Parklands Educate Together

Mathematics in Year One

A guide for parents

Learn Together to Live Together

This guide is designed to inform families of how Maths is taught and how to support at home. It has been created using guides from White Rose Mathematics to support.

What is our approach to mathematics?

At Parklands Educate Together, we use a scheme called White Rose Maths. This is a mastery-based approach aligned to the aims and objectives of the National Curriculum. It is rooted in the belief that all children can achieve in Mathematics.

Putting Number First

The White Rose scheme has number at its heart, and a significant amount of time is spent reinforcing number so that children can confidently access the rest of the curriculum.

Depth before Breadth

We ensure that children have a deep understanding of concepts, rather than rushing on. Opportunities to revisit previously learned skills are built into later blocks of learning.

Fluency, reasoning and problem solving

The White Rose scheme develops these three areas to ensure children have the knowledge and skills they need to become confident mathematicians.

Concrete, Pictorial, Abstract

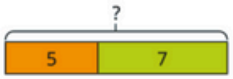
Research shows that all children, when introduced to a new concept, should have the opportunity to build competency using the concrete, pictorial, abstract approach. This features throughout the schemes of learning.

Concrete

Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing.

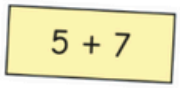
Pictorial

Alongside concrete resources, children should work with pictorial representations,
making links to the concrete. Visualising a problem in this way can help children to reason and to solve problems.



Abstract

With the support of both the concrete and pictorial representations, children can develop their understanding of abstract methods.



<u>This Booklet</u>

The aim of this booklet is to give you, as parents, a better understanding of the key concepts your child will be learning and how they are taught. It provides ideas and resources so you can support your child at home. This booklet is available to download from the curriculum section of our website, with elements hyperlinked so you can easily access the resources.

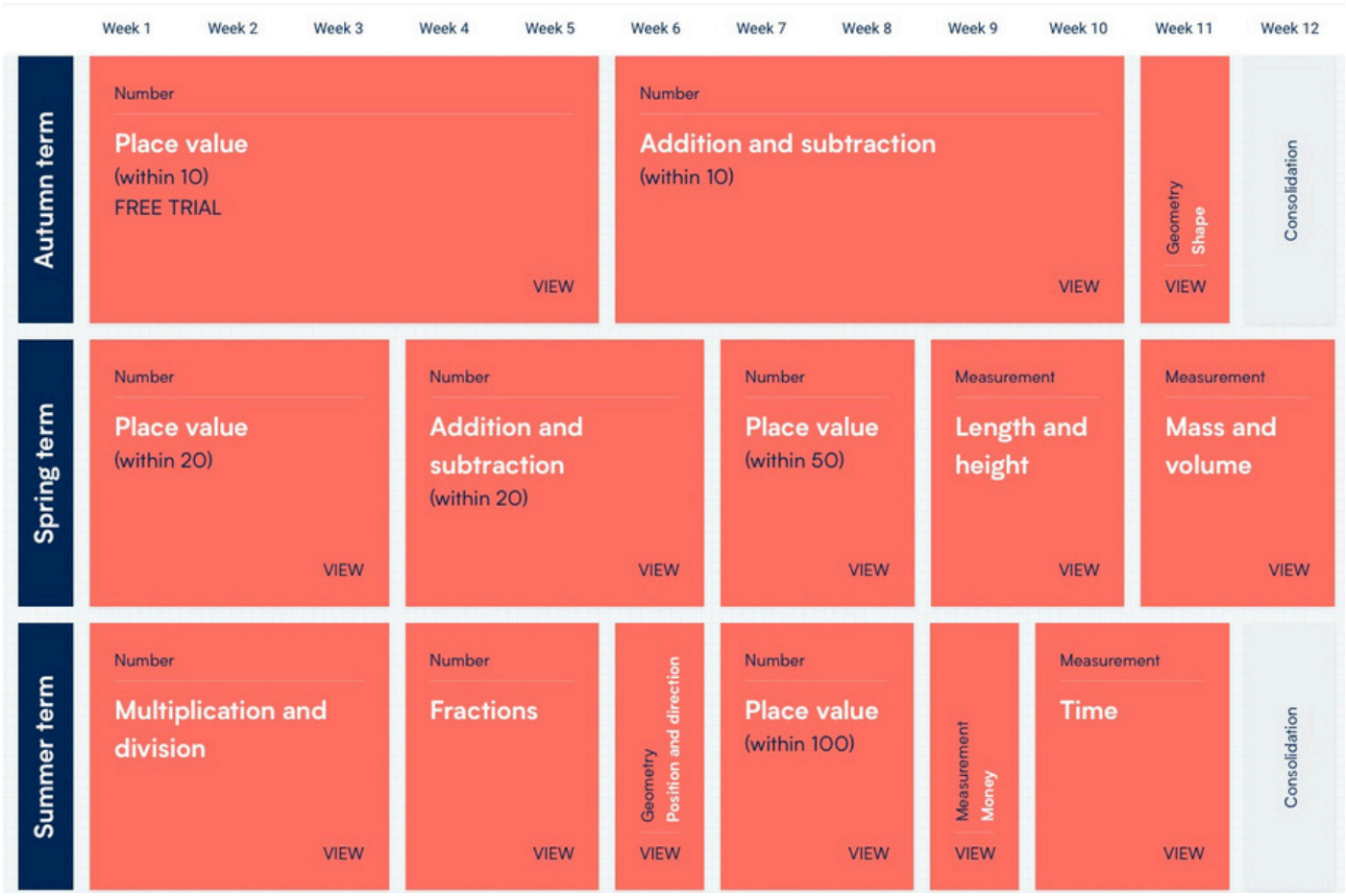
<u>What will my child learn in mathematics this year?</u>

Overleaf is an overview of the maths that your child should be learning at any point in the year. You'll notice that the White Rose scheme spends lots of time building strong number skills in Key Stage 1 and Key Stage 2. These essential core skills lay a solid foundation for more complicated learning later on.

Sometimes the class might be a little behind or ahead of the scheme schedule. That's fine; White Rose deliberately build flexibility into their schemes to allow for this. You can check the year group medium term planner on the class page for further information.

Year One Overview

Click the image below to link to the White Rose website. This will give you more information on the small steps that are taught in each of these blocks.



Progression of Skills

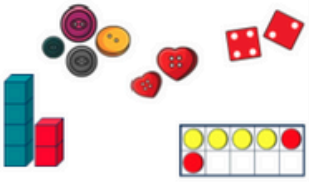
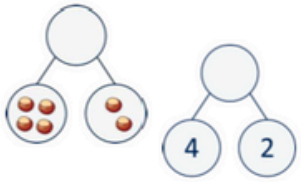
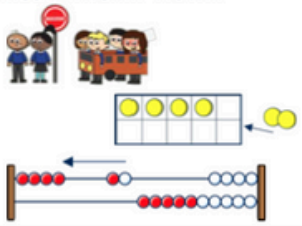
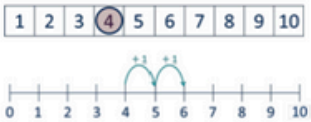
White Rose is a very carefully planned scheme of work. Overleaf, you can see an overview of how key skills are taught for addition, subtraction, multiplication and division.

It also includes some sentence stems and key questions that we use to help children.

You may also find the 'Maths with Michael – Parent Guide' videos and downloadable parent guides on the White Rose website useful. These give a broad overview for parents of place value, subtraction, multiplication, division, fractions and algebra.

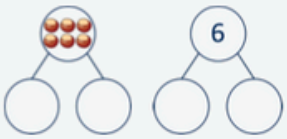
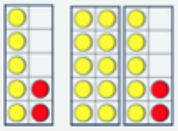
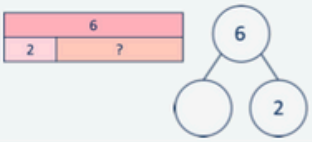
Addition

White Rose MATHS

Year 1	• Read, write and interpret mathematical statements involving addition (+) and equals (=) signs. • Represent and use number bonds within 20 • Add 1-digit and 2-digit numbers to 20, including zero. • Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as $7 = \square + 2$		
Progression of skills	**Key representations**		
Add together (aggregation) 2 quantities are combined to find the total.	There are ... There are ... There are ... altogether. 	... is a part. ... is a part. ... is the whole. 	... plus ... is equal to ... ... is equal to .... + ... $4 + 2 = 6$ $2 + 4 = 6$ $6 = 4 + 2$ $6 = 2 + 4$
Add more (augmentation) A quantity is increased.	First... Then... Now... 	I start at ... I jump on ... I land on ...  	... plus ... is equal to ... is equal to ... + ... $4 + 2 = 6$ $2 + 4 = 6$ $6 = 4 + 2$ $6 = 2 + 4$

Addition

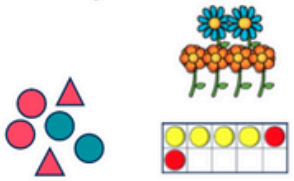
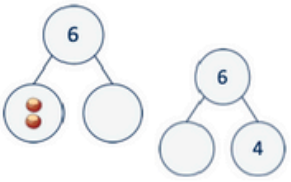
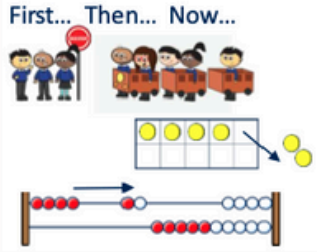
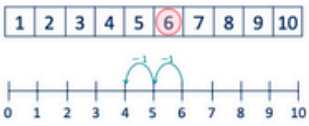
White Rose MATHS

Progression of skills	Key representations		
Bonds within 10 Include bonds for each number within 10 Encourage children to notice patterns.	... is made of ... and ... ... and ... make ... 	... can be partitioned into ... and ... 	... plus ... is equal to ... $6 + 0 = 6$ $5 + 1 = 6$ $4 + 2 = 6$ $3 + 3 = 6$ $2 + 4 = 6$ $1 + 5 = 6$ $0 + 6 = 6$
Related facts within 20 Make links to known facts.	I know that ... and ... = ... so ... and ... = ... 	... more than ... is ... so ... more than ... is ...  	What patterns do you notice? $5 + 2 = 7$ $15 + 2 = 17$ $7 = 5 + 2$ $17 = 15 + 2$
Missing numbers Make links to known facts.	How many more do you need to make ...? 	If ... is the whole and ... is a part, the other part must be... 	... plus ... is equal to ... $2 + \square = 6$ $6 = 2 + \square$ 

Subtraction

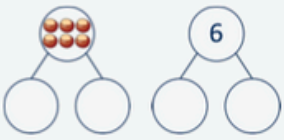
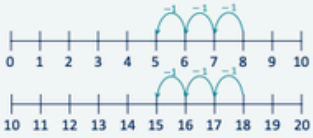
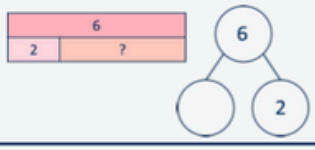
White Rose MATHS

Year 1	• Read, write and interpret mathematical statements involving subtraction (–) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20 • Subtract one-digit and two-digit numbers to 20, including zero. • Solve one-step problems that involve subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$

Progression of skills	Key representations		
Find a part Link to number bonds and known facts. E.g. $2 + 4 = 6$ so if 6 is the whole and 4 is a part, the other part must be 2	There are ... in total. ... are ... How many are **not** ...? 	... is the whole. ... is a part. ... is a part. 	... subtract ... is equal to ... ... is equal to ... – ... $6 - 2 = 4$ $6 - 4 = 2$ $4 = 6 - 2$ $2 = 6 - 4$
Take away A quantity is decreased.	First... Then... Now... 	I start at ... I jump back ... I land on ... 	... minus ... is equal to ... ... is equal to ... – ... $6 - 2 = 4$ $6 - 4 = 2$ $4 = 6 - 2$ $2 = 6 - 4$

Subtraction

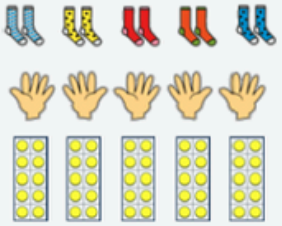
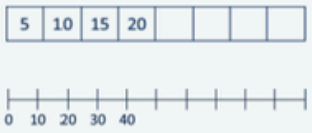
White Rose MATHS

Progression of skills	Key representations		
Bonds within 10 Focus on subtraction facts. Encourage children to notice patterns.	... is made of ... and ... ... and ... make ... 	... can be partitioned into ... and ... 	... minus ... is equal to ... $6 - 0 = 6$ $6 - 1 = 5$ $6 - 2 = 4$ $6 - 3 = 3$ $6 - 4 = 2$ $6 - 5 = 1$ $6 - 6 = 0$
Related facts within 20 Make links to known facts.	I know that ... minus ... = ... so ... minus ... = ... 	... less than ... is ... so ... less than ... is ... 	What patterns do you notice? $8 - 3 = 5$ $18 - 3 = 15$ $5 = 8 - 3$ $15 = 18 - 3$
Missing numbers Make links to known facts.	How many do you need to subtract to make ...? 	If ... is the whole and ... is a part, the other part must be... 	... minus ... is equal to ... $6 - \square = 2$ $2 = 6 - \square$ 

Multiplication

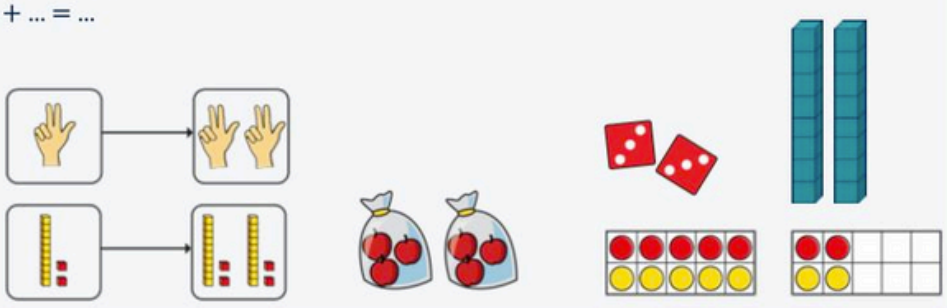
White Rose MATHS

Year 1	• Count in multiples of twos, fives and tens. • Solve one-step problems involving multiplication, using concrete objects, pictorial representations and arrays with the support of the teacher.

Progression of skills	Key representations		
Count in 2s, 5s and 10s Begin by counting objects that naturally come in 2s, 5s and 10s, for example pairs of socks or fingers.	There are ... equal groups of ... There are ... altogether. 	Continue to colour in ...s What do you notice?  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	Complete the number track/number line by counting in ...s.  5 10 15 20 0 10 20 30 40
Add equal groups (repeated addition) Children should be able to write a repeated addition to represent equal groups and to draw pictures or use objects to represent a repeated addition.	There are ... groups of ... There are ... altogether.  10 + 10 + 10 = 30  5 + 5 + 5 + 5 = 20	What is the same? What is different? 2 + 2 + 2 = 5 + 5 + 5 = 10 + 10 + 10 = Use objects or a drawing to represent the equal groups and find how many in total.	

Multiplication

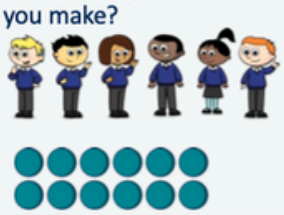
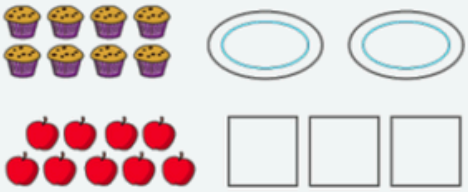
White Rose MATHS

Progression of skills	Key representations
Make arrays Children use their knowledge of adding equal groups to arrange objects in columns and rows.	There are ... rows of ... There are ... altogether. There are ... columns of ... There are ... altogether. 
Make doubles Children understand that doubles are two equal groups. Children may begin to explore doubles beyond 20 using base 10	Double ... is ... ... + ... = ... 

Division

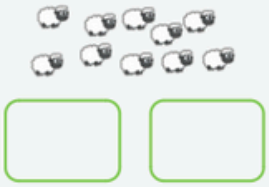
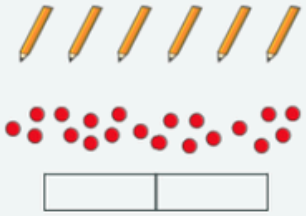
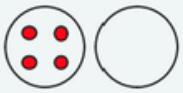
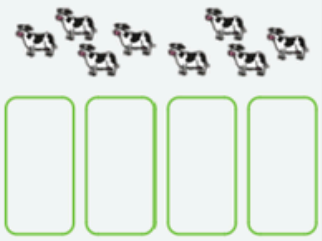
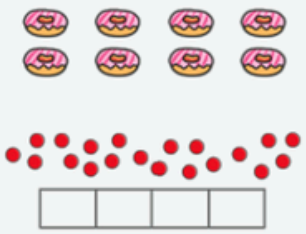
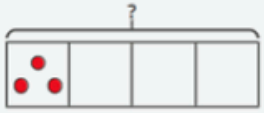
White Rose MATHS

Year 1	• Solve simple one-step problems involving division, using concrete objects, pictorial representations and arrays with the support of the teacher. • Recognise, find and name a half as one of two equal parts of a quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

Progression of skills	Key representations		
Make equal groups - grouping Encourage children to physically move objects into equal groups. They can also circle equal groups when using pictures.	There are ... altogether. How many groups of ... can you make? 	Circle groups of 2 There are ... groups of 2 	Take ... cubes. Make equal groups.  There are ... groups of ...
Make equal groups – sharing Encourage children to check that the objects have been shared fairly and each group is the same.	... have been shared equally between... There are ... on/in each ... 		Take ... cubes. Share them between ...  12 shared between ... is ...

Division

White Rose MATHS

Progression of skills	Key representations		
Find a half Start with practical opportunities to share a quantity into 2 groups. Progress to circling half of the objects in a picture and then to finding the whole from a given half.	To find half, I need to share into 2 equal groups.  There are ... in each group.	Half of ... is ... 	If ... is half, what is the whole?  4 is half of ...
Find a quarter Start with practical opportunities to share a quantity into 4 groups. Progress to using pictures or bar models to find a quarter and then to finding the whole from a given quarter.	To find a quarter, I need to share into 4 equal groups.  There are ... in each group.	A quarter of ... is ... 	If ... is one quarter, what is the whole?  3 is one quarter of ...

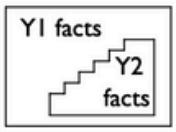
Fluency Friday

Every Friday across the school, each year group takes part in Fluency Friday wherein children are encouraged to practice the foundational skills that make up mathematic fluency. For Year 1, this begins in the later terms. For the beginning terms, we focus on explicit teaching in whole class settings. We want all our children to love maths and succeed. It is achievable for the vast majority of children to learn these facts.

In Year 1, this takes the form of learning and recalling number bonds to 5 in the early terms, 10 in the mid terms and 20 for the later terms. We build on their reception knowledge of numbers to 100 across the year and prepare them for the number bonds needed for Year 2.

See below for the structure of the number bond learning across Year 1 and 2.

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10



Adding 1
Adding 2
Bonds to 10
Adding 0
Doubles
Near doubles

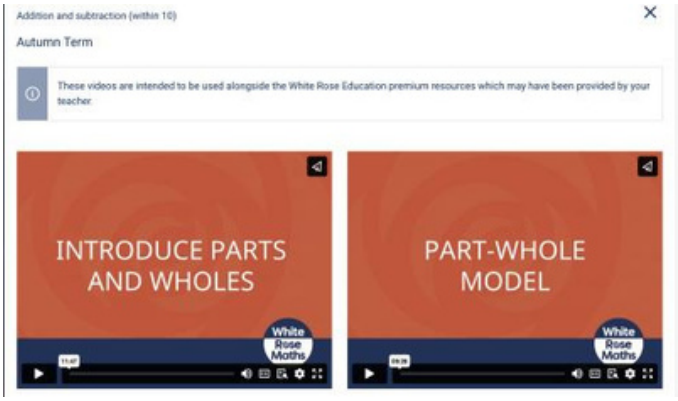
- This grid shows the addition facts within 10 and strategies to recall or derive them that children learn in Year 1.
- Children should also practise the corresponding subtractions.

How to support your child

There are a wide range of materials and resources available to support your child with their maths at home. In Year 1, the expectation is that children practice their addition/subtraction facts. The medium term planner on the class page will support you with the current focus. Below are some ideas to support, as well as other resources that can be used if your child is finding an aspect of maths tricky. Pictures below are hyperlinked for ease.

White Rose Home Learning Videos

These are provided for each small step and are 8 – 10 minutes long. These can be useful to reconsolidate learning that your child may find tricky. Clicking on the individual block will then show you the different videos.

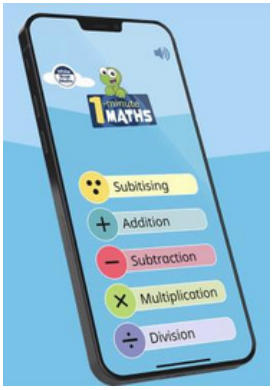


White Rose Home Workbooks

White Rose provide some printable workbooks for each block that can be used at home. They also have a Kindle edition.

White Rose One-Minute App

This app is great for short one-minute daily practice on adding, subtraction and subitising skills. It complements the Number Sense teaching really well. It is free to download on iOS, amazon and android devices.



Real-life play and games

Sometimes, the best way to reinforce learning is by playing, especially with younger children. You can focus on key facts to 5, 10 and 20 through play based activities, counting things in nature or your surroundings, playing board games and being curious with patterns. For example, realising that when you know your number bonds to 10, you can use them to count far beyond!