Maths

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Maths

Development Matters and Early Learning Goals

Measure, shape and spatial thinking development matters: Reception

- Continue, copy and create repeating patterns.
- Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.
- Compare length, weight and capacity.

Number Development Matters Receptions

- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond ten.
- Compare numbers.
- Understand the 'one more than/one less than' relationship between consecutive numbers.
- Explore the composition of numbers to 10.
- Automatically recall number bonds for numbers 0-5 and some to 10.
- Select, rotate and manipulate shapes to develop spatial reasoning skills.

Number Early Learning Goals

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

Number Patterns Early Learning Goals

- Verbally count beyond 20, recognising the pattern of the counting system.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

White Rose Maths

	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	Getting to Know You			Just Like Me!			It's Me 1 2 3!			Light and Dark		
Number	Opportunities for settling in, introducing the areas of provision and getting to know the children.			Match and Sort Compare Amounts			Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3			Representing Numbers to 5. One More and Less.		
Measure, Shape and Spatial Thinking	Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? Positional language.			Compare Size, Mass & Capacity Exploring Pattern			Circles and Triangles Positional Language			Shapes with 4 Sides. Time		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Phase	Alive in 5!			Growing 6, 7, 8			Building 9 & 10		
Number	Introducing zero Comparing numbers to 5 Composition of 4 & 5			6, 7 & 8 Combining 2 amounts Making pairs			Counting to 9 & 10 Comparing numbers to 10 Bonds to 10		
Measure, Shape and Spatial Thinking	Compare Mass (2) Compare Capacity (2)			Length & Height Time			3d-shapes Patterns		

	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	To 20 and Beyond			First Then Now			Find my Pattern			On the Move		
Number	Building Numbers Beyond 10 Counting Patterns Beyond 10			Adding More Taking Away			Doubling Sharing & Grouping Even & Odd			Deepening Understanding Patterns and Relationships		
Spatial Thinking	Spatial Reasoning (1) Match, Rotate, Manipulate			Spatial Reasoning (2) Compose and Decompose			Spatial Reasoning (3) Visualise and Build			Spatial Reasoning (4) Mapping		

White Rose

Match **Sort** *A pair of socks* *3 little firefighters* *Monkey puzzle* **Compare amounts** *Squash and a squeeze* *5 Little ducks* *Enormous Turnip* **Compare size** *Blue balloon* *Where's my teddy* ***Compare mass*** *Mighty Maddie* ***Compare capacity*** *Dear Zoo* **Making simple Patterns** *Elmer*	**Represent 1,2,3** *I'm number 1* **Comparing 1 2 3** **Composition of 1,2,3** *3 billy goats gruff* *5 Little Ducks* **Circles and triangles,** **Position** *We're going on a bear hunt* *Rosie's walk* **4** *Pete and his 4 groovy buttons* **5** *The ugly 5* *1,2,3 opps* **1 more, 1 less** *Enormous turnip* *Handa's Surprise* **4 sided shapes** **Night and day**	**Zero** **Compare numbers to 5** *Room on the broom* **Composition of 4 and 5** **Compare mass / weight** **compare capacity** **Composition of 6 7 8** *Kipper's Toybox* *What the ladybird heard* ***Making pairs*** *Noah's Ark* **Length and height** *Pardon said the giraffe* *Jack and the beanstalk* **Combining 2 groups** *Beep beep vroom vroom* *Elmer*	**Time** *Mr wolf's week* *Hungry caterpillar* **9 and 10** **Compare numbers to 10** **Bonds to 10** **3d shapes** *Captain invincible and the space shapes* **pattern (spr) (2 days)** *beep beep vroom vroom*	**Building numbers over 10** *Jack the builder* **Counting beyond 10** **Spatial Reasoning 1 (2 days)** **Adding more** *Mr Gumpy's outing* *1 is a snail* *Jack the builder* **Taking away** *Elevator magic* **Spatial reasoning 2 (2 days)** Circus shapes	**Doubling** Double the ducks **Sharing and grouping** Give me half Divide and ride **Even and odd** *Missing mittens* **Spatial reasoning 3** *Alfies feet* *Greatest Gymnast of all* *3 billy goats gruffwhat the ladybird heard* **Problem solving and critical thinking** **Patterns and relationships** 1 is a snail **Spatial reasoning 4** The secret map Me on the map

		Tom and the Timful of Trouble *Peace at last*	*Bad tempered ladybird* *House for birdie*			
Maths  Knowledge and Skills	***Number*** Children will have a deep understanding of 1-3. ***Numerical Patterns*** Children will verbally say which group has more or less.	***Number*** Children will have a deep understanding of numbers 1-5. ***Numerical Patterns*** Children will compare equal and unequal groups.	***Number*** Children will have a deep understanding of numbers 1-8. ***Numerical Patterns*** Children will understand and explore the difference between odd and even numbers.	***Number*** Children will have a deep understanding of numbers 1-10. ***Numerical Patterns*** Children will add and subtract using number sentences.	***Number*** Children will revise number bonds to 5. ***Numerical Patterns*** Children will share quantities equally.	***Number*** Children will know number bonds to 10, including doubling facts. ***Numerical Patterns*** Children will be able to count beyond 20 and higher.
Maths  Daily opportunities	Travel tracker *Sorting, counting, data, comparison, problem solving* ***Lining up/ Register****: How many children are here?* ***Snack:*** *counting, sorting, data, pattern, 1:1 matching* ***Daily calendar*** ***Celebrating the seasons*** Stories and singing : *Number and counting songs, stories and finger rhymes* ***Tidying up:*** *sorting matching* Homework *Includes review and practice of maths taught that week* ***ICT:*** *Ipad games, maths games on the IWB, maths songs, stories and clips, brain breaks, numberblocks* ***Maths areas*** • *Alows children to practise skills, resources are added to as topics are taught. Child initiated.* • *mark making materials, natural materials, interactive, sensory, number lines* ***Environment*** • *Maths working wall-adapted to weekly theme, widget., childrens work. key questions* • *number line displayed with amounts to 30 (count beyond 20)* • *Birthday chart, months, clock* • *visual timetable & class calender - order, time* Continuous Provision: indoors ***Role play****: counting, sorting, matching, size, position, time* ***Music area****: pattern, number rhymes, counting* ***construction:*** *shape, space, problem solving, tape measures, design sheets* ***sand:*** *capacity, weight, pattern, comparison* ***dough****: pattern, size, shape, number, counting* ***Art****: shape, space pattern* ***Jigsaws:*** *sorting, matching, shape*					

	Continuous Provision: Outdoors • ***mud kitchen:*** *measures, size* • ***games area****: couting scores, dice, sorting, addition, subtraction, order,* • ***music area****: number rhymes, counting, pattern* • *bikes: position, direction* • ***construction:*** *shape, space, problem solving* • ***Water****: capacity, weight, pattern, comparisson* • ***Den building****: shape, space, measures, problem solving* • ***Climbing Frame:*** *position, direction* • ***chalk*** *numbers and shapes* Role of the adult *Facilitating learning* *Recap prior knowledge* *Questioning* *Scaffolding* *Encourage language* *Observing* *Facilitating next steps* *Commentating* *Modelling counting regularly* *Model using mathematical vocabulary* *Pointing out numbers in the environment* *Support children to solve problems using marks, objects, fingers* Topics • ***Ourselves****: symmetry, shape, height, past and present, routines, time, age, months* • ***Autumn:*** *symmetry, shape, pattern, size, sorting, time, seasons* • ***Space:*** *shape, position, size, time, counting down* • ***Animals:*** *sorting size counting pattern* • ***Traditional Tales:*** *size, order, couting, matching* • ***Houses and Homes:*** *shape, size, house numbers, odd and even,* • ***Places*** *order, time, space, direction*
Maths  Vocabulary	number One, two, three to twenty and beyond. None Count on/up/to/from/down Before, after More, less, many, few, fewer, fewest, smaller, smallest Equal to, the same as Odd, even Digit Numeral Compare Order Size Value Between, halfway between, Odd, even Double, halve Share, share equally Group in pairs Equal groups of Divide, Full, half, empty Holds Container Weigh, weighs, balance Heavy, heavier, heaviest, light, lighter, lightest Scales Time Days of the week: Monday, Tuesday etc. Seasons: Spring, Summer, Autumn, Winter Days, week, month, year, weekend Birthday, holiday Morning, afternoon, evening, night Bedtime, Over, under, underneath, above, below, top, bottom, side On, in, outside, inside In front, behind Front, back Before, after Beside, next to Middle Up, down, forwards, backwards. Sideways Close, far Through Towards, away from Side, roll, turn, Sort Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square Shape Flat, curved, straight, round Solid Corner Face, side Make, build, draw