



## Reception Maths Medium Term Plan – Spring 1

### How is Maths taught in Reception?

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

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

Daily nursery rhymes – number links

Daily Maths lesson – Review, Teach, Practise in groups, Apply

3x Number

2x Shape, Space, Measures

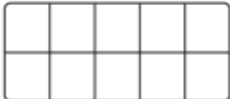






Number Sense – 5 mins daily

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



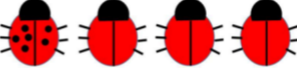

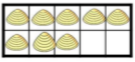


Mathematics						
Number						
Link the number symbol (numeral) with its cardinal number value. (numbers 6-8) Introduce tens frame. <i>I can subitise to 5 with</i>	Link the number symbol (numeral) with its cardinal number value. (numbers 6-8) <i>I can subitise to 5 with greater reliability.</i>	Link the number symbol (numeral) with its cardinal number value. (numbers 9-10) tens frame. Compare numbers. (smallest/largest/smaller/larger/more/less) <i>I can subitise to 5 with greater reliability.</i>	Link the number symbol (numeral) with its cardinal number value. (numbers 9-10) Compare numbers. (smallest/largest/smaller/larger/more/less) <i>I can subitise to 5 with greater reliability.</i>	Compare numbers. (smallest/largest/smaller/larger/more/less) Understand the 'one more than/one less than' relationship between consecutive numbers (to 10) <i>I can subitise to 5 with greater reliability.</i>	Explore the composition of numbers to 10.	

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<i>greater reliability.</i>						
<b>Numerical Patterns</b>						
Continuing an ABC pattern Continuing a pattern which ends mid-unit Make their own ABB, ABBC patterns	Spotting an error in an ABB pattern I can continue, copy and create repeating patterns with 2 or more objects.					Beginning to identify doubles to 10.
<b>Spatial Awareness</b>						
		Use 2D shapes to make a picture. Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.	Use 3D shapes to make a structure, showing an understanding of basic properties (stack, roll...)	Compare <b>length</b> , weight and capacity.	Compare length, <b>weight</b> and capacity.	Compare length, weight and <b>capacity</b> .

Wee k	Focus Skills and Knowledge	Link to End of Year Objectives	Possible activities	Enhancements	Key vocabulary
1	<p>Link the number symbol (numeral) with its cardinal number value. (numbers 6-8) Introduce tens frame.</p> <p><i>I can subitise to 5 with greater reliability.</i></p> <p>Continuing an ABC pattern</p>	<p>Have a deep understanding of number to 10, including the composition of each number.</p> <p>Subitise (recognise quantities without counting) up to 5</p>	<p><b>Power Maths Unit 7 – Numbers to 10</b></p> <p><b>STRUCTURES AND REPRESENTATIONS</b></p> <p><b>Ten frame:</b> The ten frame helps children visualise 10. It will also help strengthen children's fluency with numbers up to 10, demonstrating how they can be arranged in different ways but still be worth the same amount.</p>  <p><b>Multilink cubes:</b> Multilink cubes provide a physical representation of an amount, which children can handle and move as they count and compare.</p>  <p><b>Counters:</b> Counters are used for the first time to represent objects being counted. They can be placed in the ten frame or lined up in a row.</p> 	<p><b>6, 7 and 8</b></p> <p><b>Maths Area</b>  Encourage the children to think about where we see 6, 7, and 8 in everyday life and to make collections of 6, 7 and 8 objects in the classroom. Sort these items into 6, 7 and 8 How else could you show 6, 7, and 8?</p> <p><b>Loose Parts</b> Provide a range of loose parts such as buttons, beads, pebbles, shells and some ten frames. Ask the children to count 6, 7, and 8 items onto the 10 frames. How many do they have? Can they see without counting? The children may also enjoy filling large 10 frames outside.</p>  <p><b>Enhancements to areas of learning</b></p> <p><b>Outdoors</b> Go on a mini-beast hunt. Use magnifying pots to observe the creatures carefully. How many legs can they see? Provide pictures to help them identify what they find. Ask the children to make careful drawings of the creatures they find.</p>  <p><b>Kipper's Toybox</b> Provide a basket of toys for the children to use to re-enact the story. Take turns to 'hide' one of the toys. Can the children spot which toy is missing? How many toys are there now? What if an extra toy arrives? How many will there be now?</p> 	<p>one, two, three, four, five, six, seven, eight, nine, ten 1,2,3,4,5,6,7,8,9,10 ten frame count how many? total altogether</p>

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	<p>Continuing a pattern which ends mid-unit Make their own ABB, ABBC patterns</p>		<p><b>6, 7 and 8</b></p> <p><b>Guidance</b> Children continue to apply the counting principles when counting to 6, 7 and 8. They represent 6, 7, and 8 in different ways and can count out the required number of objects from a larger group. Arranging 6, 7 or 8 items into small groups will support the children to conceptually subitise and see how the numbers are made up of smaller numbers. E.g. I know it is 8 because I see 4 and 4 Encourage the children to order and compare their representations, noticing the one more/less patterns as they count on and back to 8</p> <p><b>Other Resources</b> Six Dinner Sid – Inga Moore Kipper's Toybox – Mick Inkpen Sidney the Silly Only Eats Six – M W Penn Anno's Counting Book – Mitsumasa Anno What the Ladybird Heard – Julia Donaldson</p> <p><b>Prompts for Learning</b> Note: All the prompts for representing, comparing and composition to 5 can be applied to 6, 7, and 8 Begin with a story such as Six Dinner Sid. How many times do they meet 6? Ask the children to make houses to represent Sid's street. Can they number the doors and order the houses from 1 to 6? What if we added another house? And another? How many legs does a ladybird have? How many spots? Do you know any other creatures with 6 legs? Use counters to add 6 spots to the other ladybirds. Can you find more than one way to do it?</p>  <p>How many colours do you see in the rainbow? Can you paint a rainbow with 7 colours? Can you make rainbows using objects around the classroom? How many colours did you use? Can you find the rainbow in Anno's counting book?</p> 		<p>count forwards/backwards same, different odd one out more, fewer group</p> <p>next continue repeat unit of repeat cube round pattern size shape colour bigger smaller same different tall short stripes squares</p>
2	<p>Link the number symbol (numeral) with its cardinal number value. (numbers 6-8)</p> <p><i>I can subitise to 5 with greater reliability.</i></p> <p>Spotting an error in an ABB pattern I can continue, copy and create repeating patterns with 2 or more objects.</p>	<p>Have a deep understanding of number to 10, including the composition of each number.</p> <p>Subitise (recognise quantities without counting) up to 5</p>	<p><b>Power Maths Unit 7 – Numbers to 10</b></p> <p><b>6, 7 and 8</b></p> <p><b>Guidance</b> Children continue to apply the counting principles when counting to 6, 7 and 8. They represent 6, 7, and 8 in different ways and can count out the required number of objects from a larger group. Arranging 6, 7 or 8 items into small groups will support the children to conceptually subitise and see how the numbers are made up of smaller numbers. E.g. I know it is 8 because I see 4 and 4 Encourage the children to order and compare their representations, noticing the one more/less patterns as they count on and back to 8</p> <p><b>Other Resources</b> Six Dinner Sid – Inga Moore Kipper's Toybox – Mick Inkpen Sidney the Silly Only Eats Six – M W Penn Anno's Counting Book – Mitsumasa Anno What the Ladybird Heard – Julia Donaldson</p> <p><b>Prompts for Learning</b> Note: All the prompts for representing, comparing and composition to 5 can be applied to 6, 7, and 8 Begin with a story such as Six Dinner Sid. How many times do they meet 6? Ask the children to make houses to represent Sid's street. Can they number the doors and order the houses from 1 to 6? What if we added another house? And another? How many legs does a ladybird have? How many spots? Do you know any other creatures with 6 legs? Use counters to add 6 spots to the other ladybirds. Can you find more than one way to do it?</p>  <p>How many colours do you see in the rainbow? Can you paint a rainbow with 7 colours? Can you make rainbows using objects around the classroom? How many colours did you use? Can you find the rainbow in Anno's counting book?</p> 	<p><b>6, 7 and 8</b></p> <p><b>Maths Area</b> Encourage the children to think about where we see 6, 7, and 8 in everyday life and to make collections of 6, 7 and 8 objects in the classroom. Sort these items into 6, 7 and 8 How else could you show 6, 7, and 8?</p> <p><b>Loose Parts</b> Provide a range of loose parts such as buttons, beads, pebbles, shells and some ten frames. Ask the children to count 6, 7, and 8 items onto the 10 frames. How many do they have? Can they see without counting? The children may also enjoy filling large 10 frames outside.</p>  <p><b>Enhancements to areas of learning</b></p> <p><b>Outdoors</b> Go on a mini-beast hunt. Use magnifying pots to observe the creatures carefully. How many legs can they see? Provide pictures to help them identify what they find. Ask the children to make careful drawings of the creatures they find.</p>  <p><b>Kipper's Toybox</b> Provide a basket of toys for the children to use to re-enact the story. Take turns to 'hide' one of the toys. Can the children spot which toy is missing? How many toys are there now? What if an extra toy arrives? How many will there be now?</p> 	<p>one, two, three, four, five, six, seven, eight, nine, ten 1,2,3,4,5,6,7,8,9,10 ten frame count how many? total altogether count forwards/backwards same, different odd one out</p>

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**Digging Deeper**

### Dot Plates

Show the children 6, 7 and 8 on a ten frame or in a 10-hole egg box. Can they see how many without needing to count in ones?  
Encourage the children to build 6, 7 and 8 onto the 10 frames in pairs – what do they notice?  
Compare the 5-wise and pair-wise patterns for each number. What's the same and what's different?



5-wise patterns



Pair-wise patterns

### How Many Now?

Count out 6 cubes with the children and then cover them so they can't be seen.  
Add one or two more cubes. How many are there now?  
What if we took one or two cubes away?  
Encourage the children to make jottings or to use their fingers to help them solve the problem.

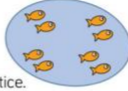
### Key Questions

How do you 6 here?  
How do you see 6 now?  
What do you notice when you try to make pairs with ??

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

### Composition of 6,7,8

Provide each child with a blue 'pool' and 8 fish. Ask them to arrange their fish into pairs.  
Ask the children what they notice.  
Ask the children to arrange their fish in a different way and to discuss the different compositions of 8 that they notice.



Encourage them to explore the composition of 6 and 7 in a similar way.  
You can vary the contexts. For example, cars in a car park, horses in a field, ladybirds on a log.

more, fewer  
group

next  
continue  
repeat  
unit of repeat  
cube  
round  
pattern  
size  
shape  
colour  
bigger  
smaller  
same  
different  
tall  
short  
stripes  
squares

3

Link the number symbol (numeral) with its cardinal number value. (numbers 9-10) tens frame.

Compare numbers. (smallest/largest/smaller/larger/more/less)

*I can subitise to 5 with greater reliability.*

Use 2D shapes to make a picture.  
Select, rotate and manipulate shapes to develop spatial reasoning skills.  
Compose and decompose shapes so

Have a deep understanding of number to 10, including the composition of each number.

Subitise (recognise quantities without counting) up to 5

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

## Power Maths Unit 8 – Comparing numbers within 10

**9 and 10**

### Outdoors


Provide a starting line. Ask the children to take 9 giant steps, 9 tiny steps, 9 jumps, 9 tiptoes etc. How far do they travel each time? Who can travel the furthest in 9 giant steps? Who can travel the shortest distance with 9 tiny steps?

### Outdoors

Ask the children to build a wall and set up 10 green bottles. Each time a bottle 'accidentally falls' ask the children how many have fallen and how many are standing.  
Do they always have 10 in total?

### Class Book

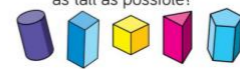
Make a class counting book with a double page spread for each number 1 to 10  
Stick in drawings or photographs of objects the children have collected. Discuss the different ways the children have represented each number.



### Enhancements to areas of learning

### Construction












Provide a selection of bricks in different sizes and shapes. Ask the children to make the tallest possible tower using 10 bricks.  
Which bricks will they choose?  
How will they place their bricks to make the tower as tall as possible?



more,  
fewer/fewest  
greater/greatest  
smaller/smallest  
large/largest  
taller/tallest  
shorter/shortest  
compare  
how many?  
how many more?  
different/difference

puzzle  
triangle, square  
fold/open  
count  
how many?  
build  
turn  
same/different

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	<p>that children recognise a shape can have other shapes within it, just as numbers can.</p>		<div data-bbox="923 195 1344 241" style="background-color: #004a87; color: white; padding: 2px;">9 and 10</div> <div data-bbox="923 258 1344 682"> <p><b>Guidance</b></p> <p>Children continue to apply the counting principles when counting to 9 and 10 (forwards and backwards) They represent 9 and 10 in different ways. Arranging 9 or 10 items into small groups will support the children to conceptually subitise these larger numbers and explore their composition. (E.g. I know it is 9 because I see 3, 3 and 3) Children notice that a 10 frame is full when there is 10. They can use 10 frames, fingers and bead strings to subitise groups of 9 and 10</p>  <p><b>Other Resources</b></p> <p>There are many other books which focus on counting to 10          How do Dinosaurs Count to 10? - Yolen &amp; Teague          One Gorilla - Atsuko Morozumi          Mouse Count - Ellen Stoll Walsh          Nine Naughty Kittens - Linda Jenny          Feast for 10 - Cathryn Falwell          Numberblocks Series 2 - 9 and 10</p>  </div> <div data-bbox="923 688 1344 735" style="background-color: #004a87; color: white; padding: 2px;">Digging Deeper</div> <div data-bbox="923 772 1344 1186"> <p><b>Combining Shapes</b></p> <p>Ask the children to investigate which shapes they can make by combining squares, rectangles and triangles in different ways.</p>  <p>Can you build a small square, a medium square and a large square? You could draw outlines for the children to fill initially.</p> <p>What shapes did you use to make your squares? Is there a different way to build the same shape?</p> <p>Can you build a square using rectangles? How do you know it is square? Can you build a rectangle using squares? How do you know it is a rectangle?</p> </div> <div data-bbox="1353 195 1768 682"> <p><b>Prompts for Learning</b></p> <p>Note: All the prompts for counting to earlier numbers can be applied to counting to 9 and 10, in addition to these ideas.</p> <p>Show me 10 fingers. Now show me 9          Did you need to count your fingers?          Show me 10 beads on the bead string. Show me 9          Show me 10 cubes on the 10 frame.          What do you notice?          Show me 9 cubes. What do you notice this time?          Could you put 9 or 10 buttons on the 10 frame without counting them?</p>  <p>Hold up a number card. Ask the children to show the corresponding number of fingers or to do the corresponding number of actions. Ask the children to help you order the digit cards from 1-10 and make deliberate mistakes. Can the children spot these and correct you? If you hide a card, can they work out which number is missing?</p> <p>Ask the children to count out 9 or 10 small objects. Can they find different ways to arrange their items? What do they notice?</p> </div>		
4	<p>Link the number symbol (numeral) with its cardinal number value. (numbers 9-10)</p> <p>Compare numbers. (smallest/largest/smaller/larger/more/less)</p> <p><i>I can subitise to 5 with greater reliability.</i></p> <p>Use 3D shapes to make a structure, showing an understanding of basic properties (stack, roll...)</p>	<p>Have a deep understanding of number to 10, including the composition of each number.</p> <p>Subitise (recognise quantities without counting) up to 5</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less</p>	<div data-bbox="923 1203 1768 1249" style="background-color: #004a87; color: white; padding: 2px;">Power Maths Unit 8 – Comparing numbers within 10</div> <div data-bbox="923 1371 1344 1417" style="background-color: #004a87; color: white; padding: 2px;">9 and 10</div> <div data-bbox="923 1434 1344 1858"> <p><b>Guidance</b></p> <p>Children continue to apply the counting principles when counting to 9 and 10 (forwards and backwards) They represent 9 and 10 in different ways. Arranging 9 or 10 items into small groups will support the children to conceptually subitise these larger numbers and explore their composition. (E.g. I know it is 9 because I see 3, 3 and 3) Children notice that a 10 frame is full when there is 10. They can use 10 frames, fingers and bead strings to subitise groups of 9 and 10</p>  <p><b>Other Resources</b></p> <p>There are many other books which focus on counting to 10          How do Dinosaurs Count to 10? - Yolen &amp; Teague          One Gorilla - Atsuko Morozumi          Mouse Count - Ellen Stoll Walsh          Nine Naughty Kittens - Linda Jenny          Feast for 10 - Cathryn Falwell          Numberblocks Series 2 - 9 and 10</p>  </div> <div data-bbox="1353 1371 1768 1858"> <p><b>Prompts for Learning</b></p> <p>Note: All the prompts for counting to earlier numbers can be applied to counting to 9 and 10, in addition to these ideas.</p> <p>Show me 10 fingers. Now show me 9          Did you need to count your fingers?          Show me 10 beads on the bead string. Show me 9          Show me 10 cubes on the 10 frame.          What do you notice?          Show me 9 cubes. What do you notice this time?          Could you put 9 or 10 buttons on the 10 frame without counting them?</p>  <p>Hold up a number card. Ask the children to show the corresponding number of fingers or to do the corresponding number of actions. Ask the children to help you order the digit cards from 1-10 and make deliberate mistakes. Can the children spot these and correct you? If you hide a card, can they work out which number is missing?</p> <p>Ask the children to count out 9 or 10 small objects. Can they find different ways to arrange their items? What do they notice?</p> </div>	<div data-bbox="1789 1203 2181 1249" style="background-color: #004a87; color: white; padding: 2px;">9 and 10</div> <div data-bbox="1789 1266 2181 1438"> <p><b>Outdoors</b></p> <p>Provide a starting line. Ask the children to take 9 giant steps, 9 tiny steps, 9 jumps, 9 tiptoes etc. How far do they travel each time? Who can travel the furthest in 9 giant steps? Who can travel the shortest distance with 9 tiny steps?</p>  </div> <div data-bbox="1789 1476 2181 1648"> <p><b>Outdoors</b></p> <p>Ask the children to build a wall and set up 10 green bottles. Each time a bottle 'accidentally falls' ask the children how many have fallen and how many are standing. Do they always have 10 in total?</p>  </div> <div data-bbox="2092 1375 2270 1470" style="border: 1px solid green; padding: 2px;"> <p><b>Enhancements to areas of learning</b></p> </div> <div data-bbox="2211 1203 2576 1438"> <p><b>Class Book</b></p> <p>Make a class counting book with a double page spread for each number 1 to 10 Stick in drawings or photographs of objects the children have collected. Discuss the different ways the children have represented each number.</p>  </div> <div data-bbox="2211 1455 2576 1669"> <p><b>Construction</b></p> <p>Provide a selection of bricks in different sizes and shapes. Ask the children to make the tallest possible tower using 10 bricks. Which bricks will they choose? How will they place their bricks to make the tower as tall as possible?</p>  </div>	<p>more, fewer/fewest greater/greatest smaller/smallest large/largest taller/tallest shorter/shortest compare how many? how many more? different/difference puzzle triangle, square fold/open count how many?</p>

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		<p>than or the same as the other quantity.</p>	<h3>3-D Shape</h3> <p><b>Guidance</b> Children will naturally explore and manipulate 3-D shapes through their block play and modelling. Prompt them to consider which shapes stack and which shapes roll and why that is. They should be given opportunities to build using a variety of shapes and to construct their own 3-D shapes in different ways. Children can be introduced to the names of the shapes and be given opportunities to explore similarities and differences between them as they play and to sort them according to what they notice.</p> <p><b>Other Resources</b> Mouse Shapes – Ellen Stoll Walsh Rapunzel – Traditional The Princess and the Pea – Traditional Changes Changes – Pat Hutchins</p> <p><b>Prompts for Learning</b> Hold up an object for example a crisp tube or a cereal box. Which of the 3-D shapes is this like? Why is it like this? What other items have this shape? Show the children a collection of 3-D shapes. Choose one of the shapes. Ask the children to tell their partner as many things as they can about the shape. Can they find another shape like this? Can they find a different shape? How is it different? Sort the shapes into groups. Ask 'Why did you put these shapes together? How is this set different to this one? Is there another way we could sort them?' Which shapes would you use to build Rapunzel's tower? Can you add a staircase? Which shapes would you use at the bottom of the tower? Which shapes would you use at the top?</p>	<h3>3-D Shape</h3> <p><b>Paint</b> Show the children a print made from a 3-D shape. What shape is the print? Which 3-D shape could have made this print? Is there more than one? Which of the 3-D shapes could you use to print a triangle or a square? Can you print a pattern using the shapes?</p> <p><b>Modelling</b> Provide a variety of empty boxes, tubes, lids etc. Ask the children to make a model for a particular purpose. E.g. Build a bridge for the 3 Billy Goats, a new chair for Baby Bear. Encourage them to tell you about their model. Which shapes were easy to fasten together? Which shapes were difficult to fasten together?</p> <p><b>Construction</b> Provide pictures of buildings such as castles, palaces, mosques, city-scapes. Ask the children to discuss the shapes they can see in the buildings? Encourage the children to design their own models and to extend these by adding arches, bridges and moats.</p> <p><b>Dough</b> Ask the children to make 3-D shapes using the dough. Ask: Which shapes are the easiest to make? Why? Which are harder to make? Why? How did you make the flat sides?</p> <p><b>Enhancements to areas of learning</b></p>	<p>build turn same/different</p>
<p>5</p>	<p>Compare numbers. (smallest/largest/smaller/larger/more/less)</p> <p>Understand the 'one more than/one less than' relationship between consecutive numbers (to 10)</p> <p><i>I can subitise to 5 with greater reliability.</i></p> <p>Compare length, weight and capacity.</p>	<p>Have a deep understanding of number to 10, including the composition of each number.</p> <p>Subitise (recognise quantities without counting) up to 5</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.</p>	<h3>Comparing Numbers to 10</h3> <p><b>Guidance</b> Children continue to make comparisons by lining items up with 1-1 correspondence to compare them directly or by counting each set carefully and comparing their position in the counting order. As the children's sense of number develops so does their knowledge of where each number sits in relation to other numbers. They understand that when making comparisons a set can have more items, fewer items or the same number of items as another set. They begin by comparing 2 quantities and progress to ordering 3 or more quantities.</p> <p><b>Other Resources</b> Cockatoos – Quentin Blake Mr Magnolia – Quentin Blake Ten Black Dots – Donald Crews The Napping House – Audrey Wood &amp; Don Wood Engines Engines – Lisa Bruce &amp; Stephen Waterhouse</p> <p><b>Prompts for Learning</b> Ask questions to make comparisons for a real purpose. Are more children having sandwiches or dinners? Which book shall we read today? Can you place a cube to vote for your favourite? As you read the stories, compare the quantities in different parts of the story. E.g. in Cockatoos, are more birds hiding in the bathroom or in the attic? Grab a handful of buttons. Ask the children to guess how many you could be holding and then count them out onto a 10 frame to see. How many buttons can they hold in one hand? Compare their handful to their friends. Use cubes to build towers from 1 to 10. Can the children order the towers? What do they notice? Can they see that each number is one more than the number before?</p> <h3>Length and Height</h3> <p><b>Guidance</b> Children begin by using language to describe length and height, e.g. the tree is tall, the pencil is short. When making direct comparisons, they may initially say something is bigger than something else. Encourage them to use more specific mathematical vocabulary relating to length (longer, shorter), height (taller, shorter), and breadth (wider, narrower). Encourage the children to make indirect comparisons using objects such as blocks or cubes to measure items. E.g. The sand tray is 4 blocks long. The table is 5 blocks long. The sand tray is shorter than the table.</p> <p><b>Other Resources</b> The Giraffe who got a Knot – John Bush Titch – Pat Hutchins Tall – Jez Alborough Jack and the Beanstalk – Traditional Jim and the Beanstalk – Raymond Briggs</p> <p><b>Prompts for Learning</b> Opportunities for comparing length or height will arise naturally through the children's talk as they play. They may compare the height of their towers or length of their roads, or see who has the longest scarf, or who can thread the longest string of beads. Support each child to make a paper 'footprint'. Can they find items which are longer than their foot, shorter, about the same size? Can a small group arrange their footprints in size order by making direct comparisons? Provide a selection of measuring items for the children to explore. E.g. rulers, tape measures, trundle wheels, height charts. The children may also like to create their own height charts and tape measures and use them to measure items inside and out. Provide pots and soil and seeds for the children to plant. Encourage them to find ways to measure, compare and record the height of their plants as they grow.</p>	<h3>Comparing Numbers to 10</h3> <p><b>Loose Parts</b> Provide the 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. Can you find a set with more than this one? Can you find 2 sets with the same quantity?</p> <p><b>Finger Gym</b> Make a caterpillar by threading some beads onto a pipe cleaner. Ask the children to make caterpillars with more beads and fewer beads than you. Which caterpillar is the longest? Which is the shortest? Can we arrange the caterpillars in order?</p> <p><b>Maths Area</b> Provide a set of dominoes. Can the children sort them into sets of dominoes with 7 spots, more than 7 spots and fewer than 7 spots? In pairs, play Who Has More. With the dominoes face down, choose one domino each and compare the spots. The player with the most spots can keep the pair.</p> <p><b>Jack Daisy Mark Making</b> Ask the children to build or write their name. (Butterbeans with individual letters on are nice for this.) How many letters does their name have? Do they have more letters, fewer letters or the same number of letters as their friend?</p> <h3>Length and Height</h3> <p><b>Construction</b> Build a tower or a road. Challenge the children to build a tower the same height as yours, a shorter tower, a taller tower. A longer road, a shorter road. How tall is the tallest tower they can build? Can they build beds or chairs for Daddy Bear, Mummy Bear and Baby Bear?</p> <p><b>Small World</b> Provide materials for the children to construct bridges for the 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. They could also investigate who can push their car the furthest? How will they measure this?</p> <p><b>Workshop</b> Provide a variety of ribbon, lace, string. Ask the children to cut pieces and make direct comparisons with a given length (E.g. a piece of ribbon taped to the table) Can they sort the lengths into the same as, longer than and shorter than the given length? They could also line the lengths up in order from longest to shortest.</p> <p><b>Dough</b> Encourage the children to use mathematical language relating to length as they play. Ask: Can you make a long snake? A short snake? A thick snake? A thin snake? Show me the longest snake you can make. How many blocks long is your snake?</p> <p><b>Enhancements to areas of learning</b></p>	<p>more, fewer/fewest greater/greatest smaller/smallest large/largest taller/tallest shorter/shortest compare how many? how many more? different/difference  large/larger/largest st bigger/biggest small/smaller longer/longest shorter/shortest tall/taller/tallest further/furthest length same, different, equal measure compare</p>

# Reception Maths Medium Term Plan – Spring 1

**Digging Deeper**

### How Far Can You Throw?

Give each child a small object such as a bean bag or welly. In small groups or pairs, challenge the children to throw the object as far as they can. Who has thrown their item the furthest? How could we check?



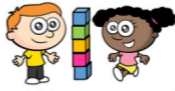
Encourage the children to discuss and try different ways to find this out. For example they could count strides or heel-to-toe footsteps or use a trundle wheel.

Prompt them to use the language of further, nearer and closer. Encourage them to record their distances using their own methods. Have another throw – did they manage to throw their item further this time?

### Key Questions

Who has thrown their item the furthest?  
How could we check?  
Have another go – Did you throw it further this time?  
How do you know?  
Who is the tallest person? How do you know?  
How many bricks measure the same height as you?

### Towers



In a small group put the children into pairs and ask them to build a tower the same height as their partner.

Can they order their towers from shortest to tallest?

Encourage the children to draw their friends and towers and to record how many bricks there are in each tower. Prompt them to use the language of shortest, shorter than, taller than and tallest as they compare their towers and friends.

## Power Maths Unit 10 – Measure

6

Explore the composition of numbers to 10.

Compare length, **weight** and capacity.

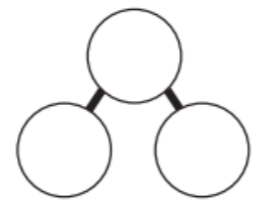
Have a deep understanding of number to 10, including the composition of each number.

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


## Power Maths Unit 9 – Addition to 10

**STRUCTURES AND REPRESENTATIONS**


**Part-whole model:** This model helps children understand that two or more things combine to make a whole.



**Counters:** Using sets of differently coloured counters supports children's understanding of basic addition facts; that two or more amounts can be combined to make a whole.



**Multilink cubes:** Multilink cubes are excellent for demonstrating number and size relationships and to count and compare.



**RESOURCES**

**Mandatory:** hula hoops, pots, soil, seedlings, counters, multilink cubes, part-whole models (photocopiable 23)


**Optional:** flowers, pipe-cleaner flowers or pictures of flowers, tissue paper, similar objects for sorting (coloured balls, different sized bricks, coloured toy cars), sets of items for sorting (apples and bananas on plates, thin brushes and thick brushes in paint pots, piles of large and small stones, toy cows and horses), digit cards

## Power Maths Unit 10 – Measure

## Compare Size, Mass & Capacity

**Modelling**

Ask the children to create homes or containers for different sized soft toys or small world creatures. What size and shape will they need for an elephant? A giraffe? A mouse? Can their friends guess who is inside?




**Enhancements to areas of learning**

**Sand and Water**


Provide equipment in 2 distinct sizes. For example, a big bucket and a little bucket, a tall jug and a short jug.

Encourage the children to compare the objects and to explore how many scoops each will hold. They could also count how many large scoops and how many small scoops a container will hold.



**Outside**

Set up an area where the children can dig and provide large and small spades and garden trowels. You can also provide different sized containers for the children to fill and empty. Which containers are the easiest to carry? Wheelbarrows might also prove popular!



**Construction**

Encourage the children to build using long and short blocks. Which type of blocks will they choose for their models? Is it easier to build a road using long or short blocks? Can they build a long road and a short road, a tall tower and a short tower. Which type of block will balance on its end most easily?

count  
part  
whole  
altogether  
how many?  
total  
1,2,3,4,5,6,7,8,9,10  
0  
addition  
adding together  
counting  
more, fewer

heavy/heavier/heaviest  
light/lighter/lightest  
same  
different  
amount  
weight  
equal  
balanced  
balance scale  
estimate  
check  
measure

# Reception Maths Medium Term Plan – Spring 1

## Compare Size, Mass & Capacity

### Guidance

The children learn that objects can be compared and ordered according to their size. Encourage the children to use language such as big and little, large and small to describe a range of objects in the classroom. More specific language such as tall, long and short could also be introduced. Encourage children to compare and order objects by size in the different areas of provision and to use the vocabulary to explain what they notice.

### Other Resources

Where's My Teddy - Jez Alborough  
It's The Bear - Jez Alborough  
Dear Zoo - Rod Campbell  
A New House for Mouse - Petr Horacek  
Mr Big - Ed Vere  
My Cat Likes to Hide in Boxes - Eve Sutton

### Prompts for Learning

Start by showing the children a mystery box. This could be very small or very large or very tall and thin. Ask the children to predict what could be inside. Could they fit inside the box? Why not? What else could or could not fit into the box? Compare to a contrasting shaped/sized box.



Prepare a picnic basket for a teddy bear's picnic. Include plates, cups, spoons, hats, napkins etc. of two different sizes. You will also need 2 bears - a big bear and a little bear. Unpack the basket and discuss which size item would be best for which size bear.



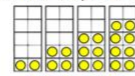
Hide a selection of large balls and small balls around the outside area. Ask the children to go on a ball hunt and collect all the balls they find. What do they notice? Can they sort the balls into 2 buckets - large balls and small balls? Which balls are easier to catch and which are harder?



## Doubling

### Guidance

The children will learn that double means 'twice as many'. They should be given opportunities to build doubles using real objects and mathematical equipment. Building numbers using the pair-wise patterns on 10 frames helps the children to see the doubles. Mirrors and barrier games are a fun way for children to see doubles as they build and to explore early symmetry. Encourage children to say the doubles as they build them, e.g. Double 2 is 4. Provide examples of doubles and non-doubles for the children to sort and explain why.



Pair-wise pattern



### Other Resources

Double Trouble - Nrich  
This is the Story of Alison Hubble - Allan Ahlberg  
Two of Everything - Lily Hong  
Double Dave - Sue Hendra  
Double the Ducks - Stuart J Murphy  
Numberblocks Series 2 Episode 9 - Double Trouble

### Prompts for Learning

Allow the children to explore different ways to build doubles using real objects and practical equipment.



Provide sets of dominoes and ask the children to find the doubles. Show the children how to play dominoes and look at the doubles they make as they play.

### Play Match my Quantity

The children sit opposite each other in pairs with a barrier between them and a collection of small items such as pebbles or cubes. One child sets out a quantity. They show their partner quickly and then hide again. Their partner matches the quantity. Then the barrier is removed. Check - Is it a double? Which double have we made?

### Play Doubles

The children take turns to roll 2 dice. They score a point each time they roll a double. The first to reach 3 points wins the game.



## Power Maths Unit 18 - Measure

## Compare Size, Mass & Capacity

### Guidance

The children learn that objects can be compared and ordered according to their size. Encourage the children to use language such as big and little, large and small to describe a range of objects in the classroom. More specific language such as tall, long and short could also be introduced. Encourage children to compare and order objects by size in the different areas of provision and to use the vocabulary to explain what they notice.

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## Doubling

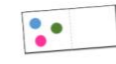
### Maths Area

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 of cards at the end wins the game.



### Art Area

Provide large paper with a fold down the middle. Encourage the children to make doubles by adding blobs of paint to one side of the paper only. Then fold the paper over to make the double. Can they predict how many blobs of paint there will be altogether if they start with 3 blobs?



### Enhancements to areas of learning

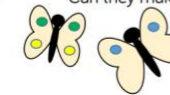
### Outdoors

Have number shapes hidden around the outdoor area. Give each child a number shape and ask them to find another one the same to make a double. Encourage them to say the double they have found, e.g. Double 5 is 10.



### Finger Gym

Provide ladybird or 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?



## Compare Size, Mass & Capacity

### Modelling

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### Enhancements to areas of learning

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compare

7

Beginning to identify doubles to 10.

Compare length, weight and capacity.

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

double  
equal groups  
double facts  
doubling  
more  
same  
different  
how many?  
altogether  
half, halving  
share

full, nearly full,  
not full, half full  
empty, nearly  
empty, half  
empty  
more, most  
less, least  
nothing, none  
same, equal  
fill, pour, empty  
measure  
check  
compare