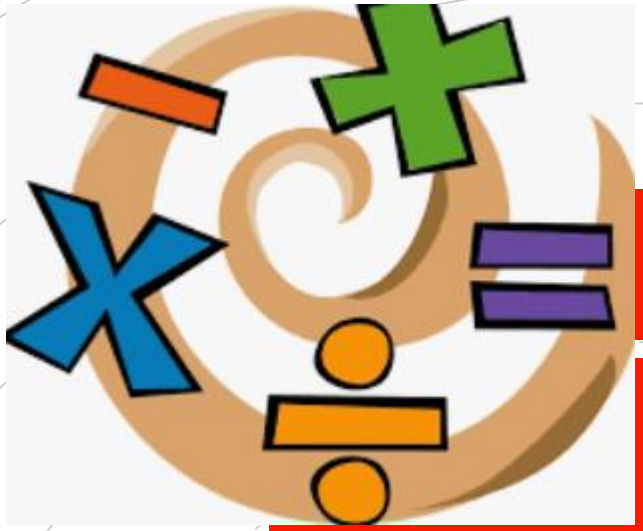

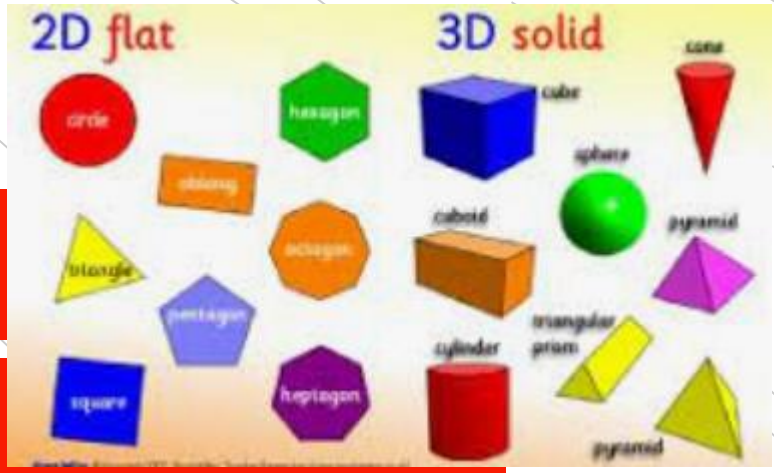
2D flat
3D solid
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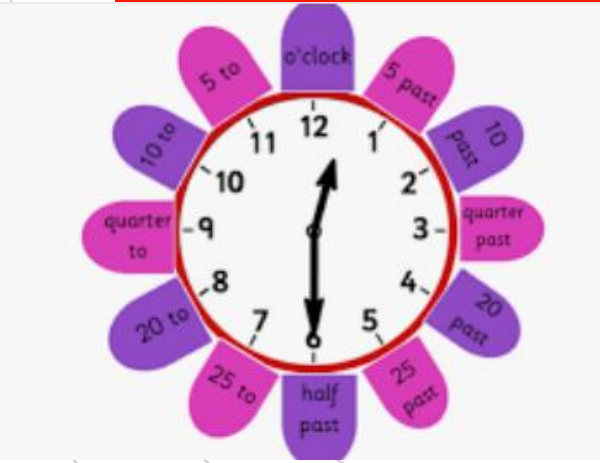
octagon
square
heptagon
cylinder
triangular prism
pyramid

Maths


o'clock
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11

Maths at Holmesdale Community Infant School

Curriculum

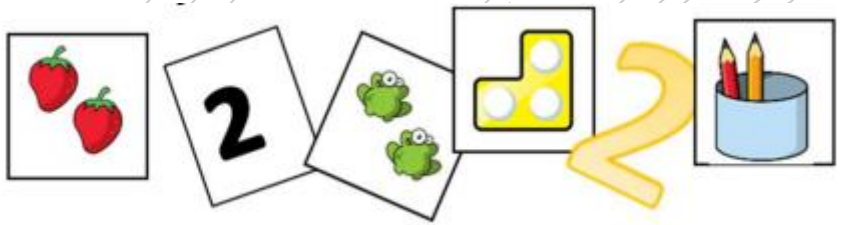
EYFS

Statutory framework for the early years foundation stage

Setting the standards for learning, development and care for children from birth to five

Nursery

- Develop fast recognition of up to 3 objects – subitising
- Recite numbers past 5.
- Say one number for each item in order.
- Link numerals and amount.
- Experiment with symbols
- Solve real world problems with numbers up to 5.
- Compare quantities – 'more than', 'fewer than'.
- Talk about 2d and 3d shapes.
- Understand position – 'the bag is under the table'.
- Make comparisons between objects – size, height, weight.
- Select shapes appropriately - flat surface for a building
- Talk about and identify patterns around them.
- Notice repeating patterns.
- Describe a sequence of events – first, then, next.



Reception

- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond 10.
- Compare 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.
- Compose and decompose shapes so that children recognise a shape can have other shapes within it.
- Continue, copy and create repeating patterns.
- Compare length, weight and capacity.

Department for Education

KS1

The national curriculum in England

Year 1

- In Year 1 the National Curriculum is divided into 3 key categories:
- Number
- Measurement
- Geometry

Number

- Number & place value
- Addition & subtraction
- Multiplication & division
- Fractions

Measurement

- Length, height, mass, weight, capacity, volume, time (hour/1/2 hour),coins, sequencing events, days, weeks

Geometry

- Properties of shape
- Position & Direction

Year 2

- Same categories as Year 1 with an added category of statistics.

Number

- Number & place value
- Addition & subtraction
- Multiplication & division
- Fractions

Measurement

- Length, height, mass, weight, capacity, volume, time (1/4 past & ¼ to),coins, sequencing events, days, weeks, temperature

Geometry

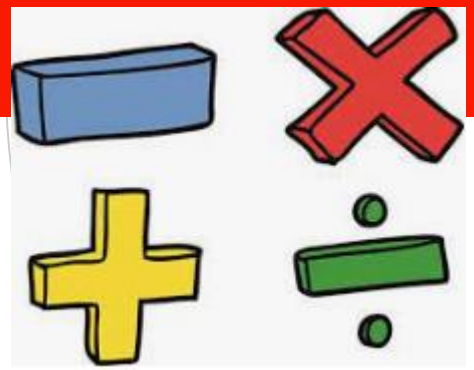
- Properties of shape
- Position & Direction

Statistics

Scheme White Rose

- White Rose is a Maths scheme used by many schools across the country to teach the National Curriculum.
- We follow White Rose in Reception – Year 2
- Follows EYFS statutory framework and National Curriculum (KS1).
- Core skills are divided into terms and repeated throughout the year.
- Follows the mastery approach.
- Covers varied fluency – teaches a variety of strategies.
- Previous knowledge continually revisited.
- Focuses on reasoning.

What is Mastery?



- Mastery is not just about being able to memorise key facts and procedures.
- Mastery is knowing why and how and being able to explain to others. To be able to answer questions such as: What if? How? Why?
- Mastery is being able to represent things in different ways – varied fluency.
- Mastery is being able to apply a concept to a totally new problem in an unfamiliar situation.
- **It is about depth not breadth!**

The **White Rose Maths** schemes of learning

Teaching for mastery

Our research-based schemes of learning are designed to support a mastery approach to teaching and learning and are consistent with the aims and objectives of the National Curriculum.

Putting number first

Our schemes have number at their heart.
A significant amount of time is spent reinforcing number in order to build competency and ensure children can confidently access the rest of the curriculum.

Depth before breadth

Our easy-to-follow schemes support teachers to stay within the required key stage so that children acquire depth of knowledge in each topic. Opportunities to revisit previously learned skills are built into later blocks.

Working together

Children can progress through the schemes as a whole group, encouraging students of all abilities to support each other in their learning.

Fluency, reasoning and problem solving

Our schemes develop all three key areas of the National Curriculum, giving children the knowledge and skills they need to become confident mathematicians.

Concrete – Pictorial – Abstract (CPA)

Research shows that all children, when introduced to a new concept, should have the opportunity to build competency by following the CPA approach. This features throughout our schemes of learning.

Concrete

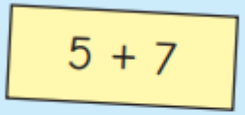
Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing.

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.

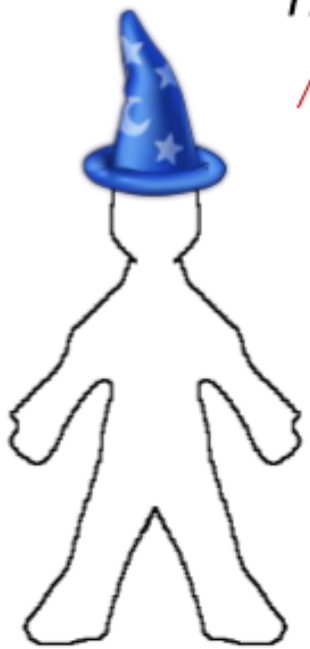
Abstract

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



If you have questions about this approach and would like to consider appropriate CPD, please visit www.whiterosemaths.com to find a course that's right for you.

What ingredients make a 'master' mathematician?



perseverance

risk taker

independent: can tackle problems/pursue enquiries/ask questions

flexibility

organised/systematic

accurate/able to spot and learn from mistakes

pattern spotter: generate rules

positive/can do attitude

a maths toolkit
(e.g. known facts, mental/written strategies)

effective communicator: oral and written

ability to reason

problem solver: selecting most appropriate strategy/operation(s)

Mastering Number

Number Fact Fluency

Mastering Number

The Mastering Number programme aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2.

The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number.

Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

Mastering Number

Number Fact Fluency

Mastering Number

- The Mastering Number programme is a new programme that we started implementing last academic year to develop and improve number fact fluency.
- For KS1 this is a daily 10-15 minute session based on short visual animations to support the 12 key strategies to increase number fact fluency. This is in addition to daily Maths sessions using White Rose.
- In Reception this is the main programme used 4 times a week to deliver all number concepts.
- White Rose is used to teach space shape and measure.

Reception

Reception:

- Mastering Number is the only programme needed to cover all ELG for Reception.

What it covers…..

- Subitising (the ability to look at a small number of objects and instantly recognise how many objects there are without needing to count)
- Counting
- Composition of numbers
- Comparison

What it does not cover:

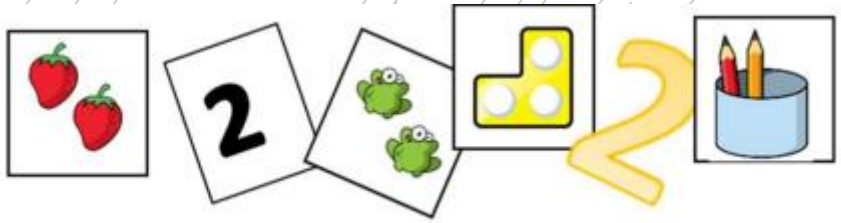
- Pattern
- Shape and Space
- Measures

- These areas will be covered by White Rose and interspersed throughout the year at appropriate times.

KS1

KS1

- For Years 1 and 2 the programme is offered in addition to daily Mathematics lessons as an extra 10-15 minutes.



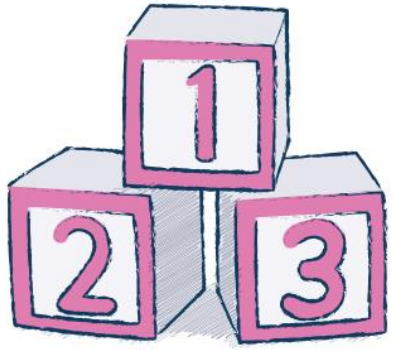
Nursery Overview

- All children have the opportunity throughout the year to gain and build on mathematical knowledge by following topics.
- Retrieval is a key part of the mathematics curriculum, allowing children to revisit and retrieve concepts.
- Maths is taught throughout the entire curriculum in Nursery and there are daily opportunities for children to access mathematical learning independently as well as through teacher led or directed tasks.
- Maths is everywhere - Cross curricular - Inside, outside, stories, puppets, writing, displays, resources.

Nursery Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Shape Patterns			Numbers 0-5 Counting 1:1 Recognition of a number			Size Numbers 0-10 Counting 1:1 Recognition of a number			Counting objects		
Spring	Comparing objects (Size, length, weight, capacity) Estimating			Numbers 0-10 Counting accurately (Kipper's toy box topic)						2D shapes		
Summer	Pattern Repeating Patterns			Days of the week Ordering Sequencing Time, day and night (Hungry Caterpillar topic)			Length, measuring (Hungry Caterpillar topic)			Number 0-10		

Reception Overview



Mastering Number and White Rose

- Embeds mathematical thinking.
- Supports the ethos of EYFS whilst enabling a mathematically rich curriculum.
- Key mathematical concepts are revisited and developed further across the year.
- Mastering Number is used to teach all basic number facts.
- White Rose is used to teach shape, space and measure and spatial thinking.

Mastering Number – Reception Overview by Week

Autumn 1	Week 1	Week 2	Week 3	Week 4	Week 5
Focus	**Subitising**	**Counting, ordinality and cardinality**	**Composition**	**Subitising**	**Comparison**
Set 1	Subitising within 3	Focus on counting skills	Explore how all numbers are made of 1s Focus on composition of 3 and 4	Subitise objects and sounds	Comparison of sets - 'just by looking' Use the language of comparison: *more than* and *fewer than*
Autumn 2	**Week 6**	**Week 7**	**Week 8**	**Week 9**	**Week 10**
Focus	**Counting, ordinality and cardinality**	**Comparison**	**Composition**	**Composition**	**Counting, ordinality and cardinality**
Set 2	Focus on counting skills Focus on the 'five-ness of 5' using one hand and the die pattern for 5	Comparison of sets - by matching Use the language of comparison: *more than, fewer than, an equal number*	Explore the concept of 'whole' and 'part'	Focus on the composition of 3, 4 and 5	Practise object counting skills Match numerals to quantities within 10 Verbal counting beyond 20

Spring 1	Week 11	Week 12	Week 13	Week 14	Week 15
Focus	Subitising	Counting, ordinality and cardinality	Composition	Composition	Composition
Set 3	Subitise within 5 focusing on die patterns Match numerals to quantities within 5	Counting – focus on ordinality and the 'staircase' pattern See that each number is one more than the previous number	Focus on 5	Focus on 6 and 7 as '5 and a bit'	Compare sets and use language of comparison: *more than, fewer than, an equal number to* Make unequal sets equal
Spring 2	**Week 16**	**Week 17**	**Week 18**	**Week 19**	**Week 20**
Focus	Counting, ordinality and cardinality	Comparison	Composition	Composition	Composition
Set 4	Focus on the 'staircase' pattern and ordering numbers	Focus on ordering of numbers to 8 Use language of *less than*	Focus on 7	Doubles – explore how some numbers can be made with 2 equal parts	Sorting numbers according to attributes - odd and even numbers

Summer 1	Week 21	Week 22	Week 23	Week 24	Week 25	
Focus	**Counting, ordinality and cardinality**	**Subitising**	**Composition**	**Composition**	**Comparison**	
Set 3	Counting – larger sets and things that cannot be seen	Subitising – to 6, including in structured arrangements	Composition – '5 and a bit'	Composition - of 10	Comparison – linked to ordinality Play track games	
Summer 2	**Week 26**	**Review and assess**	**Review and assess**	**Review and assess**	**Review and assess**	**Review and assess**
Set 4	Subitise to 5 Introduce the rekenrek	Automatic recall of bonds to 5	Composition of numbers to 10	Comparison	Number patterns	Counting

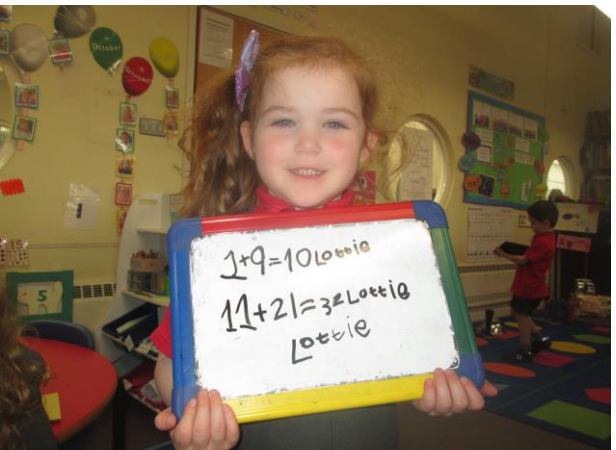
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Getting to know you		**Match, sort and compare** FREE TRIAL VIEW		**Talk about measure and patterns** VIEW		**It's me 1, 2, 3** VIEW		**Circles and triangles** VIEW	**1, 2, 3, 4, 5** VIEW		**Shapes with 4 sides** VIEW
Spring term	**Alive in 5** VIEW		**Mass and capacity** VIEW	**Growing 6, 7, 8** VIEW		**Length, height and time** VIEW		**Building 9 and 10** VIEW			**Explore 3-D shapes** VIEW	
Summer term	**To 20 and beyond** VIEW		**How many now?** VIEW	**Manipulate, compose and decompose** VIEW		**Sharing and grouping** VIEW		**Visualise, build and map** VIEW		**Make connections** VIEW		Consolidation

What does Maths look like in Reception?

Reception

- Alongside independent learning activities, we also teach maths inputs throughout the week using Mastering Number for Number and White Rose for Shape, Space and Measure.
- Within the maths input, we start by focussing on retrieval. The learning objective is shared and the children have an opportunity to talk about their learning with a focus on mathematical language. We provide children with stem sentences. E.g. I think it is red because…
- Following this the children will have the opportunity to consolidate their learning with concrete objects and scaffolding from the teacher.
- Independent learning activities to consolidate the knowledge they are developing.


Maxwell


1+9=10 Lottie
11+21=32 Lottie
Lottie


Level 1: Complete the Pattern
Score: 14 / 31

Year 1 Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number **Place value (within 10)**					Number **Addition and subtraction (within 10)**					Geometry **Shape**	**Consolidation**
Spring	Number **Place value (within 20)**			Number **Addition and subtraction (within 20)**			Number **Place value (within 50)**		Measurement **Length and height**		Measurement **Mass and volume**	
Summer	Number **Multiplication and division**			Number **Fractions**		Geometry **Position and direction**	Number **Place value (within 100)**		Measurement **Money**	Measurement **Time**		**Consolidation**

Year 2 Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14/15
Autumn	**Number** Place Value							**Number** Addition & Subtraction						**Number** Addition & Subtraction / **Statistics** Data handling
Spring	**Number** Multiplication & Division			**Geometry** Properties of shape				**Number** Multiplication & Division			**Number** Addition & subtraction (Exchange)			
Summer	**Number** Fractions			**Measurement** Length, Height, Mass & Capacity Temperature Time - *Wk 8 from WR Summer term*	**Revision Number** Addition, subtraction, multiplication & division / **Revision Measurement** Money, Time			**Measurement** Length, Height, Mass & Capacity Temperature	Statistics	**Geometry** Position & Direction *Wk 3/4 from WR summer term*	**Measurement** Temperature & scales		**Consolidation**	

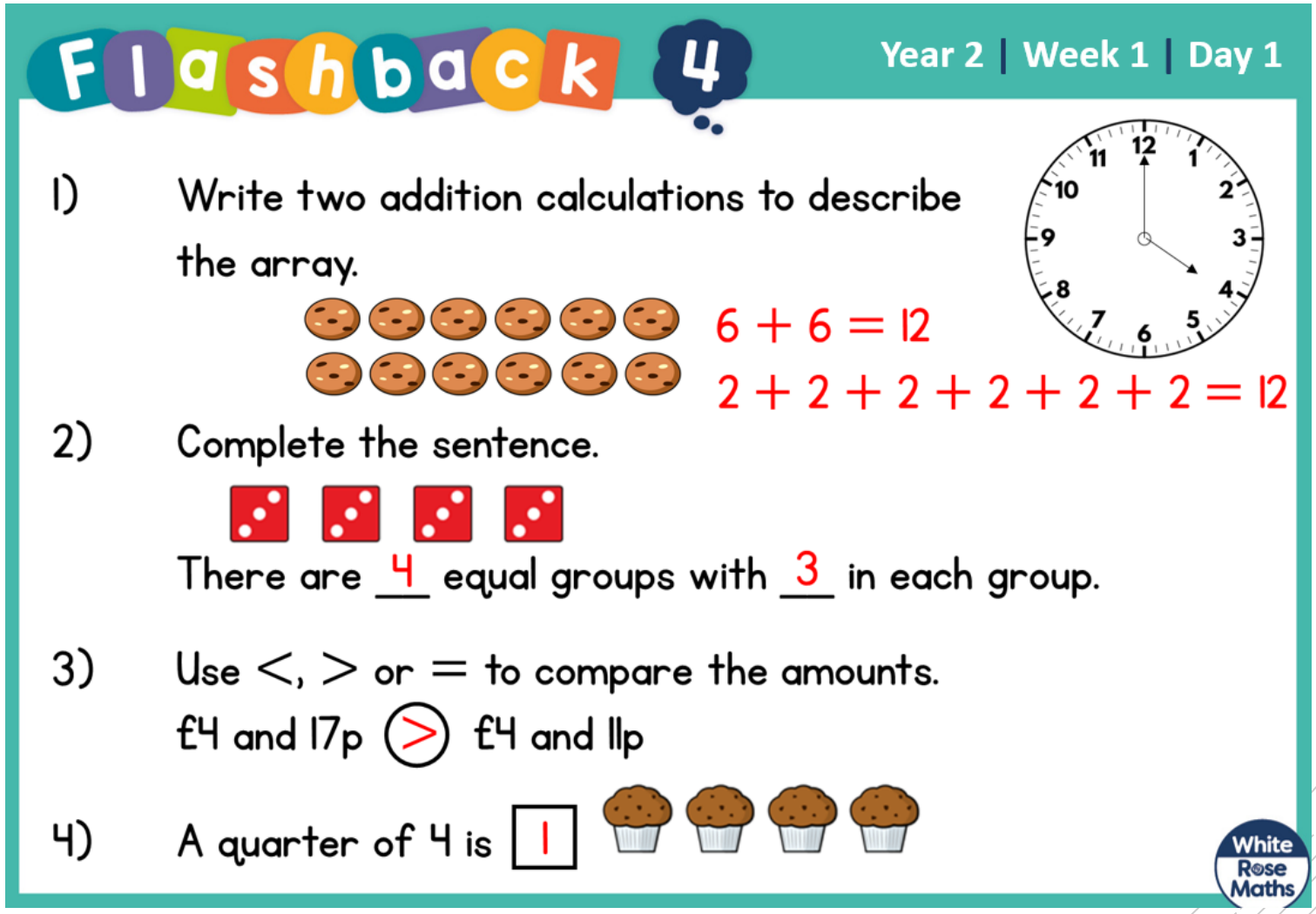
What does a lesson look like in KS1?

White Rose

Talk

Flashback 4 (KS1) Retrieval

Talk - time to go over previous knowledge



- Use White Rose steps to teach new learning.
- Includes varied fluency to ensure different strategies are taught.

Input

Year 2 | Autumn Term | Week 11 to 12 – Number: Multiplication & Division

Recognise Equal Groups

Notes and Guidance

Children describe equal groups using stem sentences to support them. It is important that children know which groups are equal and unequal, and why they are equal or unequal. The addition and multiplication symbols are not used within this small step but use of the language of addition and multiplication will support them in understanding repeated addition and multiplication. The examples included refer to the times tables facts that Year 2 children need to know.

Mathematical Talk

What does the 2 represent? What does the 3 represent?

What does the 5 represent? What does the 2 represent?

I have ___ equal groups, with ___ in each group. Which image am I describing?

Why are these groups equal/unequal?

Varied Fluency

Complete the stem sentences.

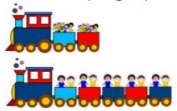
There are ___ equal groups with ___ in each group.

Complete the sentences.

There are ___ equal groups with ___ in each group.

There are _____ baguettes altogether.

Describe the equal groups.



What is the same and what is different in each group?

Reception – Spring Phase 5 – Growing 6, 7 & 8

Making Pairs

Guidance

Children build on their earlier work on matching to find and make pairs. They begin to understand that a pair is two. Provide collections of items which come in pairs.

Encourage the children to arrange small quantities into pairs and notice that some quantities will have an odd one left over with no partner.
Teach the children to play games which involve matching pairs for example snap or memory games.

Other Resources

Simon's Sock – Sue Hendra

10 Fat Sausages

1 2 Buckle my Shoe

Noah's Ark

Pairs! In the Garden – Smriti Prasadam-Halls

Webgames online.com/memory/

Prompts for Learning

Collect a basket of small items in pairs – have enough items for each child to have one. As the children come into the classroom ask them to collect one item from the basket. When all the children have arrived, ask them to find who has the same and sit together in a pair.

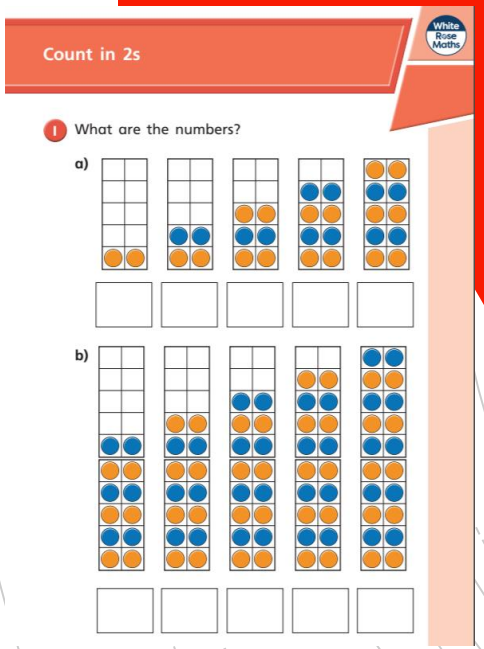
Have a basket of unsorted socks or wellies and ask the children to help you sort them into pairs.
Can they spot which pairs go together?
Why do they match?

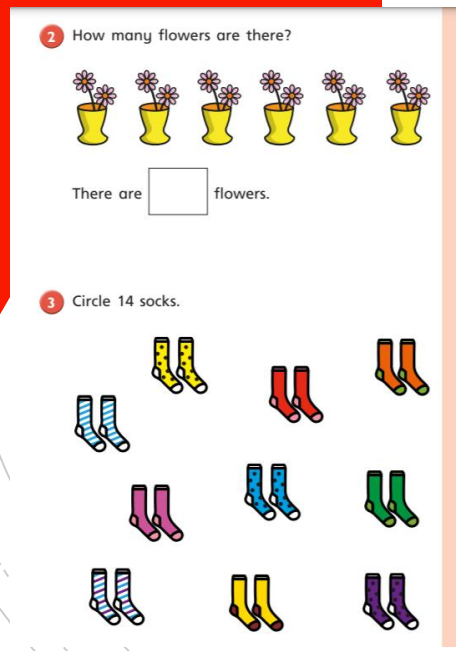
Ask the children to get into pairs ready for a game or to line up in pairs for a Spring walk.
Do they notice any pairs on their walk?
They could also face each other in pairs and take it in turns to mirror the other's actions or play bunny ears.

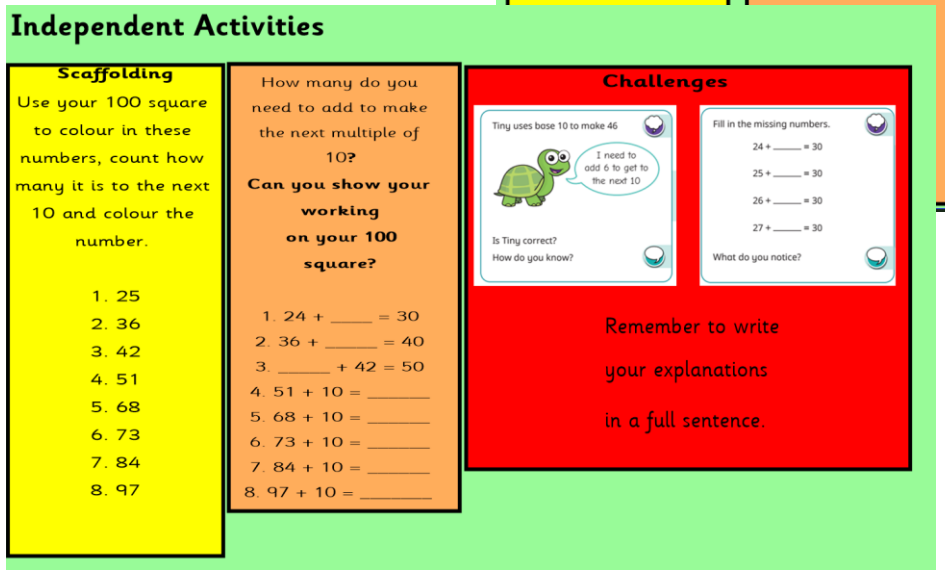
Encourage children to investigate making pairs using different quantities of small world creatures, cubes or counters. Which quantities will make pairs and which will have one left out? Do they notice a pattern?

Activities

- Small steps.
- Teach to the top – all children have the same LO.
- Scaffold learning to support children to reach that LO.
- Challenge children to extend their thinking – sentence stems, why?
- White Rose resource sheets, practical activities, reasoning problems.



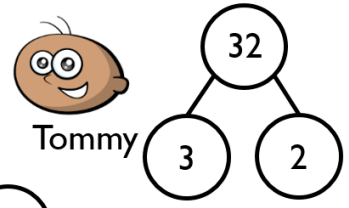


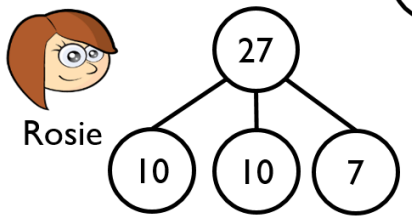


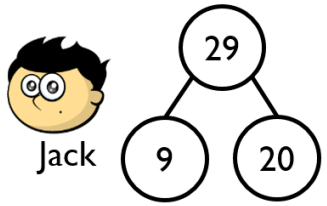
Plenary

White Rose reasoning challenges

The children are completing the part whole models.



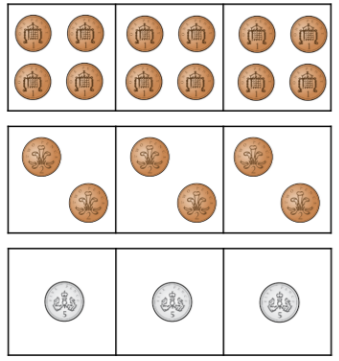
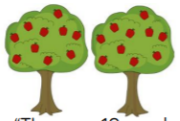




Are they correct?
Explain why.

Recognise Equal Groups

Reasoning and Problem Solving

Which group of money is the odd one out?  Explain why.	The bags with 5 p in each because the 2 ps and 1 ps have 4 p in each group.
Sort into equal and unequal groups. Equal Groups | Unequal Groups  Create your own picture to go in each column.	Hearts and dots in unequal groups. Stars and squares in equal groups.
Spot the mistake.  Alex says, "There are 10 equal groups with 2 in each group. There are ten 2s."	There are 2 equal groups with 10 in each group There are two 10s.

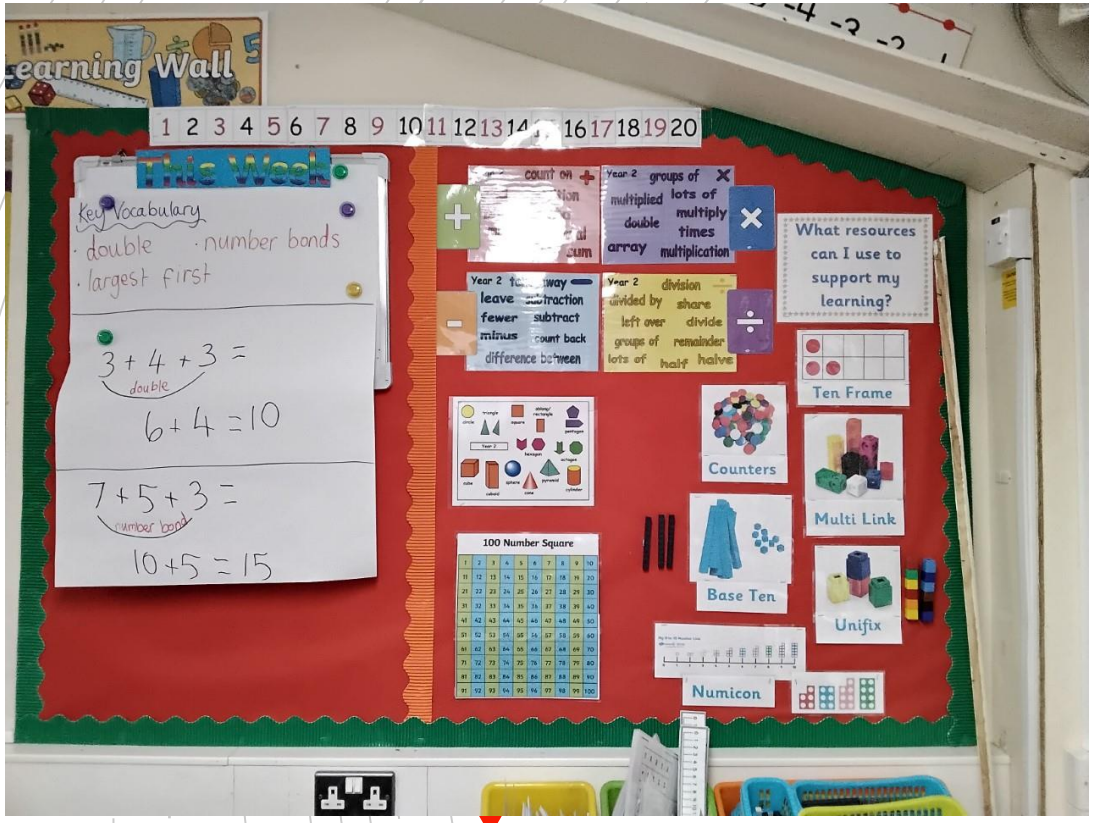
Concrete Resources

Throughout the school all children have access to maths resources that they can self select when needed.

- ❑ Numberlines
- ❑ 100 Squares
- ❑ Ten frames
- ❑ Counters
- ❑ Money
- ❑ Clocks
- ❑ Base Ten
- ❑ Shapes
- ❑ Rulers/Meter sticks
- ❑ Maths working walls – displaying what has been taught.

- ❖ Maths games are sent home termly in all year groups.
- ❖ Year group learning letters will highlight the weekly learning.

Working wall



Self-select maths resources

How to support your child at home

Supporting Maths at home in EYFS and KS1

Practise correct number formation

Apps

- White Rose Maths - 1 minute Maths App 
- Hit the Button Maths 
- Twinkl Mental Maths 
- NumBots 
- Numberblocks 'Meet the Numberblocks!' – EYFS/Year 1 
- Numberblocks: World 

Websites

- Topmarks – all topics for all ages - https://www.topmarks.co.uk/Search.aspx?Subject=16
- Daily 10 (Topmarks) – Mental Maths - https://www.topmarks.co.uk/maths-games/daily10
- ICT Games - https://ictgames.com/mobilePage/index.html
- EYFS – BBC Bitesize – https://www.bbc.co.uk/bitesize/subjects/zhtf3j6
- KS1 BBC Bitesize - https://www.bbc.co.uk/bitesize/subjects/zjxhfg8

- Year 2 – Third Space Learning –

https://thirdspacelearning.com/blog/how-help-child-with-maths-at-home/67-how-to-help-with-year-2-maths-6-7-year-olds-

- Fun KS1 Maths games to play at home – Third Space Learning

https://thirdspacelearning.com/blog/maths-games-ks1/

How to support your child at home

Children can count anything! Pennies, buttons, pasta, trees, cars, building bricks, sweets, apples – encourage them to count things wherever they are! Give them mini-tasks at the supermarket, e.g. putting 6 carrots in a bag; 3 tins of beans, etc.

Try playing number games with cards, dominos and board games – try to encourage them by joining in yourself! They could even have fun creating their own games.

Let children sort the washing! Matching and counting pairs of socks is a great way of practicing odd and even numbers, counting in twos and the 2 times table and means it is one less job for you!

Look at the pattern of house numbers as you walk along – are they odd or even numbers? What house number will be next?

In Year 1 and 2, the children begin to learn their 2x, 5x and 10x tables. Food can be a very motivating way of learning their times tables and the corresponding division facts!
For example, sweets can be grouped and counted, children can count the biscuits in a packet in twos as they put them in the biscuit barrel, chunks on a bar of chocolate can be counted