids. Children to match the names to the solids and pictorial representations

### Continuous Provision

**Construction** - Provide pictures of palaces, temples, churches, cities, etc. What shapes can you see in these buildings? Can you build your own model? Which shapes will you use? Which shapes work best at the bottom? Which shapes work best at the top? Why?

**Modelling** - Provide a range of empty boxes, tubes, lids etc. Ask the children to make a model for a particular purpose e.g. build a new chair for baby bear. Encourage children to tell you about their model. Which shapes were easy to fasten together? Which were difficult? Why?

**Outdoor** - Choose a shape to roll to your partner. Why did you choose that shape? Does every shape roll? Which shapes will roll and which don't? What do you notice about the set of shapes that roll and the set of shapes that don't roll?

**Dough** - Ask the children to make 3D shapes using the dough. Which shapes are the easiest/hardest to make? Why? Did you use any equipment to help you make a flat side?

### Supporting Resources

Construction sets which can be used to build models of 3D shapes, e.g. polydron

A variety of everyday object in different shapes and sizes such as boxes, tubes, balls, etc.



## 2D shapes

### Teaching Points

Use 3D solids to print and notice that they make different shapes



Introduce the names for circles, triangles, rectangles and squares and have children match the names to the pictorial representations



Ensure children understand the difference between straight and curved lines



Show the children a variety of 2D shapes in different sizes and orientations on the IWB. Choose one of the shapes for the children to describe using language 'straight' and 'curved'



Reinforce that shapes shown in different orientations is the same shape



Show a picture which has been made of different 2D shapes. What shapes can they see in the picture? How many squares, rectangles, triangles or circles can they count?



Go on a shape hunt around the classroom and the outdoor environment to find 2D shapes on the surfaces of everyday objects

### Continuous Provision

**Printing-** Ask the children to explore which 2D shapes they make as they print with the flat faces of the 3D shapes. Which 3D shapes will print a triangle? Which will print more than one shape? Can children match the prints to the 3D shapes?

**Loose Parts-** Provide a selection of concrete materials and some frames or paper. Ask the children to make pictures and patterns. Which shapes can they see in their art work? Which objects are the best for making curved shapes? Which make the best straight shapes?

**Outdoor** - Use planks, sticks or ropes to create large 2D shapes. Can they make stick triangles? Squares? 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?

**Dough** - Press the 3D shapes into the dough. What 2D shape did it make? Can you make a pattern? Are there any 3D shapes which make more than one 2D shape in the dough? Which 3D shapes will leave a square/triangle on the dough?

### Supporting Resources

Tangrams and pattern blocks to show how shapes can be combined or partitioned to make new shapes and patterns

The Shape Book series  
by Mac Burnett and Jon Klassen



Series 3 Episode  
16



## making simple patterns

### Teaching Points

Demonstrate simple AB action patterns such as: clap, click, clap, click or hands up, hands down, hands up



Children notice the pattern and begin to copy it



Children suggest a new AB pattern that everyone can join in with



Extend to ABC patterns e.g. clap, click, stamp



Start and follow AB and ABC patterns around a circle e.g. stand up, sit down, hands on head



Use aural patterns to chant together. Start with opposites like yes/no, up/down, in/out, etc.



Use phonic learning to form a pattern using sounds they know, eg. ch, sh, ch, sh



Spot simple patterns in shapes and colours



Create simple patterns using Unifix cubes and other concrete resources



Create patterns using pictorial representations – e.g. colouring in teddy bears, cubes, etc



Continue simple patterns using concrete and pictorial representations

### Continuous Provision

**Maths Area-** Use the maths resources such as Numicon, dice, cubes, counters and peg boards to make repeating patterns of their own. Can their friends copy and continue their patterns?

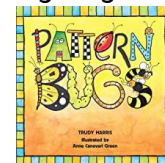
**Snack** - Arrange the snack in simple repeating patterns. Encourage the children to describe and continue the pattern. You can challenge children by adding a deliberate error and asking them to spot and correct it. They could make patterns of their own and challenge their friends to spot their mistake.

**Outdoor** - Read 'We're Going on a Bear Hunt'. Encourage the children to build their own bear hunt journeys using the outside equipment and to repeat the patterned language from the story as they travel through them. They might also invent language patterns of their own.

**Dough** - Use 3D shapes to press patterns into the dough. Can their friends tell which shapes they used and copy the patterns? They can also make patterns on the dough using objects such as shells, stones, beads or buttons.

### Supporting Resources

Tongue twisters e.g. red lorry, yellow lorry  
Clap Your Hands and Wiggle Your Fingers - <https://bit.ly/38dxbcb>  
Pattern Bugs by Trudy Harris



Series 3 Episode 17



## exploring complex patterns

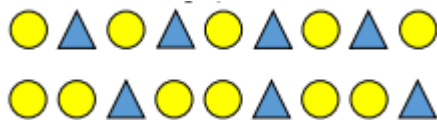
### Teaching Points

*Use ideas from the previous step also*

Explore patterns which use items more than once in each repeat such as ABB, AAB, AABB, AAABB. This can be introduced with clapping or with the song 'We Will Rock You' by Queen



Show the children an AB pattern using either concrete resources or pictorial representations and a similar AAB patterns for them to describe what they notice. What is the same and what is different?



Children to make their own AB, AAB and ABB patterns using cubes, counters or other concrete resources which have two different colours



Children to explore forming other patterns using their resources, describing the pattern to their friends – make the use of objects from inside and outside the classroom



Continue complex patterns using concrete and pictorial representations

### Continuous Provision

**Musical Instruments** - Provide a range of different instruments such as drums, beaters and shakers and encourage the children to play patterns using the instruments. This could be made into a game with one child playing a pattern whilst the rest face the other way. The listeners then try and work out which instruments were used and replicate the pattern.

**Snack** - Provide a selection of fruit in small pieces such as grapes, banana slices, apple chunks etc. Allow the children to design their own fruit kebab patterns. Encourage the children to compare their kebabs with their friends.

**Outdoor** - Go on a walk around the outdoor environment to hunt for natural objects to make patterns such as sticks, dandelions, daisies, leaves, etc. These can then be arranged on a line or around a hula hoop in a repeating pattern.

**Loose Parts** - Provide the children with a range of objects such as buttons, beads, pebbles, shells or seeds. They can use these to create a variety of different patterns on different lines such as circular, spiral or zig zag.

### Supporting Resources

Duck, Duck, Goose game

We Will Rock You by Queen – <https://bit.ly/3eKo5pF>

AAB Pattern Song - <https://bit.ly/3ibGZYP>

Series 3 Episode 17





## Depth of Understanding – Geometry

### Treasure Hunt

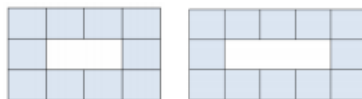
Set up a treasure hunt in the outdoor space by providing a series of pictorial clues. As the children go to each place in the pictures, they can hunt for the next clue. Prompt them to use positional language to explain where they need to go. Hide 'treasure' in the shape of some sort of prize in the last place.

### What's my rule?

Think of a rule to be used with 2D and 3D shapes, e.g. shapes with curved sides, 4 corners or which have a triangle. Using concrete shapes and a hula hoop, sort the shapes into those that follow the rule and those that don't (placed outside the hoop). Ask the children if they can identify the rule.

### Which patterns fit?

Provide frames with a set number of spaces and cubes or counters in different colours. Ask the children to build patterns around the edge, putting one item in each space. Ask them to try different patterns to investigate which will fit around the frame exactly and which won't: AB, ABC, ABB, AAB, AABB, AABBC



### What's my pattern?

Use lining up time as an opportunity to practice pattern spotting. Ask one child at a time to go and line up creating a pattern such as boy, girl, boy, girl. Ask children if they can see the rule. Who do you think could join the line next? Ask the children to come up with their own patterns and challenge the rest of the class to work out the pattern.

## Possible Questions

What do you notice about all the shapes?

Can you explain what my rule is?

Why does this shape not belong in the set?

Can you find an item in the classroom which could join my set?

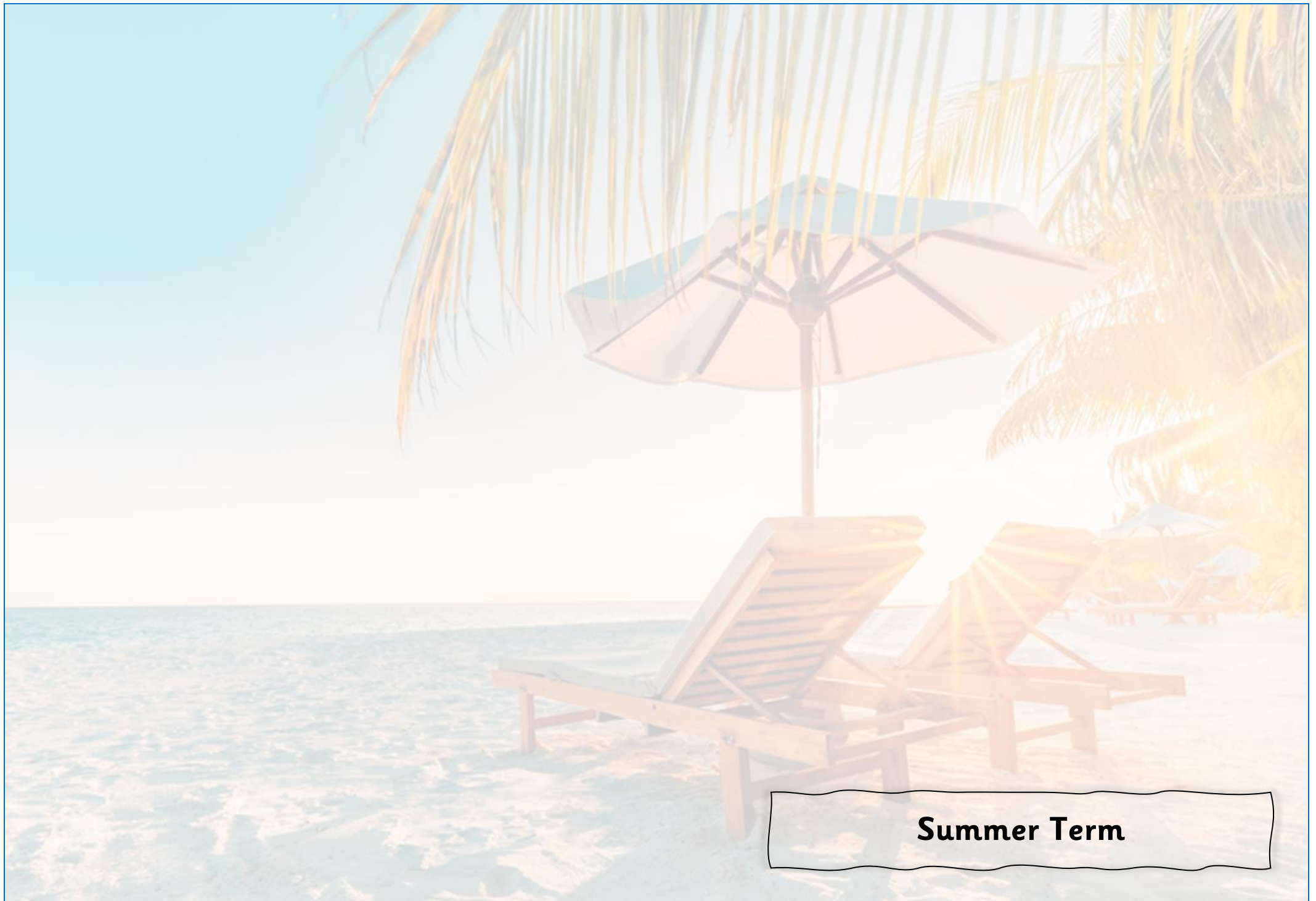
Can you think of a rule to sort the shapes?

Which patterns will fit exactly into the frames?

Are there any patterns which fit exactly around both frames?

How many spaces did you need for a pattern that wouldn't fit?

Which of your partners fitted exactly? Which didn't fit?



**Summer Term**

# Addition and Subtraction

- Children will use concrete resources to see that the quantity of a group can be changed by adding more and that the total is increased (augmentation)
- Children will explore the 'first, then and now' structure to create mathematical stories in contexts
- Children will represent number stories using a range of representations such as ten frames, number tracks and fingers
- Children will use concrete objects to see that the quantity of a group can be changed by removing some and that the total is decreased (take-away model)
- Children will count out all of the items at the start of the number story, take away the required amount practically and recount to see how many items are left

## EYFS Framework Objectives:

### Number ELG

- Automatically recall (without reference to rhymes, counting or other aides) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

## Small Steps



## Key Vocabulary

add    more    and    make    sum    total    altogether    one more, two more ... ten more    how many more to make ...?

how many more is ... than ...?    how much more is ...?    take away    how many are left/left over?    how many have gone?

one less, two less, ten less ...    how many fewer is ... than ...?    how much less is ...?    difference between

## adding by counting on

### Teaching Points

Introduce augmentation with fingers, e.g. everyone show me 5 fingers. Now show me 3 more. How many fingers are you showing now? How can you count quicker? (make reference to 5-and-a-bit structure of ten frame)



Introduce number stories with an augmentation context using 'first, then, now' – pictorial representations or with children on chairs pretending to be the 'bus'



Use concrete resources such as counters and cubes to represent number stories – children to be given the first amount



As above, children to select the first amount from a larger group



Use ten frames alongside number tracks to represent number stories shown pictorially



### Continuous Provision

**Number Track Race** - Provide number tracks to 10 and a 1-3 dice. Children take turns to roll the dice and count on 1, 2 or 3 as they move along or fill up the track. The first to reach 10 wins the game.

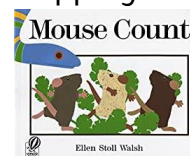
**Small World** - Encourage the children to create their own 'first, then, now' stories using the small world resources.

**Outdoor** - Share the story Mr. Gumpy's Outing. Ask the children to build a boat and to create their own 'first, then, now' stories as different groups of characters climb aboard. Encourage children to count how many altogether as more children join them.

**Construction** - Children take turns to roll a 1-3 dice and collect 1, 2 or 3 cubes to add to their tower. If they are ready, encourage them to count on as they add their cubes each time. How high can they build their towers before they topple?

### Supporting Resources

Mouse Count by Ellen Stoll Walsh  
Mr. Gumpy's Outing by John Burningham  
The Shopping Basket by John Burningham



Series 3 Episode 19



## taking away by counting back

### Teaching Points

Introduce subtraction with the 'taking away' structure with fingers, e.g. everyone show me 5 fingers. Now show me 2 less.

How many fingers are you showing now?



Introduce number stories with a taking-away context using 'first, then, now' – pictorial representations or with children on chairs pretending to be the 'bus'



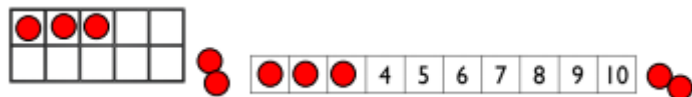
Use concrete resources such as counters and cubes to represent number stories – children to be given the first amount



As above, children to select the first amount from a larger group



Use ten frames alongside number tracks to represent number stories shown pictorially



### Continuous Provision

**Maths Area** - Encourage the children to adapt and re-enact favourite rhymes such as 10 Green Bottles by making 1, 2 or 3 fall each time. Could also use with 10 Currant Buns.

**Sand** - A game for 2 children. Ask the children to line up 10 pebbles or shells. The children take turns to choose whether they take 1, 2 or 3 pebbles. The winner is the player who avoids taking the last pebble.

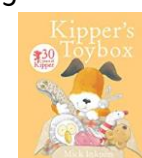
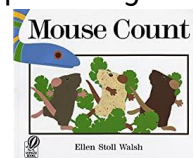
**Outdoor** - Create a countdown game by chalking numbers 10-0 leading towards a rocket. Provide a giant 1-3 dice. The children roll the dice and jump from 10 to 0. First to reach the rocket shouts 'blast off' to win the game.

**Pass it On** - Each child starts with 6 cubes. They roll a 1-3 dice and pass the corresponding number of cubes to the person on their left. The winner is the first person to give away all their cubes. Encourage the children to count how many they have left as they pass on their cubes.

### Supporting Resources

Mouse Count by Ellen Stoll Walsh

Kipper's Toybox by Mick Inkpen



Series 3 Episode 12



## Depth of Understanding – Addition and Subtraction

### Hidden Items

Count out 5 cubes. Ask the children to check how many there are and ensure everyone knows that there are 5. Cover the cubes with a cloth, check that the children are happy there are still 5 under the cloth. Then, as they watch, place 2 more cubes under the cloth. Ask the children to tell you how many cubes there are now. Encourage them to represent the cubes with their fingers and model on counting 5, 6, 7. This activity can also be used for subtraction. Ensure the children know how many cubes there are at the start. Cover them up and this time take some cubes out, counting while the children watch. Ask them to work out how many cubes will still be hidden.



### Changing the Unknown

This activity can be varied by changing the part of the story which is unknown. Link to familiar rhymes and stories and use a cloth to hide the unknown part. E.g. There were 2 frogs on the log at the start. Then some more frogs arrived. Now there are 4 frogs. How many frogs joined the group?

Start with an unknown amount. E.g. Bo Peep had some sheep. She found 1 more sheep and now she has 5 sheep. How many sheep did she have at the start?

### Possible Questions

How many cubes did we have at the start?

How many cubes did I add/take away?

How many cubes will be under the cloth now?

How did you work it out?

# Multiplication and Division (to 10)

- Children will understand that double means 'twice as many'
- Children will use concrete resources and pictorial representations to build doubles
- Children will use the pair structure on tens frames to recognise the structure of doubles
- Children will use mirrors to double the quantity they build to see that it could be represented as a reflection
- Children will sort between doubles and non-doubles and explain their reasoning
- Children will explore halving by sharing items into two equal groups
- Children will recognise that objects must be shared fairly and link this to the vocabulary of 'equal'
- Children will share small quantities between 3 or 4 people and will notice that sometimes there are items left over
- Children will understand that when objects can be shared into 2 equal groups they are even and when there is one item left over, when shared, the number is odd
- Children will explore the structure of odd and even numbers through Numicon and the pair structure on ten frames

## EYFS Framework Objectives:

### Numerical Patterns ELG

- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

## Small Steps



## Key Vocabulary

sharing    number patterns    doubling    halving    odd    even



# doubling

## Teaching Points

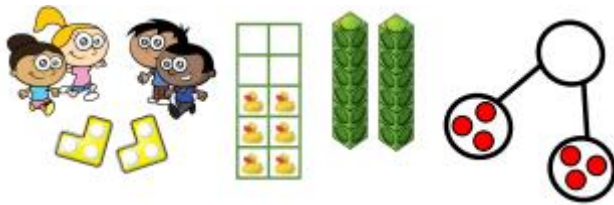
Understand that 'double' means 'twice as many'



Explore this with fingers. Show \_\_\_ fingers on your left hand and the same on each hand.



Use a range of real objects and concrete resources to explore doubles further, using the ten frame (pair-structure) and part-whole model



Find doubles of quantities on dominoes or dot cards



Find doubles by rolling two dice and counting the spots



Find doubles, working in pairs. One child selects an number, and the other represents it in another way (concrete resources or fingers). Count the total to find the answer. Encourage the use of ten frames and part-whole model for efficient counting, leading to subitising

## Continuous Provision

**All Areas** - Make towers or rows using the blocks and ask the children to build towers that are double the height or double the length. Can they thread double the amount of beads? Can they find a container which holds double the amount of material?

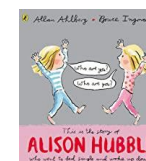
**Maths Area** - Play 'snap' or matching pairs games using pictorial playing cards or dot cards. Encourage the children to say the doubles as they make them. The person with the most doubles or pairs at the end wins the game.

**Outdoor** - Have Numicon hidden around the outdoor area. Give each child a piece of Numicon and ask them to find another one the same to make a double. Encourage them to say the double they have found.

**Funky Fingers** - Provide ladybird and butterfly templates and ask the children to use the tweezers to make doubles by adding the same number of pompoms to each side. How many different doubles can they make? Can they make one which is not a double and tell you why?

## Supporting Resources

This is the Story of Alison Hubble by Allan Ahlberg



Series 2 Episode 9



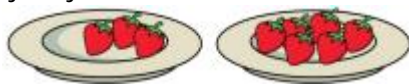
## halving and sharing

### Teaching Points

Ensure children understand what 'sharing' means in a practical context – everyone gets the same and it's fair



Explore fair and unfair sharing by showing them a punnet of strawberries. Explain that you are going to share them between yourself and another child. Take a big handful for you and the rest (only a few) for the child. Discuss whether this is fair.



How could the strawberries be shared fairly? Explore using two plates and counting one out at a time (ensure there is an even amount of strawberries) – ensure children use the word 'equal' to describe the 'fairness' of the groups



Explore this further by creating unfair teams in PE and seeing how it takes the larger team longer to complete activities.

Explore fairness deeper.



Share objects between 3 or 4 people, plates etc. and ensure children are confident with the sharing structure of division



Explore sharing where there are one or more items left over and discuss resolution to this problem (this will lead into odd numbers)

### Continuous Provision

**All Areas** - Provide opportunities for the children to share quantities into groups fairly. For example, sharing out the cards or dominos at the start of a game, sharing out the bricks or beanbags, sharing the small world animals into 2 fields.

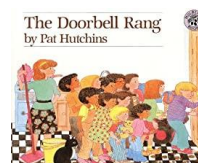
**Snack** - Ask the children to come for snack in pairs and provide quantities of food that they need to share onto their plates e.g. a box of raisins or a bunch of grapes. Progress from halving to sharing equally between 3 or 4 children.

**Sorting** - Have some pictures ready to show the children. Some will show equal groups and some will show unequal groups. Ask the children to discuss and sort the pictures. The children might also like to make their own examples of equal and unequal groups to sort.

**Teddy Bear Picnic** - Provide 2 teddy bears, 2 plates and small even quantities of small things to represent different food items. Ask the children to share out the things fairly so that each teddy gets the same. What will happen if another teddy joins the picnic?

### Supporting Resources

The Doorbell Rang by Pat Hutchins  
Bean Thirteen by Matthew McElligott



Series 4 Episode 18



## odds and evens

### Teaching Points

Ensure children are confident with sharing items into two equal groups



Refer to numbers which can be shared into 2 equal groups, exactly, as even numbers



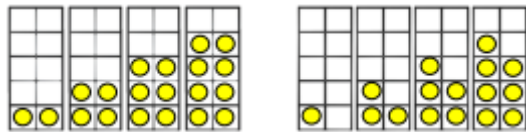
Refer to numbers which have 1 left over after being shared into 2 equal groups as odd numbers



Use Numicon to explore odd and even numbers further by seeing that odd numbers have 'a bit poking out the top'



Use the pair structure of ten frames to show odd and even numbers



### Continuous Provision

**Sorting** - Provide pots of items containing quantities from 1 to 10. Ask the children to count the items in each pot and decide if there is an odd or an even quantity. How could they check? They might also make some odd and even sets of their own.

**Feely Bag** - Place Numicon into the feely bag. Ask the children to feel inside the bag and to find an odd number. How did they know it was odd? Can they find an even number?

**Outdoor** - Ask the children to get into pairs, ready for a game. Are they able to do this? Does that mean that there are an even number or an odd number of players? If there are an odd number of players, how could the problem be solved?

**Modelling** - Take children for a walk to look at the house numbers on a street near school. What do they notice? (Odd on one side and even on the other) Encourage children to make their own model houses with odd and even house numbers on the sides of a street.

### Supporting Resources

Six Dinner Sid by Inga Moore



Series 2 Episode 11



## Depth of Understanding – Multiplication and Division

### **Odd and Even**

Ask all the children to collect an odd amount of cubes. Ask them to check each others and compare different quantities. Now ask the children to collect one more cube and add it to their set. Ask the children to continue adding one more cube and to discuss what they notice.

### **Find Half**

Provide 2 teddies and plates and a selection of items for halving. Ask the children to explore which quantities will halve exactly into 2 equal groups and which will have one left over. Encourage the children to draw picture to record their findings.

### **Make Equal Groups**

This time keep 12 items to share each time but vary the number of teddies and plates. Ask the children to explore sharing the 12 items into equal groups so that each teddy gets the same. If there are 2 teddies will they each get the same? How many are in each group? Are there any items left over? What about 3, 4, 5 or 6 teddies?

### **Possible Questions**

Are all the quantities odd?

How could you check?

How many do you have now?

Do you still have an odd number?

What is the largest odd number you can build?

How can you check that it is odd?

If you have 6, can you give both teddies the same?

What about if you start with 5?

Is this an even or an odd number?

How do you know?

# Measurement

- Children will use language to describe length and height (short and tall)
- Children will make direct comparisons between the length or height of objects using words 'bigger'/'larger' and 'smaller', 'biggest'/'largest' and 'smallest'
- Children will use specific vocabulary for length (longer/shorter), height (taller/shorter) and breadth (wider/narrower)
- Children will use non-standard units of measure such as cubes and blocks to measure various real items and record the weight using the non-standard unit
- Children will understand that the non-standard units must be exactly the same (e.g. can't use different types of cubes to measure a single item)
- Children will use vocabulary 'nearer', 'nearest', 'further' and 'furthest' to compare the distances between themselves and real objects or the distance between two objects, excluding themselves, moving on to pictorial representations of these

## EYFS Framework Objectives:

### Maths Educational Programme

- children's curiosity about number, shape, space and measure should be encouraged and furthered through opportunities to apply their growing understanding of the mathematical world to the world around them

## Small Steps



## Key Vocabulary

measure	size	compare	guess	estimate	enough	not enough	too much	too little	too many	too few	nearly	
close to	about the same as	just over	just under	length	height	width	depth	long	short	tall	high	low
wide	narrow	thick	thin	longer, shorter, taller, higher ... and so on			longest, shortest, tallest, highest ... and so on			far	near	close

## length, height and distance

### Teaching Points

Ensure children understand that things are different sizes and some objects may look similar but could be smaller or larger (e.g. a marble and a football are both spherical but are different sizes)



Compare the length and height of objects by placing them next to each other – could compare the height of children in the classroom and arrange themselves in height order



Introduce specific vocabulary for length (long/short), height (tall/short) and breadth (wide/narrow)



Using a baseline object, children to find objects which are longer/shorter, taller/shorter or wider/narrower and arrange them in order



Use non-standard units of measurement such as cubes and blocks to measure the length, height or breadth of real objects (e.g. how many blocks tall are you?) – ensure children understand the units must be equal and placed right next to each other



Use non-standard units to measure the distance between themselves and another object, using language further and nearer



As above, measuring the distance between two objects, excluding themselves

### Continuous Provision

**Maths Area** - Have a variety of pieces of ribbon, lace, string. Ask the children to make direct comparisons with a given length (e.g. a piece of ribbon tapes to the table) and sort the lengths into the same as, shorter and longer than the given length. Order the lengths from longest to shortest and vice versa.

**Construction** - Challenge the children to build towers the same height as themselves. How tall is the tallest tower they can build? Can they build a short tower? Can they build beds for daddy bear, mummy bear and baby bear?

**Small World** - Provide materials for the children to construct bridges for cars. They will need to consider how long, how wide and how high they want their bridges to be and select which blocks to use. Who can push their car the furthest? How will they measure this?

**Dough** - Encourage the children to use mathematical language relating to length as they play. Can they make a long, short, thick or thin snake? Measure the length of the snakes using blocks or cubes.

### Supporting Resources

Titch by Pat Hutchins

Tall by Jez Alborough

Where's My Teddy? By Jez Alborough



## Depth of Understanding – Measurement

### Which is further?

This activity would be best carried out in small groups outdoors or in the hall. Ask the children to stand at a given starting point 'x'. Place 2 items, such as a cone and a hoop, a short distance away.



Ask the children to find out which item is the furthest away. Encourage them to discuss and try different ways to do this. For example, they could count strides or end-to-end footsteps. They could make lines of bean bags and count how many to compare the distances. Prompt them to use the language 'further', 'nearer' and 'closer'.

### Possible Questions

Which is further/furthest?

Which is nearer/nearest?

How do you know?

How can we check?

Can you use different objects to measure the distance between yourself and objects?

Can you measure the distance between 2 objects?



# Preparation for Y1

- Children will apply their understanding from across the EYFS to confidently recognise, form and recall all of the number bonds to 10
- Children will use their knowledge of doubles to extend this to counting in 2s to 20
- Children will use practical resources such as fingers and toes to count in groups of 5 to 20
- Children will use practical resources to count in groups of 10 to 100

## EYFS Framework Objectives:

### Number ELG

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

### Numerical Patterns ELG

- Compare sets of objects up to 10 in different contexts, considering size and difference;

## Small Steps



## Key Vocabulary

number bonds    part    whole    one, two, three...ten    count    even    odd    double

## number bonds to 10

### Teaching Points

Recap number bonds to all numbers within 10, exploring how to make the number using concrete and pictorial resources on part-whole models



Represent the number bonds to 10 using a range of representations, including ten frames and part-whole models



Recall, without the use of rhymes or songs, all the number bonds to 10 (including  $10 + 0$ )



Begin to recognise the concept of commutativity and that number bonds can be displayed as e.g.  $9 + 1$  or  $1 + 9$

### Continuous Provision

**Maths Area** - Provide eggs boxes with 10 sections to represent 10 frames. Children to use two different objects to explore number bonds to 10. Have you found all the possibilities?

**Role Play** - Provide 10 soft toys to encourage children to re-enact 10 in the bed in their independent play. Count how many are left in the bed and how many have fallen out. Use double-sided counters to represent the bears on a part-whole model.

**Outdoor** - Place 10 chairs into 5 rows of 2 to resemble the seats on a bus. Ask how many passengers there are on the bus, how many more could ride on the bus, how many more are getting on/off at the next stop and how many are on now.

**Outdoor** - Provide children with 10 green bottles in a variety of shapes and sizes (e.g. 7up bottle, cleaned detergent bottle). Arrange them in size order on a wall. Encourage the children to count how many bottles have fallen and how many are left after each verse. Can this be represented on a part-whole model?

### Supporting Resources

#### Number bonds rhyme:

5 and 5 add up to 10

6 and 4 make it again

7 and 3 they also do

Guess what! So do 8 and 2

9 and 1, 10 and 0

Learn them all, you're a number bond hero!

Series 2 Episode 7



## counting in 2s, 5s and 10s

### Teaching Points

Referring to doubles, ensure children understand the idea of pairs



Use concrete and pictorial representations (such as pairs of socks) to count in 2s – begin with skip counting, whispering the ones and shouting the 2s



Use a number line, in 2s, alongside the representation so children can see the matching numerals



Count in 5s to 20 using fingers and toes – start with skip counting if necessary



Use a number line, in 5s, alongside the representation so children can see the matching numerals



Using a number line or hundred square, explore numbers beyond 20, up to 100 and recognise the names for all of the multiples of 10 to 100



Count in 10s using a hundred square to support



Recall 10s to 100 without support, counting forwards

### Continuous Provision

**Small World** - Using the song 'The Animals Went on 2 by 2', place the small animals onto a boat in pairs. How many animals are on the boat altogether?

**Home corner** - Using a washing line, children to hang up pairs of socks and count each pair in 2s before giving the total. Place a numberline next to the washing line to encourage counting in 2s.

**Outdoor** - Draw a hopscotch game on the ground. Children to skip count and play the game, only hopping on 2, 4, 6 and 8.

**Craft** - Using the book 'Eggs and Legs', children to create their own eggs with legs and count the amount they can see, using a number line to support.

### Supporting Resources

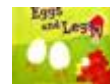
Eggs and Legs: Counting by Twos by Michael Dahl

One, Two, Skip a Few! By Roberta Arenson

Sheep Won't Sleep by Judy Cox

Quack and Count by Keith Baker

Series 4 Episodes  
23-24









*Some elements have been adapted from resources created by the White Rose Maths Hub and the NCETM*