

Autumn term	Week 1 Week 2 Getting to know you	Week 3 Match and compa FREE TR	are	Week 5 Talk al measu and patter	ıre	Week 7 It's me 1, 2, 3		Circles and triangles	Week 10	Week 11 , 4, 5 VIEW	Week 12 Shapes with 4 sides VIEW
Spring term	Alive in 5 view	Mass and capacity	Grow 6, 7, 8		Lengt height time		Buildi	ng 9 and	10 view	Exploi 3-D si	
Summer term	To 20 and beyond view	Main Many now?	comp and	oulate, oose mpose view	Sharir group	ng and ing VIEW	Visual and m	ise, build ap	VIEW	AIA Make connections	Consolidation

Autumn book list

These books are within the White Rose Maths Reception schemes of learning. They are not an exclusive but support the learning in each step.

Block 1 - Match, sort and compare

- A Pair of Socks by Stuart J. Murphy
- Seaweed Soup by Stuart J. Murphy
- The Button Box by Margarette S. Reid
- Beep Beep, Vroom Vroom! by Stuart J. Murphy

Block 2 – Talk about measure and pattern

- Where's My Teddy? by Jez Alborough
- It's the Bear! by Jez Alborough
- The Blue Balloon by Mick Inkpen
- Dear Zoo by Rod Campbell
- My First Book of Patterns by Bobby and June George
- We're Going on a Bear Hunt by Michael Rosen
- A-B-A-B-A A Book of Pattern Play by Brian P. Cleary

Block 3 – It's me 1, 2, 3

- Anno's Counting Book by Mitsumasa Anno
- How to Count to One by Casper Salmon
- Goldilocks and the Three Bears
- The Gingerbread Man
- A Squash and a Squeeze by Julia Donaldson
- The Three Billy Goats Gruff

Block 4 – Circles and triangles

- Circle, Triangle, Elephant! A Book of Shapes and Surprises by Kenji Oikawa and Mayuko Takeuchi
- Triangle by Mac Barnett and Jon Klassen
- · Shapes, Shapes, Shapes by Tana Hoban
- We're Going on a Bear Hunt by Michael Rosen
- Rosie's Walk by Pat Hutchins

Block 5 - 1, 2, 3, 4, 5

- Witches Four by Marc Brown
- Five Little Fiends by Sarah Dyer
- Pete the Cat and his Four Groovy Buttons by Eric Litwin
- Kipper's Birthday by Mick Inkpen
- The Very Hungry Caterpillar by Eric Carle
- Stella to Earth! by Simon Puttock and Philip Hopman
- Anno's Counting Book by Mitsumasa Anno

Block 6 – Shapes with 4 sides

- Bear in a Square by Stella Blackstone
- Square by Mac Barnett and Jon Klassen
- Shapes, Shapes, Shapes by Tana Hoban
- Night Monkey, Day Monkey by Julia Donaldson
- The Fox in the Dark by Alison Green

White Rose Steps				
Match, sort and compare	Rationale	What could this look like?		
Step 1 Match objects	Matching is a simple form of sorting and is the beginning of logical thinking. Through matching, children learn <u>one-to-one</u> <u>correspondence</u> .	Point out to children where objects such as water bottles or book bags belong around the classroom to help with routines of the day.		
Step 2 Match pictures and objects	Matching is a simple form of sorting and is the beginning of <u>logical thinking</u> . Through matching, children learn <u>one-to-one</u> <u>correspondence</u> . Matching objects to pictures develops children's understanding that <u>objects can be represented by</u> <u>pictures</u> .	At tidy-up time, encourage children to match resources to pictures to ensure that they are put away in the correct place. Where does this belong?		
Step 3 Identify a set	Identifying and making sets is a precursor to counting. Children need this for the basis of the counting principles of <u>cardinality and</u> <u>one-to-one correspondence.</u>	Task children to pack a lunch box so that everyone has a lunch consisting of the same set of items. Children should ensure that each lunch box has a sandwich, a drink and a piece of fruit. Present children with an incorrect lunch box. Why is this set wrong? What do we need to do to make it right?		
Step 4 Sort objects to a type	When children sort objects, they are learning that some things are alike, and some are different. Early experiences of sorting objects into groups according to their similarities helps children to learn how to <u>categorise and is a precursor to</u> <u>classifying.</u>	Mix up some resources in a continuous provision area. For example, muddle up the farm animals with the wild animals. Ask children to help sort the different objects and put them back into the correct box or place on the shelf.		
Step 5 Explore sorting techniques	Links to the curriculum Birth to 5 Matters - Range 6 - Spots patterns in the environment, beginning to identify the pattern "rule".	When lining up during the day, ask children to join the line depending on different attributes, for example, line up if you have a sister.		
Step 6 Create sorting rules	Links to the curriculum Birth to 5 Matters - Range 6 - Spots patterns in the environment, beginning to identify the pattern "rule".	With children, redesign an area of the classroom. Encourage children to come up with different rules for the specific area, for example the mark-making area. How could we sort the pencils and pens? What will the rule be? Encourage children to reason and explain why the objects are sorted in that way.		
Step 7 Compare amounts	Links to the curriculum Development Matters - Reception - Compare numbers. • Birth to 5 Matters - Range 5 - Compares two small groups of up to five	In pairs, children grab a handful of objects, such as cubes, beads or conkers. Can your partner hold more than you, fewer than you or the same amount as you? Support children to line up their objects, with one line underneath the other.		

Checkpoint 1

The box that the buttons are stored in has been dropped. There are buttons everywhere. Ask children to sort the buttons and put them back in the box in sets.



Observe children as they sort the buttons.

Can they explain how they have sorted them?

Can they find another way to sort them?

Checkpoint 2

When playing alongside children in the small world area, can children make collections and say why they belong to a set?

For example, "This set are all cows" or "This set are all horses".

Can children say which set has more?



Checkpoint 3

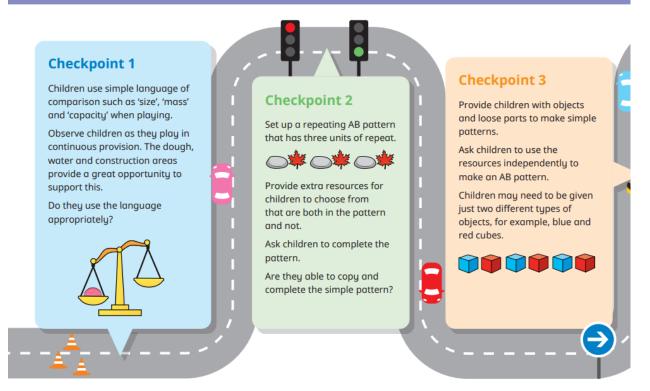
The daily routine of tidy-up time is a great opportunity to observe children and notice who can match and sort effectively.

Are children able to use the pictures and shadowing on the storage units to ensure that the resources are put back in the correct area of the classroom, shelf or box?

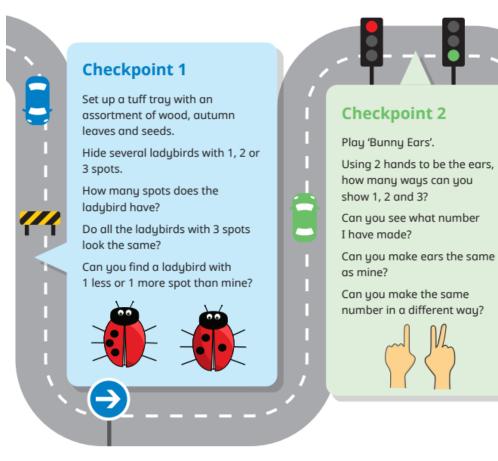


Talk about Measure and	Rationale	What could this look like?
Pattern		
Step 1 Compare size	Links to the curriculum Development Matters - 3 and 4-year-olds - Make comparisons between objects relating to size, length, weight and capacity. Birth to 5 Matters - Range 4 - Explores differences in size, length, weight and capacity.	Build in the construction area using a variety of large, small, long and short blocks. Encourage children to make big houses, little houses, tall towers and short towers. Ask children what size of animal or person could live in their house or tower
Step 2 Compare mass	Links to the curriculum Development Matters - 3 and 4-year-olds - Make comparisons between objects relating to size, length, weight and capacity. Birth to 5 Matters - Range 5 - In meaningful contexts, finds the longer or shorter, heavier or lighter and more/ less full of two items.	Wrap up a range of boxes, each with a different mass. Ensure that some of the small boxes are heavy and some of the large boxes are light. Pick up a box and ask children to predict if it will be heavy or light. Ask them to test their predictions using a balance scale. Are all small boxes light?
Step 3 Compare capacity	Links to the curriculum Development Matters - 3 and 4-year-olds - Make comparisons between objects relating to size, length, weight and capacity. Birth to 5 Matters - Range 5 - In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items.	Have a range of different boxes including some small, large, tall and thin. Show children one of the boxes and ask what could be inside. Could they fit in the box? Why or why not? Present a range of objects from around the classroom. Could these objects fit in the box?
Step 4 Explore simple patterns	Links to the curriculum Development Matters - 3 and 4-year-olds - Talk about and identify the patterns around them. Birth to 5 Matters - Range 5 - Explores and adds to simple linear patterns of two or three repeating items.	Demonstrate simple action patterns for children to copy. jump, clap, jump, clap hands up, hands down, hands up, hands down, hands up, hands down Say the pattern aloud and encourage children to join in.
Step 5 Copy and continue simple patterns	Links to the curriculum Development Matters – Reception – Continue, copy and create repeating patterns.	Show children a range of AB patterns in images and with real-life objects. Encourage children to say what they see. Prompt children

	Birth to 5 Matters - Range 5 Explores and adds to simple linear patterns of two or three repeating items. Joins in with simple patterns in sounds, objects, games and stories, dance and movement, predicting what comes next.	next Provide children with a range of musical instruments. Use a drum or tambourine to tap out a simple beat, for example: tap, shake.
Step 6	Links to the curriculum	Provide a selection of fruit cut into small pieces, such as bananas
Create simple patterns	Development Matters - Reception - Continue, copy and create repeating patterns.	and strawberries. Encourage children to make an edible repeating pattern and prompt them to describe the pattern before they eat
	Birth to 5 Matters - Range 5 - Creates their	their snack. This can be extended to children making their own
	own spatial patterns showing some	fruit kebabs with a repeating pattern.
	organisation or regularity.	



Its me 1,2,3	Rationale	What could this look like?
Step 1 Find 1, 2 and 3 Step 2	Links to the curriculum Development Matters - Reception - Count objects, actions and sounds. Link the number symbol (numeral) with its cardinal number value. Birth to 5 Matters - Range 5 - Links numerals with amounts up to 5 and maybe beyond. Links to the curriculum	Give children a set of number cards. Some cards should show 1, 2 and 3 as numerals. The other cards should show different representations of 1, 2 and 3 Ask children to find each number. Get them to check each other's answers Share stories such as How to Count to One by
Subitise 1, 2 and 3	Development Matters - Reception - Subitise Birth to 5 Matters - Range 5 - Subitises one, two and three objects (without counting)	Casper Salmon. Encourage them to subitise and notice where they see 1, 2 and 3 Where can they see 1, 2 and 3 groups of objects or characters from the story? Can they show you 1, 2 and 3?
Step 3 Represent 1, 2 and 3	Links to the curriculum Development Matters - Reception - Count objects, actions and sounds. Link the number symbol (numeral) with its cardinal number value. Birth to 5 Matters - Range 5 - Links numerals with amounts up to 5 and maybe beyond.	Give each child a five frame and 3 cubes or counters. Clap twice. Ask children to show the number of claps on their five frame. Then, get children to come up to the front and represent either 1, 2 or 3 using sounds or actions for others to show on their five frame.
Step 4 1 more	Links to the curriculum Development Matters - Reception - Understand the 'one more than/one less than' relationship between consecutive numbers. Birth to 5 Matters - Range 5 - Beginning to recognise that each counting number is one more than the one before.	After reading the story The Gingerbread Man, support children to build the 1 more pattern by bringing in each character using images or the children themselves as characters, to introduce 1 more each time. Extend this by building the pattern with cubes, adding 1 cube for each character.
Step 5 1 less	Links to the curriculum Development Matters - Reception - Understand the 'one more than/one less than' relationship between consecutive numbers. Birth to 5 Matters - Range 5 - Positive relationships - Emphasise the one more, one less pattern in rhymes and traditional tales, asking children to predict the next number	Task the children with dropping pebbles into a bucket or into a cup. Encourage them to count the sounds. Ask them to predict how many pebbles there would be if you took one out. Count together to check. This can also be used for reinforcing 1 more.
Step 6 Composition of 1, 2 and 3	Links to the curriculum Development Matters - Reception - Explore the composition of numbers to 10	Ask children to count out 3 double-sided counters, shake them in their hand and drop them down. How many are red? How many are yellow? Can they get all red or all yellow?



Checkpoint 3

Set up a small world bridge and 2 fields.

Each player builds a 1, 2 and 3 tower to represent the 3 goats.

Roll a 1–3 dice and move the corresponding tower over the bridge.

The winner is the first player to move all 3 'goats' over the bridge.

Encourage the children to notice how many goats are on each side of the bridge as they play.



Circles and Triangles	Rationale	What could this look like?
Step 1 Identify and name circles and triangles	Links to the curriculum Development Matters - 3 and 4-year-olds - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language. Birth to 5 Matters - Range 6 - Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes.	Display works of art featuring circles and triangles, such as Kandinsky's Circles in a Circle and Stained in Triangle. Encourage children to use mathematical language to describe the shapes that they find. In small groups, support children to create their own art in a similar style
Step 2 Compare circles and triangles	Links to the curriculum Development Matters - 3 and 4-year-olds - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language. Birth to 5 Matters - Range 6 - Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes.	Have a mystery box with lots of circles and triangles inside. Ensure that the shapes are of different sizes and represent different types of triangles. ? Ask children to select a shape from the box and talk about what they notice. Explore how shapes can be sorted by size and type
Step 3 Shapes in the environment	Links to the curriculum Development Matters - 3 and 4-year-olds - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language. Birth to 5 Matters - Range 6 - Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes.	Go on a walk around the local environment and hunt for shapes. How many circles can children find? How many triangles can they find? Children could take photographs of the shapes they see on the walk and these could be used to make a shape display when you get back to school.
Step 4 Describe position	Links to the curriculum Development Matters - 3 and 4-year-olds Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. Birth to 5 Matters - Range 5 - Responds to and uses language of position and direction.	Many stories, such as We're Going on a Bear Hunt by Michael Rosen and Rosie's Walk by Pat Hutchins, focus on positional language and journeys. Read one of these stories with children, using gestures as you read to emphasise the positional language. Provide children with resources to build the scenes from the story in the small world area or on a large scale outside. Prompt them to recreate the journey that the characters go on

Checkpoint 1

Hide different-sized circles and triangles around the classroom and outdoor area.

Place two hoops on the carpet.



Can children identify the triangles and circles and sort the shapes by placing them into the hoops?

Are they able to explain why they have placed each shape in the chosen hoop?

Checkpoint 2

Place a toy, such as a bear, on top of your head. Where is the bear?

Position the bear in different areas of the classroom, for example, under the chair, next to the box and on the shelf.



Are children able to identify where the bear is positioned in relation to other objects?

Checkpoint 3

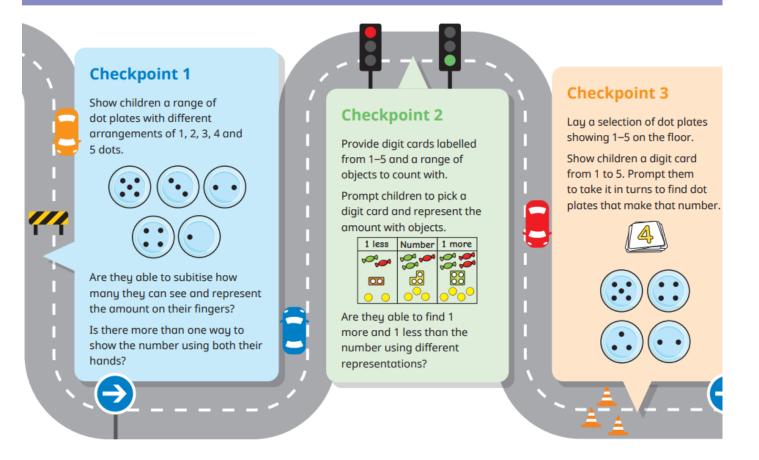
Set up a small world area related to children's interests. While playing, check that children are able to follow and use the language related to position, for example, "The cow is walking around the pond", or "The elephant is standing next to the giraffe".



Give children different instructions to follow, and encourage them to give you instructions.

1,2,3,4,5	Rationale	What could this look like?
Step 1	Links to the curriculum	Place six picture cards showing 4 or 5 items face-down on
Find 4 and 5	Development Matters – Reception – Link the number	the table. Children take turns to turn over two cards each. If
	symbol (numeral) with its cardinal number value.	the two cards show the same quantity, they can keep the
		cards. Otherwise, they turn the cards face-down again. The
	Birth to 5 Matters – Range 5 – Points or touches (tags)	winner is the child with the most cards when all the cards
	each item, saying one number for each item, using the	have been taken. Once children know the rules, leave out
	stable order of 1, 2, 3, 4, 5.	resources for them to lead their own game.
Step 2	Links to the curriculum	Share stories such as Pete the Cat and his Four Groovy
Subitise 4 and 5	Development Matters – Reception – Subitise.	Buttons by Eric Litwin with children. Encourage them to
		subitise and notice where they see 4 without having to
	Birth to 5 Matters – Range 6 – Engages in subitising	count. Show them a five frame with 4 or 5 buttons. Prompt
	numbers to four and maybe five.	them to copy it and explain how they know it is 4 or 5
Step 3	Links to the curriculum	Provide children with interesting objects to count, such as
Represent 4 and 5	Development Matters – Reception – Count objects, actions	shells. Ask children to count out 4 or 5 items and arrange
	and sounds. Link the number symbol (numeral) with its	them on the floor in front of them. How many are there
	cardinal number value.	altogether? Does your group of 4 look the same as mine?
	Birth to 5 Matters – Range 5 – Links numerals with	Encourage children to arrange their objects in a different pattern.
	amounts up to 5 and maybe beyond.	
Step 4	Links to the curriculum	Read the story The Very Hungry Caterpillar by Eric Carle.
1 more	Development Matters – Reception – Understand the 'one	Prompt children to notice that each day he eats 1 more
THORE	more than/one less than' relationship between	item. Encourage children to use cubes to represent the
	consecutive numbers.	food he ate over the week and notice the '1 more' pattern.
		Provide children with their own blank book with 5 pages.
	Birth to 5 Matters – Range 5 – Beginning to recognise that	Children represent the '1 more' pattern by drawing their
	each counting number is one more than the one before	favourite food items
Step 5	Links to the curriculum	Sing and act out the rhyme Five Currant Buns together as a
1 less	Development Matters – Reception – Understand the 'one	class. Pick 5 children to come and buy the buns. They give a
	more than/one less than' relationship between	1 pence coin to the baker as they take the bun. Stop at
	consecutive numbers.	regular intervals to encourage children to notice that, as a
	Birth to 5 Matters – Range 5 – Positive relationships –	bun is taken away, there is 1 less each time. Model by using
	Emphasise the one more, one less pattern in rhymes and	a five frame and counters. Start with 5 counters and
	traditional tales, asking children to predict the next	remove 1 each time a bun is taken.
	number.	
Step 6	Links to the curriculum	Put children into groups of 4 or 5 and provide them with
Composition of 4 and 5	Development Matters – Reception – Explore the	two hoops, labelled 'yes' and 'no'. Ask children questions,
	composition of numbers to 10.	for example, "Do you like apples?" Prompt children to

	Birth to 5 Matters – Range 6 – Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects.	move into the 'yes' or 'no' hoop. How many children are in each hoop?
Step 7 Composition of 1 - 5	Links to the curriculum Development Matters – Reception – Explore the composition of numbers to 10. Birth to 5 Matters – Range 6 – Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects.	Give children a range of Numicon representing 1 to 5. Encourage them to investigate combining two smaller numbers to make a whole. Children could check by sitting the two parts on top of the whole number. Is there another way?



Shapes with 4 sides	Rationale	What could this look like?
Step 1 Identify and name shapes with 4 sides	Links to the curriculum Development Matters – 3 and 4-year-olds – Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language. Birth to 5 Matters – Range 6 – Uses informal language and analogies, (e.g. heart-shaped and hand- shaped leaves), as well as mathematical terms to describe shapes	Read shape books such as Bear in a Square by Stella Blackstone and pay particular attention to the square and rectangle pages. Encourage children to identify the different shapes on each of the pages. Where can you see a square? Where can you see a rectangle? Prompt children to talk about the properties of each shape.
Step 2 Combine shapes with 4 sides	Links to the curriculum Development Matters – Reception – Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Birth to 5 Matters – Range 5 – Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes.	Have a range of flat paper squares and rectangles for children to explore. Ask children to investigate which new shapes they can make by combining different combinations of the shapes. Task children to make a large, medium or small square or rectangle. Is there a different way to make the same size shape?
Step 3 Shapes in the environment	Links to the curriculum Development Matters - Reception - 3 and 4-year-olds - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language. Birth to 5 Matters - Range 5 - Shows awareness of shape similarities and differences between objects.	Go on a shape hunt around school. Ask children to point out where they see squares and rectangles on the surface of everyday objects. Challenge children to say what is the same and what is different about the shapes they find. Ask children to explain how they know it is that shape.
Step 4 My day and night	 Links to the curriculum Development Matters – 3 and 4-year-olds – Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then' Birth to 5 Matters – Range 6 – Is increasingly able to order and sequence events using everyday language related to time. 	Use stories and nonfiction books, such as Night Monkey, Day Monkey by Julia Donaldson or The Fox in the Dark by Alison Green, to introduce the idea of nocturnal animals. Explain that as we go to sleep, some animals are waking up because they come out at night. Provide children with different pictures illustrating things that we do during the day and at night. Encourage children to sort the images into two piles and talk about what we do in the day and at night.

Checkpoint 1

Hide a range of flat 2-D shapes in a feely bag or underneath a cloth.

Partially reveal a shape, encouraging children to say what different shapes it could be or could not be and why.



Pull the shape out further. Do they still think it could be the same shape?

What has changed about the shape? What is the same?



Provide children with a selection of paper squares and rectangles in various sizes and colours.

Prompt them to combine two shapes to make a rectangle or a square.



Are they able to combine three or four shapes? Which ways will work? Which ways will not work?

Checkpoint 3

Label a daytime and night-time area outside.

Call out an activity familiar to children and ask them to run to the daytime or night-time area. For example, stars appear, we put on our pyjamas, we get dressed, we eat lunch or owls wake up.





Encourage children to suggest some of their own daytime and night-time activities.