

Numicon Firm Foundations activities for the White Rose Foundation Scheme

This document will tell you which activities you can use from *Numicon Firm Foundations Revised Edition (2021)* to support the White Rose Foundation Scheme of Learning. The first three tables match the White Rose Foundation Scheme of Learning with the main Numicon Activity Cards that help cover each topic. The final table gives more detailed information for each topic detailing which activities on each card support the teaching objectives. Clicking on the headings for each topic area below will take you straight to the detailed information in the final table.

Match of White Rose Reception Scheme of Learning to Numicon Firm Foundations Revised Edition: Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase 0: Getting to Know You Numicon Activity Card 1, 3			Phase 1: Just Like Me! Numicon Activity Card 1, 2, 3, 4, 5, 6, 7, 9, 10			Phase 2: It's Me 1 2 3! Numicon Activity Card 1, 2, 3, 4, 5, 6, 9, 10			Phase 3: Light and Dark Numicon Activity Card 3, 4, 5, 6, 8, 9, 10, 12		

Match of White Rose Reception Scheme of Learning to Numicon Firm Foundations Revised Edition: Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase 4: Alive in 5! Numicon Activity Card 3, 4, 5, 6, 7, 9, 12, 15			Phase 5: Growing 6, 7, 8 Numicon Activity Card 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 17			Phase 6: Building 9 and 10 Numicon Activity Card 2, 3, 4, 5, 6, 7, 9, 10, 11, 14, 15, 17, 18					

Match of White Rose Reception Scheme of Learning to Numicon Firm Foundations Revised Edition: Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase 7: To 20 and Beyond Numicon Activity Card 1, 6, 8, 11, 16, 18			Phase 8: First Then Now Numicon Activity Card 7, 8, 9, 10, 11, 14, 15, 16, 17, 18			Phase 9: Find My Pattern Numicon Activity Card 8, 9, 10, 11, 13, 18			Phase 10: On the Move Numicon Activity Card 9, 11, 14, 16, 17, 18		

Detailed Activity Matches

The Numicon Activity Card matches come from the 'All doing maths together with Numicon' and 'Exploring maths all around us' sections on each card.

Number codes link to the activities on the activity cards in *Numicon Firm Foundations Revised Edition (2021)*. The first number is the card number, the second is the activity e.g., 1.1 is card 1 activity 1.

White Rose Guidance for Teachers mentions *The 5 Counting Principles* by Rachel Gelman and C.R. Gallistel. These principles are included in the *Key Mathematical Ideas* section of the Firm Foundations Teaching Guidance. These principles are woven into all the Numicon counting activities and the *Everyday counting with Numicon* activity card.

White Rose Phase	Mathematical Concept	Numicon Firm Foundations Links
Phase 0: Getting to Know You	<i>Opportunities for settling in, introducing the areas of the provision and getting to know children.</i> <i>Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? Positional language.</i>	Daily Routines with Numicon Card, Numicon Activity Card 1, 3 1.3, 3.5
Phase 1: Just Like Me!	<p>Number</p> <p>Match and sort</p> <ul style="list-style-type: none"> • Provide opportunities for the children to find and match objects which are the same. • Children learn that collections of objects can be sorted into sets based on attributes such as colour, size or shape. <p>Compare amounts</p> <ul style="list-style-type: none"> • Once children can confidently sort collections into sets, they learn that these sets can be compared and ordered. <p>Measure, shape and spatial thinking</p> <p>Compare size, mass and capacity</p> <ul style="list-style-type: none"> • The children learn that objects can be compared and ordered according to size. <p>Exploring patterns</p> <ul style="list-style-type: none"> • Children copy, continue and create their own simple repeating patterns (patterns which contain at least three full units of repeat). 	<p>Numicon Activity Card 1, 2, 3, 5, 6 1.2, 1.3, 1.4, 1.7, 2.2, 2.3, 2.4, 3.1, 3.3, 5.3, 5.4</p> <p>Numicon Activity Card 2, 3, 5, 6, 9, 10 2.1, 2.2, 2.3, 2.4, 3.4, 5.2, 6.1, 6.2, 9.1, 9.2, 9.3, 10.4</p> <p>Numicon Activity Card 1, 2, 4, 5, 6, 7 1.5, 1.6, 5.5, 6.3 Numicon Activity Card 2, 6 2.6, 6.1, 6.2</p>

<p>Phase 2: It's Me 1 2 3!</p>	<p>Number</p> <p>Representing one, two and three</p> <ul style="list-style-type: none"> Children identify representations of one, two and three. They subitise or count to find how many and make their own collections of one, two and three objects. <p>Comparing one, two and three</p> <ul style="list-style-type: none"> Children begin to understand that as we count, each number is one more than the number before. <p>Composition of one, two and three</p> <ul style="list-style-type: none"> Introduce children to the idea that all numbers are made up of smaller numbers. <p>Measure, shape and spatial thinking</p> <p>Circles and triangles</p> <ul style="list-style-type: none"> Children learn that circles have one curved sides and triangles have three straight sides. <p>Positional language</p> <ul style="list-style-type: none"> Children hear and begin to use positional language to describe how items are positioned in relation to other items. 	<p>Numicon Activity Card 1, 2, 3, 4, 5 1.3, 1.7, 2.3, 2.5, 3.2, 3.4, 4.1, 5.2, 5.3, 5.4</p> <p>Numicon Activity Card 2, 4, 5 2.3, 2.4, 4.1, 4.3, 5.1, 5.2, 5.3, 5.4</p> <p>Numicon Activity Card 3, 4, 5, 6, 9 3.2, 3.4, 4.2, 5.3, 5.4, 6.1, 9.3, 9.4</p> <p>Numicon Activity Card 3, 5, 10 3.5, 3 (Maths games and puzzles), 5 (Expressive arts and design), 10 (Maths games and puzzles)</p> <p>Numicon Activity Card 2, 4, 5, 6 2.2, 2.3, 2.4, 4.2, 6.3</p>
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<p>Phase 3: Light and Dark</p>	<p>Number</p> <p>Representing numbers to five</p> <ul style="list-style-type: none"> • Children count on and back to four. They count or subitise sets of up to four objects. • Children continue to subitise up to five items and to count forwards, and backwards, accurately using the counting principles. <p>One more and less</p> <ul style="list-style-type: none"> • Children continue to count, subitise and compare as they explore one more and one less. <p>Measure, shape and spatial thinking</p> <p>Shapes with four sides</p> <ul style="list-style-type: none"> • Children learn that squares and rectangles have four straight sides and four corners. (Note for teachers: In Numicon we use the language of oblongs and squares to emphasise that squares are a special type of rectangle with four equal sides.) <p>Time</p> <ul style="list-style-type: none"> • Children talk about night and day and order key events in their daily routine. 	<p>Numicon Activity Card 3, 4, 5, 6 3.2, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3, 5.4, 6.1</p> <p>Numicon Activity Card 8, 9, 10, 12 8.1, 8.2, 8.3, 9.1, 9 (Stories, non- fiction, songs and rhymes), 10 (Outdoor maths and physical play), 12.1, 12.2, 12.3, 12.4, 12.5, 12.6</p> <p>Numicon Activity Card 3, 10 3 (Maths games and puzzles), 10 (Maths games and puzzles)</p> <p>Numicon Activity Card 8 8 (Outdoor maths and physical play)</p>
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<p>Phase 4: Alive in 5!</p>	<p>Number</p> <p>Introducing zero</p> <ul style="list-style-type: none"> Children will already have some practical understanding of ‘nothing there’ or ‘all gone’. <p>Comparing numbers to five</p> <ul style="list-style-type: none"> Children continue to understand that when comparing numbers, one quantity can be more than, the same as or less than another quantity. <p>Composition of four and five</p> <ul style="list-style-type: none"> Children will continue to develop the understanding that all numbers are made up of smaller numbers. <p>Measure, shape and spatial thinking</p> <p>Compare mass (2)</p> <ul style="list-style-type: none"> Children may already have some experience of weight from carrying heavy and light items. Encourage them to make direct comparisons. <p>Compare capacity (2)</p> <ul style="list-style-type: none"> Encourage children to build on their understanding of full and empty to show half full, nearly full and nearly empty. 	<p>Numicon Activity Card 12 12 (Outdoor maths and physical play)</p> <p>Numicon Activity Card 4, 5 4.1, 4.3, 5.1, 5.2, 5.3, 5.4</p> <p>Numicon Activity Card 3, 4, 5, 6, 9 3.2, 3.4, 4.1, 4.2, 5.3, 5.4, 6.1, 9.3</p> <p>Numicon Activity Card 7, 15 7 (Role-play, small world and construction), 15 (Outdoor maths and physical play)</p> <p>Numicon Activity Card 4 4 (Sand, water and messy play)</p>
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<p>Phase 5: Growing 6, 7, 8</p>	<p>Number</p> <p>Six, seven and eight</p> <ul style="list-style-type: none"> Children continue to apply the counting principles when counting to six, seven and eight. They can count out the required number of objects from a larger group. <p>Making pairs</p> <ul style="list-style-type: none"> Children build on their earlier work on matching to find and make pairs. They begin to understand that a pair is two. <p>Combining two amounts</p> <ul style="list-style-type: none"> Children begin to combine two groups to find how many altogether. <p>Measure, shape and spatial thinking</p> <p>Length and height</p> <ul style="list-style-type: none"> Children begin by using language to describe length and height. <p>Time</p> <ul style="list-style-type: none"> Children continue to order and sequence important times in their day and use language such as now, before, later, soon, after, then and next to describe when events happen. 	<p>Numicon Activity Card 3, 4, 5, 6, 7, 8, 9</p> <p>3.2, 3.4, 4.1, 4.3, 5.1, 5.2, 5.3, 5.4, 6.1, 9.3</p> <p>Numicon Activity Card 7, 8, 9, 11</p> <p>7.1, 7.2, 7.3, 7.4, 8.4, 9.1, 9.2, 9.4, 11.1, 11.2, 11.3, 11.6</p> <p>Numicon Activity Card 4, 7, 8, 9</p> <p>4.2, 7.1, 7.2, 7.3, 7.4, 8.1, 8.2, 8.3, 8.4, 9.4</p> <p>Numicon Activity card 2, 4, 5, 6, 13, 17</p> <p>2 (Maths, games and puzzles, Role-play, small world and construction, Outdoor maths and physical play), 4.2, 5.5, 6.3</p> <p>Numicon Activity Card 8</p> <p>(Outdoor maths and physical play)</p>
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<p>Phase 6: Building 9 and 10</p>	<p>Number</p> <p>Counting to nine & ten</p> <ul style="list-style-type: none"> Children continue to apply the counting principles when counting to nine and ten (forwards and backwards). They represent nine and ten in different ways. <p>Comparing numbers to ten</p> <ul style="list-style-type: none"> Children continue to make comparisons by lining items up with one-to-one correspondence to compare them directly or by counting each set carefully and comparing their position in the counting order. <p>Bonds to ten</p> <ul style="list-style-type: none"> The children explore number bonds to ten using real objects in different contexts, e.g., there are ten apples, how many are in the tree and how many are on the ground? <p>Measure, shape and spatial thinking</p> <p>3D-shapes</p> <ul style="list-style-type: none"> Children will naturally explore and manipulate 3-D shapes through their block play and modelling. <p>Pattern (2)</p> <ul style="list-style-type: none"> Build on children's earlier AB pattern work by introducing more complex patterns. 	<p>Numicon Activity Card 3, 4, 5, 6, 9, 10 3.2, 3.4, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3, 5.4, 6.1, 9.3, 9.4, 10.2, 10 (Sand, water and messy play)</p> <p>Numicon Activity Card 2, 4, 5, 6, 9, 10, 11 2.1, 2.2, 2.3, 2.4, 2.5, 4.1, 5.3, 5.4, 6.1, 6.2, 9.1, 9.2, 10.4, 10.5, 11.2</p> <p>Numicon Activity Card 4, 7, 14, 15, 17, 18 4.2, 7.1, 7.2, 7.3, 7.4, 14.4, 15.1, 17.1, 17.2, 17.3, 18.1, 18.2, 18.3</p> <p>Numicon Activity Card 3, 5, 10 3.3, 3.4, 3.5, 3 (Sand, water and messy play), 5.3, 5.4, 5.5, 5 (Sand, water and messy play), 10.4, 10.5, 10 (Maths games and puzzles, Role-play, small world and construction)</p> <p>Numicon Activity Card 6, 10, 11 6.1, 6.2, 6 (Expressive arts and design, Outdoor maths and physical play), 10 (Sand, water and messy play, Outdoor maths and physical play), 11 (Sand, water and messy play, Expressive arts and design, Outdoor maths and physical play)</p>
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<p>Phase 7: To 20 and Beyond</p>	<p>Number</p> <p>Building numbers beyond ten</p> <ul style="list-style-type: none"> Encourage children to build and identify numbers to 20 (and beyond) using a range of resources. <p>Counting patterns beyond ten</p> <ul style="list-style-type: none"> Provide regular opportunities for children to count on and back beyond ten. <p>Measure, shape and spatial thinking</p> <p>Spatial reasoning (1)</p> <ul style="list-style-type: none"> Provide regular opportunities for children to complete jigsaws and shape puzzles. 	<p>Numicon Activity Card 6, 8, 18</p> <p>6.2, 6 (Maths games and puzzles), 8.1, 18.4</p> <p>Numicon Activity Card 8, 11, 16, 18</p> <p>8.1, 11 (Outdoor maths and physical play), 16 (Sand, water and messy play), 18.4</p> <p>Numicon Activity Card 1, 11, 18</p> <p>1.1, 11 (Maths games and puzzles, Healthy food activity), 18.5</p>
<p>Phase 8: First Then Now</p>	<p>Number</p> <p>Adding more</p> <ul style="list-style-type: none"> Children will use real objects to see that the quantity of a group can be changed by adding more. <p>Taking away</p> <ul style="list-style-type: none"> Children use real objects to see that the quantity of a group can be changed by taking items away. <p>Measure, shape and spatial thinking</p> <p>Spatial reasoning (2)</p> <ul style="list-style-type: none"> Children understand that shapes can be combined and separated to make new shapes. 	<p>Numicon Activity Card 7, 8, 9, 14, 15, 17, 18</p> <p>7.1, 7.2, 7.3, 7.4, 8.1, 8.2, 8.3, 8.4, 9.4, 14.1, 14.3, 14.4, 14.5, 15.1, 15.2, 15.3, 15.4, 15.5, 17.1, 17.2, 17.3, 17.4, 17.5, 18.1, 18.2, 18.3</p> <p>Numicon Activity Card 9, 10, 14, 16, 17</p> <p>9.1, 9.2, 10.1, 10.2, 10.3, 14.2, 14.3, 14.4, 14.5, 16.1, 16.2, 16.3, 16.4, 17.1, 17.2, 17.3, 17.4, 17.5</p> <p>Numicon Activity Card 10, 11, 18</p> <p>10 (Maths games and puzzles), 11.6, 11 (Healthy food activity), 18.1, 18.2, 18.3</p>

<p>Phase 9: Find My Pattern</p>	<p>Number</p> <p>Doubling</p> <ul style="list-style-type: none"> Children will learn that double means ‘twice as many’. They should be given opportunities to build doubles using real objects and mathematical equipment. <p>Sharing and grouping</p> <ul style="list-style-type: none"> Children will probably already have some experience of sharing and will be quick to point out when items are not shared fairly. <p>Even and odd</p> <ul style="list-style-type: none"> Children begin to understand that some quantities will share equally into two groups, and some won’t. They may also notice that some quantities can be grouped into pairs, and some will have one left over. <p>Measure, shape and spatial thinking</p> <p>Spatial reasoning (3)</p> <ul style="list-style-type: none"> Children understand that places and models can be replicated and need to experience looking at these from different positions. Prompt them to use positional language to describe where objects are in relation to other items. 	<p>Numicon Activity Card 8, 9, 11, 13</p> <p>8.1, 8.4, 9.1, 9.4, 11.1, 11.2, 11.3, 11.4, 11.6, 13.4</p> <p>Numicon Activity Card 10, 11, 13</p> <p>10 (Role-play, small world and construction), 11.4, 11.5, 13.1, 13.2, 13.3, 13.4</p> <p>Numicon Activity Card 13</p> <p>13.4, 18.5</p> <p>Numicon Activity Card 11, 18</p> <p>11.6, 11 (Sand, water and messy play), 18.5</p>
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<p>Phase 10: On the Move</p>	<p>Number</p> <p>Deepening understanding</p> <ul style="list-style-type: none"> Children need time and opportunities to engage in extended problem solving and develop their critical thinking skills. <p>Patterns and relationships</p> <ul style="list-style-type: none"> Children should be given opportunities to explore and investigate relationships between numbers and shapes. <p>Measure, shape and spatial thinking</p> <p>Spatial reasoning (4)</p> <ul style="list-style-type: none"> Children understand that we can make maps and plans to represent places and use these to see where things are in relation to other things. 	<p>Numicon Activity Card 9, 11, 14, 18</p> <p>9.1, 9.2, 11 (Exploring maths all around us (blue speech bubbles)), 14.3, 14.4, 18.1, 18.5, 18 (Counting and number ideas book, Role-play, small world and construction, Exploring maths all around us (blue speech bubbles))</p> <p>Numicon Activity Card 11, 14, 16, 18</p> <p>11.2, 11.4, 14 (Sand, water and messy play), 16.2, 18.4, 18.6</p> <p>Numicon Activity Card 17</p> <p>17 (Role-play, small world and construction, Expressive arts and design, Understanding the world)</p>
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