

| Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Development Matters - Nursery 3 to 4 years |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Number | Numerical Patterns |
| Counting Backwards (whole class) Display a number track / line 0 to 5 . Demonstrate how we can count back from 5 to zero. Repeat with children joining in with the counting. <br> Using a puppet, take it in turns to count backwards with children. Puppet says 5, children say 4, Puppet says 3 , children say 2 and so on. Carry on counting backwards to 0 . <br> Talking Time Ask children to repeat this activity in pairs several times. <br> Is it possible to start counting back from any number? Shall we try? <br> Thinking Time Fill a feely bag with digit cards and pull out a card. Show it to the children. <br> What number comes before this number? <br> Can you carry on counting back from this number? | Counting back from 5 (small groups, indoors) Show children a bowl with 5 objects in, e.g. Compare Bears. Say we have 5 bears. Let's see what happens when I take some away. Remove one bear and ask how many bears are there now? I started with 5 and I took one away, now I have 4. Repeat until you have zero. <br> Talking Time <br> Repeat starting with 5 bears. Encourage children to count back from 5, as you remove each bear, until there are zero bears left. Ensure children finish on zero so that they understand that zero means none. <br> Practice Time <br> Children repeat the activity in pairs with their own bowl and counters etc. | Counting back from 5 (small groups, indoors) Display a five frame with 5 counters. Remind children of our counting back lessons. Ask children to say how many counters there are. <br> They should recognise that when a five frame is full there are 5 and there is no need to count. <br> Consolidation <br> Remove one counter at a time asking children to say how many counters there are. Continue back to zero. Once the frame is empty, begin to add 1 counter at a time. Guide the children to saying the corresponding number as you add a counter. This will get them used to counting forwards and backwards. <br> Practice Time Children work with a partner. Give each pair a five frame and 5 counters. They then repeat the activity together counting forward and backwards to 5 . | Finding 1 More and 1 Less (small groups) <br> Prior to the start of the lesson, use linking cubes to make 3 towers of 2,3 and 4. Show children 2,3 and 4 on the number staircase. Ask them what they notice about the numbers. What number will come next? What is 1 more than 4? <br> Ask children to make a tower of 4 and add 1 more. Have we all made the same tower? <br> Practice Time <br> Give children time to practise Making a cube tower for a given number within 5 and adding 1 more. <br> Thinking Time Repeat the activity using 1-5 digit cards, but ask children to imagine what the numbers would look like if they were shown using cubes. Children make a tower and add 1 more. Practise this with numbers 15. | Finding 1 Less (small groups) <br> Prior to the start of the lesson, use linking cubes to make 4 towers of 2, 3, 4 and 5. Ask them what they notice about the numbers. If we look at the tower of 5 and we took one cube away, how many cubes would there be? What is 1 less than 5 ? <br> Ask children to make a tower of 5 and take 1 way. What number do we have now? Have we all made the same tower? <br> Learning Time <br> We want children to be able to visualise the number and the numbers that are 1 more and 1 less. <br> I have the number 3 . Which number is 1 more than 3? Which number is 1 less than 3 ? <br> Practice Time <br> Repeat the activity using 1-5 digit cards, but ask children to imagine what the numbers would look like if they were shown using cubes. Children make a tower and take 1 away. <br> Practise this with numbers $1-5$. | Fast recognition of up to 3 objects, without having to count them individually ('subitising'). <br> Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). <br> Show 'finger numbers' up to 5. <br> Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 . Experiment with their own symbols and marks as well as numerals. <br> Solve real world mathematical problems with numbers up to 5 . <br> Compare quantities using language: 'more than', 'fewer than'. | Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. Understand position through words alone - for example, "The bag is under the table," - with no pointing. <br> Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. <br> Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. <br> Combine shapes to make new ones - an arch, a bigger triangle etc. <br> Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. Extend and create ABAB patterns - stick, leaf, stick, leaf. <br> Notice and correct an error in a repeating pattern. <br> Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' |


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|  |  |  |  |  | Number | Numerical Patterns |
| Circle (whole class and partner work) <br> Talking Time <br> Sing a shape song. Have a selection of 2D shapes (circle, square, rectangle and triangle) in a feely bag. Explain that today we are searching for the circles. Pass the bag around for the children to choose a shape. For the children who correctly identify a circle, ask how did they know it is a circle? Encourage use of key vocabulary - curved, side. Ensure children understand that a circle has one curved side as opposed to the sometime misconception that it has zero sides. <br> Learning Time Discuss the shape names and basic properties, e.g. This is a circle how do we know? Count sides and describe using straight, same, different, longer, shorter, curved etc. <br> Practice Time Children to go on a shape hunt in the environment, locating, naming and describing circles. | Triangle (whole class and partner work) <br> Talking Time <br> Sing a shape song. <br> Have a selection of 2D shapes (circle, square, rectangle and triangle) in a feely bag. Explain that today we are searching for the triangles. Pass the bag around for the children to choose a shape. For the children who correctly identify a triangle, ask how did they know it is a triangle? Encourage use of key vocabulary - straight, side, corner. Include different triangles so the children see the common theme of 3 sides and 3 corners. <br> Learning Time <br> Discuss the shape names and basic properties, e.g. This is a triangle how do we know? Count sides and describe using straight, same, different, longer, shorter, curved etc. <br> Practice Time Children to go on a shape hunt in the environment, locating, naming and describing triangles. | Square (whole class and partner work) <br> Talking Time <br> Sing a shape song. <br> Have a selection of 2D <br> shapes (circle, square, rectangle and triangle) in a feely bag. Explain that today we are searching for the squares. Pass the bag around for the children to choose a shape. For the children who correctly identify a square, ask how did they know it is a square? Encourage use of key vocabulary - straight, side, corner. Ensure children understand that a square has four straight sides of equal length. <br> Learning Time <br> Discuss the shape names and basic properties, e.g. This is a square how do we know? Count sides and describe using straight, same, equal, length, different, longer, shorter, curved, parallel etc. <br> Practice Time Children to go on a shape hunt in the environment, locating, naming and describing squares. | Rectangle (whole class and partner work) <br> Talking Time <br> Sing a shape song. <br> Have a selection of 2D shapes (circle, square, rectangle and triangle) in a feely bag. Explain that today we are searching for the rectangles. Pass the bag around for the children to choose a shape. For the children who correctly identify a rectangle, ask how did they know it is a rectangle? Encourage use of key vocabulary - straight, side, corner. Ensure children understand that a rectangle is different to a square because it has two longer and two shorter straight sides. Introduce parallel if appropriate. <br> Learning Time Discuss the shape names and basic properties, e.g. This is a circle how do we know? Count sides and describe using straight, same, different, longer, shorter, curved, parallel etc. <br> Practice Time Children to go on a shape hunt in the environment, locating, naming and describing circles. | Combining Shapes (small groups) <br> Review Time <br> Speedy review of the four basic shapes, including properties. <br> Talking Time <br> Can we make a picture out of our shapes? <br> What things could we use a circle to make? <br> What could we make with a triangle? <br> What would happen if we put two squares together? <br> Exploring Time <br> Give children sets of shapes to create pictures and patterns with. Do they notice that two triangles can make a square / rectangle? Two squares make a rectangle? Four squares can make a big square? <br> Four triangles can make a square? | Fast recognition of up to 3 objects, without having to count them individually ('subitising'). <br> Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). <br> Show 'finger numbers' up to 5. <br> Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 . Experiment with their own symbols and marks as well as numerals. <br> Solve real world mathematical problems with numbers up to 5 . <br> Compare quantities using language: 'more than', 'fewer than'. | Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. Understand position through words alone - for example, "The bag is under the table," - with no pointing. <br> Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. <br> Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. <br> Combine shapes to make new ones - an arch, a bigger triangle etc. <br> Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. Extend and create ABAB patterns - stick, leaf, stick, leaf. <br> Notice and correct an error in a repeating pattern. <br> Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' |

Creating Patterns (Small

## group work)

Talking Time
Explain that we will be making our own patterns today.

## Creating Time

Give children pieces of white
fabric and fabric crayons pens

- limit them to two or three
colours. Let them explore pattern making. Encourage them to choose a shape e.g. circle, star, heart that can be used to develop them pattern including different colours. This should be the children's choice with minimal input from the adults.


## Talking Time

Children take turns to describe their pattern to a partner.

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Remind children of previous work on patterns. Display an AB pattern, e.g. flower, leaf, flower, leaf. Can the children describe the pattern to a partner? What would come next in the pattern?

## Talking Time

Repeat for another example, e.g. yellow flower, pink flower, yellow flower Can the children describe the pattern to a partner? What would be the next two shapes in the pattern?

## Creating Time

Children to create their own AB patterns, using pre-cut pictures or objects e.g. shapes, flowers, leaves etc.

ABC Patterns (small group work)
Remind children of previous work on AB patterns. Display an ABC pattern, e.g. flower, leaf, stone, flower, leaf, stone. Can the children describe the pattern to a partner? What would come next in the pattern?

Talking Time
Repeat for another example,
e.g. yellow flower, pink flower red flower, yellow flower, pink flower
Can the children describe the pattern to a partner? What would be the next two shapes in the pattern?

## Creating Time

Children to create their own $A B C$ patterns, using pre-cut pictures or objects e.g. shapes, flowers, leaves etc. Leaf printing with 3 colours.

## Development Matters - Nursery 3 to 4 years

ABB Patterns (small groups) Remind children of previous work on patterns. Display an ABB pattern, e.g. flower, leaf, leaf, flower, leaf, leaf. Can the children flower, leaf, leaf. Can the children
describe the pattern to a partner? What would come next in the pattern?

## Talking Time

Repeat for another example, e.g. yellow flower, pink flower, pink flower, yellow flower, pink flower

Can the children describe the pattern to a partner? What would be the next two shapes in the pattern?

## Creating Time

Children to create their own ABB patterns, using pre-cut pictures or objects e.g. shapes, flowers, leaves, Compare Bears, flower printing etc.
Number $\quad$ Numerical Patterns

Fast recognition of up to 3 Talk about and explore 2D objects, without having to and 3D shapes (for example, count them individually ('subitising')
Recite numbers past 5 .
Say one number for each tem in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Show 'finger numbers' up to 5.

Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 . Experiment with their own symbols and marks as well as numerals.
Solve real world
mathematical problems with numbers up to 5 . Compare quantities using language: 'more than', 'fewer than'.
circles, rectangles, triangles and cuboids) using informal and mathematical language: sides', 'corners'; 'straight', 'flat', 'round'.
Understand position through words alone - for example, "The bag is under the table," - with no pointing.

Describe a familiar route.
Discuss routes and locations, using words like 'in front of' and 'behind'.
Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.
Combine shapes to make new ones - an arch, a bigger triangle etc.
Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informa language like 'pointy', spotty', 'blobs' etc. Extend and create ABAB patterns - stick, leaf, stick, patter

Notice and correct an error in a repeating pattern.
Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

## Development Matters - Nursery 3 to 4 years

## Class introduction

## Doubles to 3

Explain that when we double a number, we add the number to itself. We have two lots of that number. Physically model this with the bears, apples, toys etc. e.g. one apple and one apple
Two teddies and two more teddies
Model the language of the same, lots of, two and another two. Ask children:
What is double 1 apple? What is double 2 teddies? How many flowers are there when we double 3 flowers?

## Thinking Time

 Put children in pairs and ask select one object (compare bears, toys, fruit etc.), saying one and one more is how many. Children to combine to find the total Model vocabulary, one and one more is two. Repeat for double 2 and 3. Use different objects to give it real-life context.Doubling Towers (Small groups and Pairs) Show children 1 cube saying one. Place another cube next to it saying one and one more is two. Double 1 is 2 .
Repeat for towers of 2 cubes. Double 2 and towers of 3 cubes double 3.

## Thinking Time

Put children in pairs and ask them to take turns to select a digit card from 1-3 and then to make a tower to show that number. The other child needs to make a tower exactly the same.
How many cubes are in each tower?
How many are there altogether?
What is double 1 ? What is double 2? Continue until children have selected all of the digit cards and made all of the doubles from 1-3. Emphasise the heights of the towers and that we have 2 towers made from the same number of cubes.

## Doubling Fingers (Small

 Groups)Ask children to hold up 1 finger. Tell them that when you ring the bell, they have to show you double that number of fingers. Repeat with 2 fingers, then 3 fingers. If children are holding up different fingers, that is fine as long as they have the same number on each hand.

## Talking Time

How many fingers did we show at first?
How many are we showing now?
What is double $1,2,3$ ?
Thinking Time Repeat the activity with random numbers. Does it matter if we are holding up different finger holding up diff? on each hand?
What is important when w What is import
are doubling? What needs to stay the same? What can be different?

## Counting to 10 and recognising numbers to 10 NUMICON (Small Groups)

 Give pairs of children a pack of NUMICON to 10. Ask them to work together to explore the shapes. What do they notice? Can the sort them? Can they put them in order?Talking Time
Talk to the children about the shapes. What did they notice? If they are struggling, tell them that each shape represents a number.

## Practice Time

Children work in pairs to order the Numicon counting from 1 to 10 as they do.
Pairs take turns to show a NUMICON and their partner says the corresponding number.

Doubling with Numicon (small groups, indoors or outdoors) ors)
Children are going to build up images of doubled numbers using NUMICON.
Show children a one Numicon. If I have one and I add one more, how many do I have? What is 1 add 1 is 2 so double 1 is 2 ?

Talking Time
Repeat the activity with 2, 3, 4 and 5 NUMICON with children selecting two and another two. What number did you have first? What number do we have now? What is 1 and 1 more
What is double 1? 2?, etc.

## Thinking Time

How many different ways can we describe a doubled number? What is two lots 2 ? What is 3 and 3 more?

Children work practically with NUMICON.

Fast recognition of up to 3 objects, without having to count them individually ('subitising').
Recite numbers past 5 Say one number for each item in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') Show 'finger numbers' up to Show
5.

Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 Experiment with their own symbols and marks as well as numerals.
Solve real world mathematical problems with numbers up to 5 . Challenge 10.

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

Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informa and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.
Understand position through words alone - for example, "The bag is under the table," - with no pointing.

Describe a familiar route.
Discuss routes and locations, using words like 'in front of' and 'behind'.
Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.
Combine shapes to make new ones - an arch, a bigger triangle etc.
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leaf.
Notice and correct an error in a repeating pattern.
Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

| Nursery | Summer 1 | Theme: Growth | Stepping Stones to Reception Maths No Problem |  | Week 6 Weight |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vocabulary | Mass, weight, heavy, heavier, light, lighter |  |  |  |  |  |
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|  |  |  |  |  | Number | Numerical Patterns |
| Heavy or Light (small groups) Introduce the words heavy and light. Talking Time Show children images of two real life objects e.g. a car and a cup. Which would be heavy? Which would be light? Repeat for other objects, e.g. an airplane and an apple, an elephant and a bee. Thinking Time Give pairs of children photos of real life objects to sort into heavy or light. | Heavy or Light (small groups) <br> Show children a picture of an elephant and a mouse with a seesaw. Ask them if they think a seesaw would be a good thing for these two friends to play on. <br> Talking Time <br> Will the seesaw go up or down on the elephant side? Why? Will the seesaw go up or down on the mouse side? Why? <br> Thinking Time <br> Give children a set of balance scales and a selection of toys. Children choose two toys. Can they predict which toy will be heavier? Ask children to put a toy on one side and watch the scale go down. <br> Can you put a toy on the other? Will it go up or down? <br> Are both toys the same? If not, why not? <br> Which toy is heavier? <br> Repeat with different combinations of toys. Are big toys always heavier? | Exploring Mass (small group, indoors or outdoors) <br> Place two hoops on the table or floor and label them 'heavy' and 'light'. Have children explore the various objects. Ask them to use their hands to try and compare one item with another. Children must decide which hand is holding the lightest item, then sort the items between the two hoops. <br> Talking Time <br> Can you order these items just by using your hands? Is this item heavier than this one? <br> Is this item the lightest? How can you be sure? <br> Thinking Time <br> Place a set of balance scales on the table. <br> Can you use the scales to check if you were right? <br> How can you do this? <br> Were you correct? <br> Why might balance scales be better than using our hands? | Comparing Masses (small groups, outdoors) <br> Set up a post office corner. Explain to children that a heavier parcel will need a delivery vehicle and a light parcel can be delivered by hand. <br> Hold up each parcel in turn and ask children to describe its size and shape. They can guess what each parcel might contain. Now pass the parcels around to children and ask them which are heavy and which are light. <br> Children sort into heavy and light. <br> Delivery Time <br> Give the delivery driver on trikes the heavy parcels to 'deliver' and the post workers the light ones. Children deliver to two stations 'heavy' and 'light'. <br> Note: Ensure all the heavy parcels are large and all the light parcels are small. | Comparing Masses (small groups, outdoors) <br> Are the large parcels always heavier than the small parcels? Give children time to discuss. How can we find out? <br> Talking and Delivery Time <br> Repeat the activity from yesterday's postal delivery service. <br> Thinking Time <br> What have we found out? Are the large items always the heaviest? Are small items always light? <br> Note: Ensure there is a mix of small and large heavy parcels and a mix of small and large light parcels to challenge children's thinking. | Fast recognition of up to 3 objects, without having to count them individually ('subitising'). <br> Recite numbers past 5. <br> Say one number for each item in order: 1,2,3,4,5. <br> Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). <br> Show 'finger numbers' up to 5. <br> Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals. <br> Solve real world mathematical problems with numbers up to 5. <br> Compare quantities using language: 'more than', 'fewer than'. | Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. <br> Understand position through words alone - for example, "The bag is under the table," - with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. <br> Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. <br> Combine shapes to make new ones - an arch, a bigger triangle etc. <br> Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. Extend and create ABAB patterns - stick, leaf, stick, leaf. <br> Notice and correct an error in a repeating pattern. <br> Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' |

Adapted from Maths - No Problem! Foundations by Andrew Neale-Crane (Assistant Head Teacher) March 2023.

