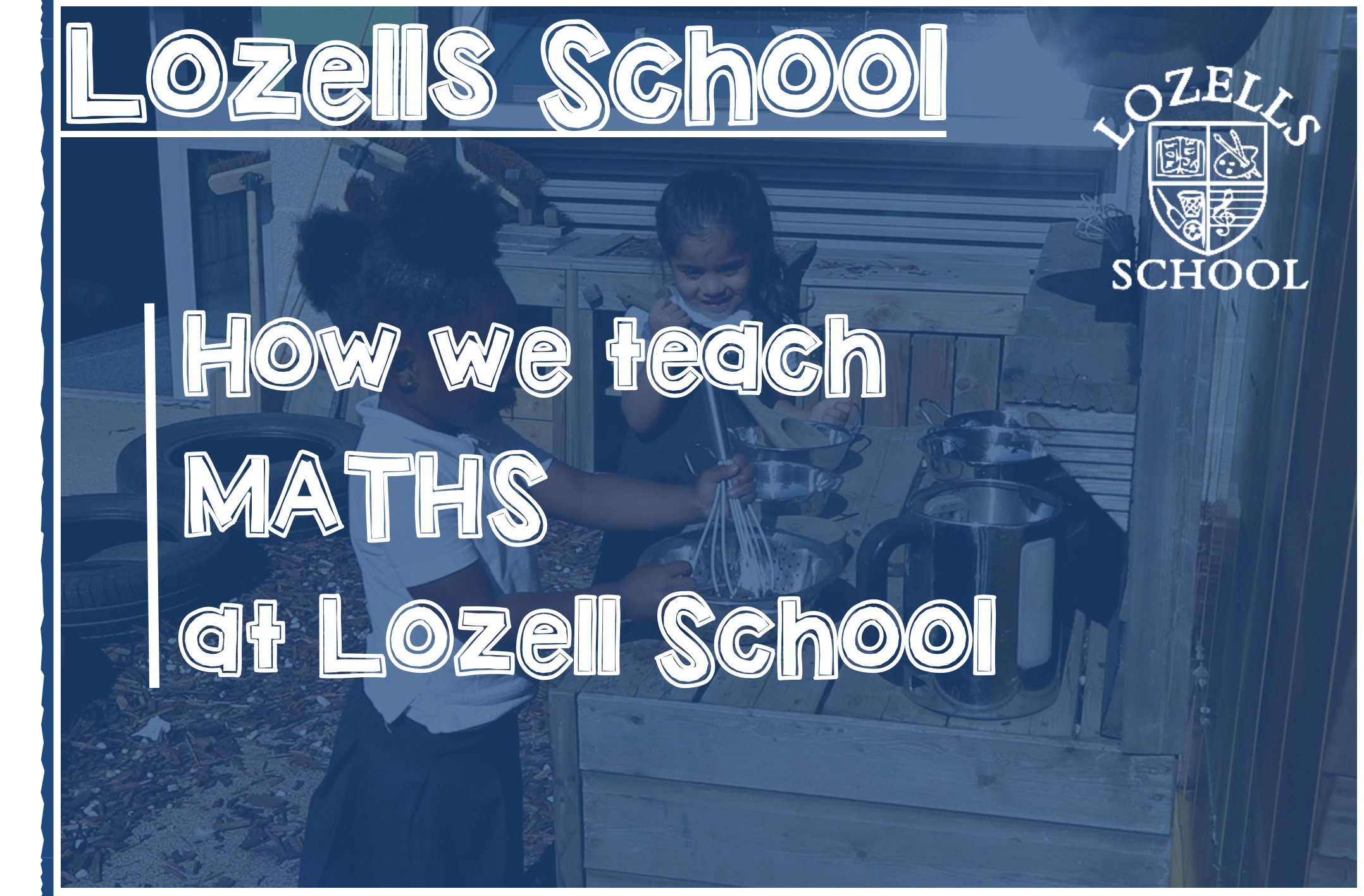
Lozells School



How we teach MATHS at Lozell School

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Our vision:

To teach and nurture the children of our community is a privilege.

Our families and children are ambitious for themselves and supportive of one another in a way that simply defines 'community'.

Our vision is for all our children to know that they are valued, can make a difference and can achieve great things through hard work and perseverance.

Our ethos is:

Everyone is entitled to be the best they can be.
We will enable children to learn, challenge them to think hard and guide their growth as young people.

They are their own future, their family's future, our future.
Our children have differences, character and voices and we encourage this!

1. SUBJECT VISION STATEMENT

At Lozells School we believe everyone is capable of learning mathematics, given sufficient time, good teaching, appropriate resources and effort. We aim to build resilience in pupils to ensure all pupils leave us with sound mathematical skills, which will enable them to realise their potential wherever they live and whatever their background.

At Lozells we teach for mastery. This means that all children are taught one set of mathematical concepts and the big ideas in mathematics. Lessons are carefully crafted in order to allow all pupils to access these concepts and ideas and explore the rich connections between them. We have high expectations of our pupils and strive to make the mathematics curriculum accessible to all, providing different tools to scaffold learning and questions to challenge deeper thinking. Pupils across a year group will move through the programmes of study at broadly the same pace. We recognise that all children need a deep understanding of the mathematics they are learning in order that future learning is built upon firm foundations.

We believe that the three aims of the NC should be addressed every day **Fluency – Reasoning – Problem Solving** and aim to intertwine them throughout our teaching sessions.

2. BUILDING ON THE SCHOOL CURRICULUM DRIVERS

Healthy Advocates

Our children understand what it means to be a healthy, fit and happy both physically and mentally and will value this; taking positive action for themselves and supporting their peers with this.

Teaching for Mastery develops a growth mindset attitude towards learning. The classroom culture promotes a positive learning environment. During a maths lesson, children explore and problem solve together. Mistakes are seen as a learning opportunity and children are motivated to work hard, build resilience and keep persevering with grit and determination. We aim to develop a love for maths, which children can build on each year and into adult life.

Respectful Citizens

Our children have respect for themselves and the voice, thoughts, feelings and beliefs of others; respecting the diversity our wonderful world has. Our children will gain an understanding of their emotions and have skills to resolve disagreements. Our children will be responsible citizens and know how to speak up against prejudice or injustice.

There are many opportunities in a maths for children to become respectful citizens. They have regular opportunities to work alongside others and carry out paired work. This encourages them to listen, take turns and respect each other. Children share their thinking verbally and model at the front of the class, this develops their confidence and self esteem whist sharing in front of an audience.

Confident Communicators

Our children communicate their thoughts, ideas and opinions in a clear and confident manner through speech, writing and the safe use of online platforms. Our children are bold enough to say what is fair, make mistakes and unravel new learning through discussion with their peers. Our children understand how to listen and facilitate a respectful space for others to communicate also.

Within maths children are encouraged to explain and reason their ideas and thinking, clearly and confidently. Children are expected to answer using full sentences. The use of stem sentences/sentence starters facilitates children's communication skills. All staff model and teach the correct mathematical vocabulary so that children can learn and respond accurately.

Aspirational Learners

Our children have self-belief and high expectations of themselves; setting goals and working hard to achieve them both in school and at home. Our children know that mistakes = learning and understand that learning should be challenging. Our children are passionate about life-long learning and understand that great achievement starts with aiming high and believing we will.

We believe all children can achieve in maths. – we teach mathematics to whole classes and do not label children (this includes within the classroom). At the planning stage, teachers consider what scaffolding may be required for children who may struggle to grasp concepts in the lesson and suitable challenge questions for those who may grasp the concepts rapidly. Decisions are not made about who these children may be prior to the lesson.

Knowledgeable Scholars

Our children have gained and understood a range of important foundational knowledge across all subjects which they will be able to build future learning upon. Our children strive to learn more, know more and put their knowledge into practice. Our children are curious about sources of knowledge and understand bias, perspective and influence. Our children have explored how knowledge has changed the world and how great inventions have come from a place of expertise.

We aim for our children to gain a deep understanding of the maths taught.

Each lesson focus is on one key conceptual idea and connections are made across mathematical topics.

Lessons build on through small steps, the pace may seem slower however progress and understanding is enhanced.

Successful Achievers

Our children understand the learning process, reflect on their own learning and are self-motivated to learn more and work to remember more. Our children work hard to be the best that they can be, have bold ambitions and overcome challenges through perseverance and determination. Our children take pride in their personal accomplishments and celebrate the achievements of their peers, providing motivation and encouragement.

Maths lessons are split in to two parts, practise and apply. This allows children to unpick concepts through practise, mistakes, questions, paired work, challenges and reflection. This develops perseverance and determination as children work to problem solve and understand. This happens across the school daily. Teachers have high expectations of 'all' children and encourage them to become independent, confident mathematicians. There is a love of maths across school and pupil book studies reflect this.

3. MEETING THE AIMS OF THE NATIONAL CURRICULUM

A high-quality mathematics education provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. (*NC 2014*)

The National Curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- Can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

4. INTENDED PROGRESSION THROUGH THE CURRICULUM

EYFS

KEY STAGE 1

KEY STAGE 2

We are currently using White Rose Maths and the NCETM as tools for planning. Here are the links to the progression maps.

Primary Progression – Place Value

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • Count numbers to 100 in numerals; count in multiples of twos, fives and tens **Autumn 1 Autumn 4 Spring 2 Summer 4**	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward **Autumn 1**	• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number **Autumn 1 Autumn 3**	• count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers **Autumn1 Autumn 4**	• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • count forwards and backwards with positive and negative whole numbers, including through zero **Autumn 1**	
Place Value: Represent	• identify and represent numbers using objects and pictorial representations • read and write numbers to 100 in numerals • read and write numbers from 1 to 20 in numerals and words. **Autumn 1 Autumn 4 Spring 2 Summer 4**	• read and write numbers to at least 100 in numerals and in words • identify, represent and estimate numbers using different representations, including the number line **Autumn 1**	• identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals and in words **Autumn 1**	• identify, represent and estimate numbers using different representations • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value **Autumn 1**	• read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit • read Roman numerals to 1000 (M) and recognise years written in Roman numerals. **Autumn 1**	• read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit **Autumn 1**

COUNTING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number			count backwards through zero to include negative numbers	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	use negative numbers in context, and calculate intervals across zero
count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	count from 0 in multiples of 4, 8, 50 and 100;	count in multiples of 6, 7, 9, 25 and 1000	count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	
given a number, identify one more and one less		find 10 or 100 more or less than a given number	find 1000 more or less than a given number		
COMPARING NUMBERS					
use the language of: equal to, more than, less than (fewer), most, least	compare and order numbers from 0 up to 100; use <, > and = signs	compare and order numbers up to 1000	order and compare numbers beyond 1000 *compare numbers with the same number of decimal places up to two decimal places* (copied from Fractions)	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Reading and Writing Numbers)
IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS					
identify and represent numbers using objects and pictorial representations including the number line	identify, represent and estimate numbers using different representations, including the number line	identify, represent and estimate numbers using different representations	identify, represent and estimate numbers using different representations		

https://assets.whiterosemaths.com/resource-pages/primary/National-Curriculum-Progression-Primary.pdf

https://www.ncetm.org.uk/classroom-resources/progression-maps-for-key-stages-1-and-2/

Personalised overviews – Nursery.

Mathematics Programme of Study	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.					
AOL: **Maths** Number	Take part in finger rhymes with n Count in everyday contexts, sometimes skipping numbers - ' 1-2-3-5.' Build with a range of resources. Complete inset puzzles. **I can count in my play (sometimes numbers)** **I can react to changes in amounts returning rhymes- two dicky birds** **I can compare sizes using some gesture and language e.g. bigger, longer, taller, smaller, etc.**	Take part in finger rhymes with numbers. Count in everyday contexts, sometimes skipping numbers - ' 1-2-3-5.' Counting candles on a cake/ how old am I? **I can recite numbers to 5 and beyond** **I am starting to subitise up to two** **I can make comparisons between objects- size, length, weight and capacity**	**I can say one number name for each item** **I can show 'finger' numbers to 5** Show 'finger numbers' up to 5. Make comparisons between objects relating to size, length, weight and capacity. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	Say one number for each item in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). **I can see 3 in different ways (through different manipulatives e.g. 3 sticks as a row/ triangle/ on top of each other) and recognise it without counting** Link numerals and amounts: for example, showing the right number of objects to	Match number cards to numbers and/or amounts Use size language big/medium/small/tall /short...to differentiate and describe **I can count, order, recognise and use numbers to 5** **I can compare quantities using the vocabulary of greater, less, more, fewer and the same**	Counting objects to 10 Show interest in counting and in number problems **I can subitise up to 3 objects (recognise up to 3 objects quickly without counting)** Recognise and talk about shapes in the environment & in construction activities Use positional language (on, under, above, below, next to.)

Numerical Patterns	I can notice patterns and arrange things in patterns I can combine shapes and objects e.g. stacking blocks/ cups	Notice patterns and arrange things in patterns.	I can make comparisons between quantities. I can extend a pattern that has been made I can create my own simple patterns (ABAB) I can start to talk about upcoming events e.g. Birthdays and then talk about what happened after the event	match the numeral up to 5. I can make comparisons between quantities I can combine shapes to make new ones e.g. a bridge/ arch, bigger square, etc.	I can talk about patterns and spot errors I can continue and create patterns I can sequence a pattern of events using time language e.g. first, next, then.	I can talk about 2D and 3D shapes (using informal vocab e.g. sides, straight, round, flat)

Number- Nursery Goals

1- Strong understanding of numbers to 5
2- Noticing and commenting on patterns in the environment and other places e.g. books
3- Able to compare quantities using the correct mathematical vocabulary

Personalised overviews – Reception

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Marvellous Me	Let's Celebrate	Amazing Animals	Terrific Tales	Our Wonderful World	Moving On
Mathematics Programme of Study	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.					
Number	**Getting to Know you** Opportunities for settling children in. Early Mathematical Experiences including counting rhymes and songs to 5 using props. Routine and exploring the continuous provision, where do things belongs positional language. Count objects, actions and sounds **Just Like Me!**	**Numbers 1,2,3** Numberblocks "oneness of one" "twoness of two" "Threeness of three." Count and represent the numbers 1 to 3 **Subitising** Comparing objects and sets. Recognising numbers to 3 without counting. **Representing numbers** 1,2,3. Use of 5 and tens frames. **Combining numbers** 1,2,3.	**Numbers 4,5,6** Numberblocks 4,5,6 Money- Related to passports. Count and represent the numbers from 4-6. **Subitising** Comparing objects and sets. Recognising numbers to 6 without counting. **Representing numbers** 4,5,6. Use of 5 and tens frames to represent numbers alongside Numicon shapes. **Combining numbers** 4,5,6	**Numbers ,7,8,9** Numberblocks 7,8,9 **Subitising** Comparing objects and sets. Recognising numbers 7,8,9 without counting. **Representing numbers** 7,8,9. Use of 5 and tens frames to represent numbers alongside Numicon shapes. **Combining numbers** 7,8,9	**Building 10** Numberblocks 10 Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0–5 and some to 10. Understand the 'one more than/one less than' relationship between consecutive numbers **Representing number 10** **Subitising 10**	**Numbers beyond 10** Automatically recall number bonds for numbers 0–5 and some to 10. Understand the 'one more than/one less than' relationship between consecutive numbers Link the number symbol (numeral) with its cardinal number value. Count beyond ten. Compare numbers

	I can show numbers to 5 using concrete resources. I can match numeral and quantity to 5. I can say one number name for each item. I can quickly say how many there are (up to 3) I can solve some simple problems with numbers to 5	I can count to 5 using different mathematical resources I can match numeral and quantity to 5. I can quickly say how many there are (up to 3) in different arrangements. I can start to show how numbers can be made up e.g. 1 and 3 is 4 and know there is more than one way of doing this	I can count objects, claps, movements up to 10 I can start to recall some double facts e.g. 1 and 1 is 2 I can match numeral and quantity (within 10) I can quickly say how many there are (up to 5). I can recall number bonds to 5. I can start to give some linked subtraction facts.	I can count to 20, knowing the teen numbers. I can start to recall some double facts e.g. 1 and 1 is 2 I can match numeral and quantity (within 10) I can quickly say how many there are (up to 5). I can recall number bonds to 5. I can start to give some linked subtraction facts.	1 I can show how numbers to 10 are made up using different models e.g. part whole, tens frame. I can recognise the numerals to 10 and match to quantity consistently. 2 I can recognise quantities up to 5 without counting 3 I can recall number bonds up to 5 and some to 10 I can match subtraction facts with number bonds I can recall some double facts within 10	1 I can show how numbers to 10 are made up using different models e.g. part whole, tens frame. I can recognise the numerals to 10 and match to quantity consistently. 2 I can recognise quantities up to 5 without counting 3 I can recall number bonds up to 5 and some to 10 I can match subtraction facts with number bonds I can recall some double facts within 10

Numerical Patterns	Pattern and early number Recognise, describe, copy patterns. Use part play. Matching and sorting objects and pairs. I can count to 5 reliably. I can start to count beyond 5. I am starting to compare quantities using non standard vocabulary. I can start to continue and copy patterns	Number Pattern 5 Frames, different ways of making 1,2,3. Looking at patterns on a 5 frame. I can count to 10 by rote. I can compare manipulatives (e.g. saying when one tower is bigger/smaller). I can find one more/ one less using resources. I can continue and copy patterns. I can create my own patterns.	Number Pattern 5 Frames and 10 frames. Different ways of making 4,5, 6. Looking at patterns on a 5 frame and 10 frame (remembering and revisiting 1,2,3) I can count to 20, knowing the teen numbers (Maths Warm Ups) I can compare two quantities saying when one is bigger/smaller/same. I can say a number that is one more/ less without resources (Maths Warm Up). I can spot errors in the pattern (Maths Warm Up). I can name my pattern e.g. ABAB I can start to identify odd and even numbers linked to sharing	Number Pattern 5 Frames and 10 frames. Different ways of making 7,8, 9. Looking at patterns on a 5 frame and 10 frame (revisiting 1-6) Continue, copy and create repeating patterns. I can count to 20, knowing the teen numbers (Maths Warm Ups) I can compare two quantities saying when one is bigger/smaller/same. I can say a number that is one more/ less without resources (Maths Warm Up). I can spot errors in the pattern (Maths Warm Up). I can name my pattern e.g. ABAB I can start to identify odd and even numbers linked to sharing	Number Pattern 5 Frames and 10 frames. Different ways of making 10. Looking at patterns on a 5 frame and 10 frame (revisiting 1-9) Count beyond ten. Compare numbers. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. 1 I can count beyond 20. 2 I can compare quantities using greater/ more than, fewer/ less than, the same/ equal. 3 I can show patterns in numbers to 10 I can talk about odd and even numbers I can say double facts I can share equally.	Number Pattern 5 Frames and 10 frames. Different ways of making 10. Looking at patterns on a 5 frame and 10 frame (revisiting 1-9) Count beyond ten. Compare numbers. Compare length, weight and capacity. 1 I can count beyond 20. 2 I can compare quantities using greater/ more than, fewer/ less than, the same/ equal. 3 I can show patterns in numbers to 10 I can talk about odd and even numbers I can say double facts I can share equally.

Early Learning Goal	**Number** Children at the expected level of development will: - 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. **Numerical Patterns** Children at the expected level of development will: - 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.

LOZELLS SCHOOL

Year 1 Personalised overview 2023/24

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
Autumn	**Place Value** (Within 10)					**Addition and Subtraction** (Within 10)					**Geometry** Shape	**Consolidation Assessments.**
Spring	**Place Value** (Within 20)			**Addition and subtraction** (Within 20)			**Place value** (Within 50)		**Measure** Height and length		**Measure** Mass and volume	
Summer	**Multiplication and division**			**Fractions**		**Geometry** Position and Direction	**Place value** (within 100)		**Measure** Money	**Measure** Time		**Consolidation Assessments.**

Mastering Number daily – 15mins
Flashback 4 – daily revisit
Fluency x 3 / week
Progression maps: https://assets.whiterosemaths.com/resource-pages/primary/National-Curriculum-Progression-Primary.pdf
https://assets.whiterosemaths.com/resource-pages/primary/Ready-to-progress-criteria-links-FINAL.pdf

- Year 1 – RTP – Geometry (assessment data)
- Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.
- Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

Year 2 personalised overview 2023 - 24

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
Autumn 14 wks	**Place Value**				**Addition and subtraction**					**Geometry** Shape (Assessments)		
Spring 12 wks	**Measure** Money		**Multiplication and Division**					**Fractions**			**Measure** Length and height	
Summer 13 wks	**Measure** Time				**Measure** Mass, Capacity and Temp		**Statistics**		**Geometry** Position and direction		**Consolidation**	

Mastering Number daily – 15mins
Flashback 4 – Daily revisit
Fluency x 3 / week
Progression maps: https://assets.whiterosemaths.com/resource-pages/primary/National-Curriculum-Progression-Primary.pdf
https://assets.whiterosemaths.com/resource-pages/primary/Ready-to-progress-criteria-links-FINAL.pdf

Year 3 Personalised overviews 2023 – 24

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
Autumn	**Place Value**			**Addition and Subtraction**					**Multiplication and division**			
Spring	**Multiplication and Division**			**Measure** Length and Perimeter			**Fractions**			**Measure** Mass and capacity		
Summer	**Fractions**		**Measure** Money	**Measure** Time				**Geometry** Shape		**Statistics**		Consolidation Assessment

Fluency 3x/week–

Flashback 4 – Daily revisit

Progression maps: https://assets.whiterosemaths.com/resource-pages/primary/National-Curriculum-Progression-Primary.pdf
https://assets.whiterosemaths.com/resource-pages/primary/Ready-to-progress-criteria-links-FINAL.pdf

LOZELLS SCHOOL

Year 4 – Personalised Overview 2023 - 24

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
Autumn	Place Value				Addition and Subtraction				Measure Area	Multiplication and Division		
Spring	Multiplication and Division			Measure Length and Perimeter	Fractions					Decimals		
Summer	Decimals		Measure Money		Measure Time	Consolidation		Geometry Shape		Statistics	Geometry Position and direction	

Fluency 3x/week–

Flashback 4 – Daily revisit

Progression maps: https://assets.whiterosemaths.com/resource-pages/primary/National-Curriculum-Progression-Primary.pdf
https://assets.whiterosemaths.com/resource-pages/primary/Ready-to-progress-criteria-links-FINAL.pdf

RTP -Year 4

Fractions:

- Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
- Convert mixed numbers to improper fractions and vice versa.

Year 5 Personalised overview 2023-24

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	Week 13/14
Autumn	**Place Value** (3 weeks)			**Addition and Subtraction** (3 weeks)			**Multiplication and Division Block A** (3-4 weeks)			**Fractions** Block A (4 weeks)			
Spring	**Multiplication** Block B (3 weeks)			**Fractions** Block B (2 weeks)		**Decimals and percentages** (3 weeks)			**Measure** Perimeter and Area (2 weeks)		**Statistics** (2 weeks)		
Summer	**Geometry** Shape (3 weeks)			**Geometry** Position and direction (2 weeks)		**Decimals** (3 weeks)			**Negative Numbers** (1 week)	**Measure** Converting units (2 weeks)		**Measure** Volume (1 week)	

Fluency 3x/week– Times table facts etc *See fluency overview

Flashback 4 – Daily revisit

Progression maps: https://assets.whiterosemaths.com/resource-pages/primary/National-Curriculum-Progression-Primary.pdf
https://assets.whiterosemaths.com/resource-pages/primary/Ready-to-progress-criteria-links-FINAL.pdf

Year 6 - Personalised overview 2023-24

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
Autumn	Place Value (2-3 weeks)		Addition/Subtraction Multiplication and Division (5 weeks)					Fractions Block A/Block B (4 weeks)				Measurement converting units (1 week)
Spring	Ratio (2 weeks)		Algebra (2 weeks)		Decimals (2 weeks)		Fractions Decimals Percentages (2 weeks)		Measure Perimeter, Area & Volume (2 weeks)		Statistics (2 weeks)	
Summer	Geometry: Shape (2- 3 weeks)			Position and direction (1 week)	Consolidation and SATs preparation Investigations/Problem solving							

Fluency 3x/week

Flashback 4/Arithmetic – Daily revisit

Progression maps: https://assets.whiterosemaths.com/resource-pages/primary/National-Curriculum-Progression-Primary.pdf
https://assets.whiterosemaths.com/resource-pages/primary/Ready-to-progress-criteria-links-FINAL.pdf

RTP- Year 5

Secure fluency in multiplication table facts, and corresponding division facts, through continued practice – ongoing.

5. IMPLEMENTATION THROUGH – TEACHING FOR MASTERY EVIDENCE-BASED PRACTICE

Whole class together – we teach mathematics to whole classes and do not label children (this includes within the classroom). Lessons are planned based on formative assessment of what students already know and we include all children in learning mathematical concepts. At the planning stage, teachers consider what scaffolding may be required for children who may struggle to grasp concepts in the lesson and suitable challenge questions for those who may grasp the concepts rapidly. Decisions are not made about who these children may be prior to the lesson.

Longer but deeper – in order to address the aims of the NC, we reflect and review our long/medium term plans to allow longer on topic/personalise each year. Each lesson focus is on one key conceptual idea and connections are made across mathematical topics. To outsiders it may appear that the pace of the lesson is slower, but progress and understanding is enhanced. Our assessment procedures recognise that the aims of the curriculum cannot be assessed through coverage (ticking many objectives off a list) but through depth within a topic. This is achieved through teacher assessment, moderation and pupil progress meetings.

Key learning points are identified during planning (collaboratively in year groups) and a clear journey through the maths should be shown through lesson slides.

Questions will probe pupil understanding throughout and responses are expected in full sentences, encouraging the use of precise mathematical vocabulary.

'**Tricky bits'** are identified during the planning process and children will be supported through these.

Fluency – We recognise that 'fluency' is not just about remembering facts and develop all aspects of fluency through lessons and additional fact fluency sessions. At Lozells there is whole school focus on developing an instant recall of key facts, such as number bonds, times tables and unit + unit addition facts. Regular homework and parent workshops support this.

Lesson Structure

Exploration - instead of 'Let me teach you…' as a starting point, children are encouraged to explore a problem themselves to see what they already know. At the beginning of each lesson this exploration is referred to as the '**anchor task'**. Lesson objectives are not shared with the children at the beginning of the lesson, because we want the children to reason for themselves. At some point from the middle or even at the end of the lesson, the children will be asked what they've been learning that day. Children will write a 'title' in their books, but this may not look like a NC learning objective.

Develop reasoning and deep understanding (contexts and representations of mathematics) – problems are usually set-in real-life contexts - carefully chosen representations (manipulatives and images) are used by all to explore concepts. These representations will appear in books as children show their understanding, rather than answers to a series of calculations. The use of practical resources, pictorial representations and recording takes place in every lesson (the CPA approach).

Structuring - the teacher will organise the findings of the exploration, compare/contrast strategies and guide toward the most efficient strategy (or the one being learnt that day).

Step by step approach – journey through the mathematics (these steps may appear small, especially at the beginning of a lesson, there are points when suddenly a jump appears to have been made, or an extra challenge appears – this is normal). The lesson slides should show this step by step approach.

Questions to challenge thinking – teachers use questioning throughout every lesson to check understanding – a variety of questions are used, but you will hear the same ones being repeated; How do you know? Can you prove it? Are you sure? Is that right? 'What's the value? What's the same/different about? Can you explain that? What does your partner think? Can you imagine? Listen out for more common questions you hear. Questions are also used to challenge children who have grasped the concept. Children are expected to listen to each other's responses and may be asked to explain someone else's ideas in their own words, or if they agree/disagree etc.

Due to the episodic style of the lessons with frequent questioning, lessons may appear to move slower than in the past. There will be more talking and less recording in books. The recording that does take place however shows greater depth of understanding and intelligent practice. Teachers may decide to have a guided group working with them in a lesson if needed or the TA (whilst other members of staff may circulate).

Discussion and feedback – pupils have opportunities to talk to their partners and explain/clarify their thinking throughout the lesson, but are expected to complete written work independently (unless working in a guided group with the teacher).

Maths books/Journals - recording the *learning* – not just pages of similar calculations – you will see maths books used for both journaling activities and practice We are developing the use of journals and compare our journals with those from other schools on the Mastery Specialist Programme.

Reflecting/Practice – Currently we use White Rose as a planning tool. All year groups also have access to DfE approved textbooks to aid planning and lesson preparation e.g. Maths No Problem and Power Maths. We also use the NCETM mastery support materials and prioritisation materials.

Rapid intervention (same day catch up) – in mathematics new learning is built upon previous understanding, so in order for learning to progress and to keep the class together pupils need to be supported to keep up and areas of difficulty must be dealt with as and when they occur. We aim to do this through same day keep up sessions of 10-20 minutes at a time suited to the class teacher and child. In addition, we run intervention sessions outside of the maths lesson for some targeted children.

6. Developing English speaking, reading and writing skills through mathematics

Within mathematics children are encouraged to explain and reason their thinking through conversations and discussions as well as written jottings/journaling. Teachers have high expectations of our children and expect children to answer using full sentences including key mathematical vocabulary. Teachers will also model accurate language in all lessons.

The use of stem sentences is considered to enable children to use accurate vocabulary and sentence structure when talking about maths. They also help reveal the structure of the concepts which enables children to develop understanding, for example “The whole had been divided into 4 equal parts and 1 have got 1 of those parts” – (one quarter - ¼) In each lesson children complete book work tasks where they are presented with a range of problems including, problem solving, reason and fluency. Children may need to answer using numerals, explanations, reasons, representations or verbally.

Finally, this year our school is developing the use of the Voice 21 initiative to develop oracy. This alongside the study of ‘WALKTHRUs’ is enabling us to enrich our curriculum with opportunities for children to develop language and oracy in all subjects.

7. EQUALITY OF ACCESS AND EFFECTIVE SUPPORT FOR CHILDREN WITH SEND

SEN pupils – may be supported by effective scaffolding – using a range of resources, adapted activities and further teacher modelling. They will also complete additional activities outside of the mathematics lesson linked to their personal continuum targets. We do not label our children. We have high expectations of all children and strongly believe that all children can achieve in mathematics. Some may take longer to grasp certain concepts and may need careful scaffolding or extra time/support (guided groups, same day catch-up, additional homework, pre-teaching, intervention group, after school clubs, specific parent support).

8. Analysing the impact of our curriculum to include assessment

- Daily teacher assessments in the practise/exploration part of the lesson by the teacher/TA. This informs who may need support, same day catch up and the content of the next lesson.

- White Rose end of unit assessments – a set of questions linked to the unit taught for example, place value, measure etc.

- NTS/PIXEL end of term assessments – Informs planning, fluency sessions, flash back four questions.

- Pupil book study – middle leaders/SLT look at books with children and discuss learning. This is an opportunity to evaluate the impact of the curriculum

- Sonar – assessment tracking/monitoring – informs pupil progress, next steps, intervention.

9. TEACHER CPD AND SUBJECT DEVELOPMENT PRIORITIES

Our school is a Teaching for Mastery school. Our maths lead is a Mastery Specialist who receives regular training with the NCETM each year. As a school we also work alongside the Central Maths Hub who provide a range of CPD programs. This year some teachers have attended training with them around journaling, collaborative planning and sustaining Teaching for Mastery. EYFS/KS1/LKS2 are part of the Mastering Number program also. All of our teachers receive Teaching for Mastery training, this includes professional development sessions, team teaching, subject knowledge enhancement, planning support and attend regular staff meetings.

For 2023/24 we will continue to **sustain** Teaching for Mastery, continue to develop collaborative planning in all year groups as well as continuing to personalise our curriculum for each year group focusing on the specific needs/gaps.

CPD is a continuous cycle of development and support, throughout the upcoming year CPD will be offered regularly to all members of staff and then some bespoke CPD where needed e.g. ECT's, year group movement, student teachers etc.

We are also developing the use of 'pupil book study', as an approach to evaluating the impact of the curriculum through studying teaching and learning.