

EYFS NUMERACY SUBJECT PORTFOLIO

The Federation of the Church Schools of Shalfleet and Yarmouth - Curriculum for Learning Overview

What are we trying to achieve?

Lifelong Achievement and Wellbeing

Curriculum Values

Design principles to inspire & challenge

How do we implement?

Components

Teaching for Learning

Approaches

EYFS/National Curriculum

What is the impact?

Successful Learning

Our curriculum impact can be measured by...

Our purpose is to educate children in an atmosphere of Christian love where all achieve the very best they can, now and throughout their lives

Conscious Community, Community Map, Cultural Capital

Relationships

We have strong partnerships and positive relationships

Determination

We are determined to do our very best to achieve

Respect

We show respect to others and the environment

Coherent learning links and pathways

Strong working partnerships

High quality outcomes, deep learning

Valuing all children, learning is accessible to all

Challenging, engaging and motivating

Opportunities for memorable experiences

Promotes independence and curiosity

Broad, relevant and balanced
Local, Mainland, Global

The curriculum as the entire planned learning experience

Lessons

Topics

Events/Trips

Environment

Enrichment/Inspire

Partnerships

Clear understanding of cognition and learning – Good subject knowledge – Skilful instruction, coaching and facilitating – Flexible and responsive teaching strategies – Stimulating and well organised learning environments – Effective use of assessment - High expectations and productive interactions

Sequences of learning that link key ideas in subject domains - rich connected learning journeys – clear progression of learning – flexible inclusion strategies to tackle educational disadvantage - social, moral, spiritual, cultural education

CLL

PSED

PD

Literacy

Maths

UW

EAD

Eng

Ma

3ol

Comp

D&T

Hist

Geo

A&D

Music

PE

MFL

PSHE

RE

Positive relationships and interactions

Appropriate learning opportunities understood by pupils

Children understand how to be successful

Oral and written feedback that has impact

Dialogic talk and rich questioning

Developing meta-cognition

Moderation underpins standards

Effective use of assessment driving tailored learning

Target setting and review

Systematic monitoring, action and review : Do design principles translate into an inspiring and challenging curriculum for all?

Evidenced by...

High achievement and outcomes for all across the curriculum

Good behaviour, positive attitudes and high attendance

Teaching that is engaging and consistently good for all

Motivated teams & positive learning culture

Confident, kind, respectful, determined learners



MATHS AT THE FEDERATION OF THE CHURCH SCHOOLS OF SHALFLEET AND YARMOUTH



Federation Vision for Maths– Intention for Children

We aim to foster enthusiastic and confident pupils who will have an appreciation of both the creativity and conventions of maths. They will demonstrate resilience, independence & the ability to take risks, learning from mistakes, building characteristics crucial to successful careers in the future.

Big Ideas

Our approach to maths is based on the 5 Big Ideas of the Mastery approach:

- **Coherence**
- **Representation & Structure**
- **Mathematical Thinking**
- **Fluency**
- **Variation:** including **Conceptual variation** and **Procedural variation**

These 5 big ideas are visible through the teaching of all strands of our mathematics curriculum.



Content and Sequencing (Broad, relevant and balanced)

- Place Value – Children begin by focusing on securing reading and writing numbers to 20 moving to 100 (Yr 1) to working with numbers up to 10,000,000 (Yr 6)
- Calculations – Using pictorial representations to solve additions, subtractions, multiplications and divisions (Yr 1) to using formal written methods to solve multi-step and multi-operation problems.
- Measurements – Children measure and record mass, length, volume and time (Yr 1) to converting between different units of measure including metric to imperial (Yr 6)
- Fractions – Being able to find $\frac{1}{2}$ and $\frac{1}{4}$ of objects and quantities (Yr 1) to using fractions with all four main operations (Yr 6)



Vision for the Federation Learning Principles in Maths

Coherent Learning Links and Pathways:	Strong Working Partnerships:	High Quality Outcomes/Deep Learning:	Valuing All Children/Accessible Learning:	Challenging, Engaging and Motivating:	Opportunities for Memorable Experiences:	Promotes Independence and Curiosity:	Local, Mainland and Global:
Children use their mathematical skills within and outside of the subject that enrich their understanding of other curriculum areas.	Children work with their peers in order to unpick the language in problems and share their reasoning to deepen their understanding.	The children are encouraged to use precise mathematical vocabulary to explain and reason about their maths.	The CPA approach ensures all children can access maths concepts and enables them to develop from the same starting point as their peers.	Children will be motivated when they see how everything they learn in maths links into their every day lives and the real world.	These come through the efforts, mistakes and successes that they experience throughout their learning.	CPA approach allows children to go from concrete to pictorial and then independently work in abstract situations.	Mathematics is a global language that will enable the children to make links with other countries and their approaches.
Links with Wider Curriculum 	Progress 			Support 			
Maths skills are used in a variety of foundation subjects such as for taking measurements in science using capacity, mass, length or timings, using measurements in recipes in DT lessons, working with algorithms when coding in computing and facts, figures and coordinates within humanities.	Progress is seen through the complexity of the calculations that children are able to use when working through problems as well as recognising and using the most efficient methods. The children are also able to make more links between areas such as how decimals, percentages and fractions can be intertwined.			Everyone has access to the Maths National Curriculum. Children will be supported with securing their place value and number bonds knowledge through specific interventions. Children will have access to manipulatives that enable them to break difficult concepts down. Tasks adapted with visual elements e.g. models			

OUR INTENT – EARLY YEARS

The reception year is a fundamental stage in a child's life and one in which we aim to welcome and settle our children and their families into our school community. We aim to provide children with the opportunities to develop a love of learning through positive relationships, memorable experiences and by giving them an active role in their learning by tailoring learning to the children's interests. But, we also know the importance of the reception year to equip children with the fundamental skills as they prepare for the National Curriculum in Year 1.

We aim to equip children with a strong foundation of Early Mathematic Skills on which their learning can continue to build as they move through their school years. We understand how early number sense is critical to supporting children in acquiring the building blocks of number and the importance of embedding number teaching and number experiences into real life opportunities so that children understand the role and importance of numbers in everyday life.

Through a range of play based and adult led approaches, we work to ensure children secure a strong foundation of number, pattern, shape, space and measure. However, we also understand the importance of adult led teaching for developing children's mathematical understanding. This year we are implementing the NCETM Mastering Number daily sessions alongside child led themes and opportunities to teach maths in Early Years.

We work to support our families too, to enhance their understanding of the key role they play in their child's learning journey.

THE EYFS CURRICULUM

Mathematics:

Number

- Have a deep understanding of number to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 10.
- Automatically recall (without reference to rhymes, counting or other aids), number bonds up to 5 (including subtraction facts) and some number bonds up to 10, including double facts.

Numerical Patterns

- Verbally count beyond 20, recognising the pattern of the number 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.

- We must remember that the Early Learning Goals themselves do not constitute a curriculum and therefore, even though Shape, Space and Measure is not formally mentioned in the goals, we must endeavor to continue to teach children about these fundamental mathematical concepts.

“Children are born ready, able and eager to learn. They actively reach out to interact with other people, and in the world around them. Development is not an automatic process, however. It depends on each unique child having opportunities to interact in positive relationships and enabling environments.”⁽ⁱ⁾

The first few years of a child's life are especially important for mathematics development. Research shows that early mathematical knowledge predicts later reading ability and general education and social progress⁽ⁱⁱ⁾. Conversely, children who start behind in mathematics tend to stay behind throughout their whole educational journey⁽ⁱⁱⁱ⁾.

⁽ⁱ⁾ Development Matters, 2012

⁽ⁱⁱ⁾ Duncan et al, 2007

⁽ⁱⁱⁱ⁾ Aubrey, Godfrey, Dahl, 2006

There are six key areas of early mathematics learning, which collectively provide a platform for everything children will encounter as they progress through their maths learning at primary school, and beyond.

The materials below were first published by the NCETM in 2018 and updated in 2019.

SIX KEY AREAS OF EARLY MATHEMATICS LEARNING

Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents

Comparison

Understanding that comparing numbers involves knowing which numbers are worth more or less than each other

Composition

Understanding that one number can be made up from (composed from) two or more smaller numbers

Pattern

Looking for and finding patterns helps children notice and understand mathematical relationships

Shape and Space

Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking

Measures

Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later

The role of an Early Years Practitioner is to ensure that all children develop firm mathematical foundations in a way that is engaging and appropriate to their age.

MATHS MASTERY

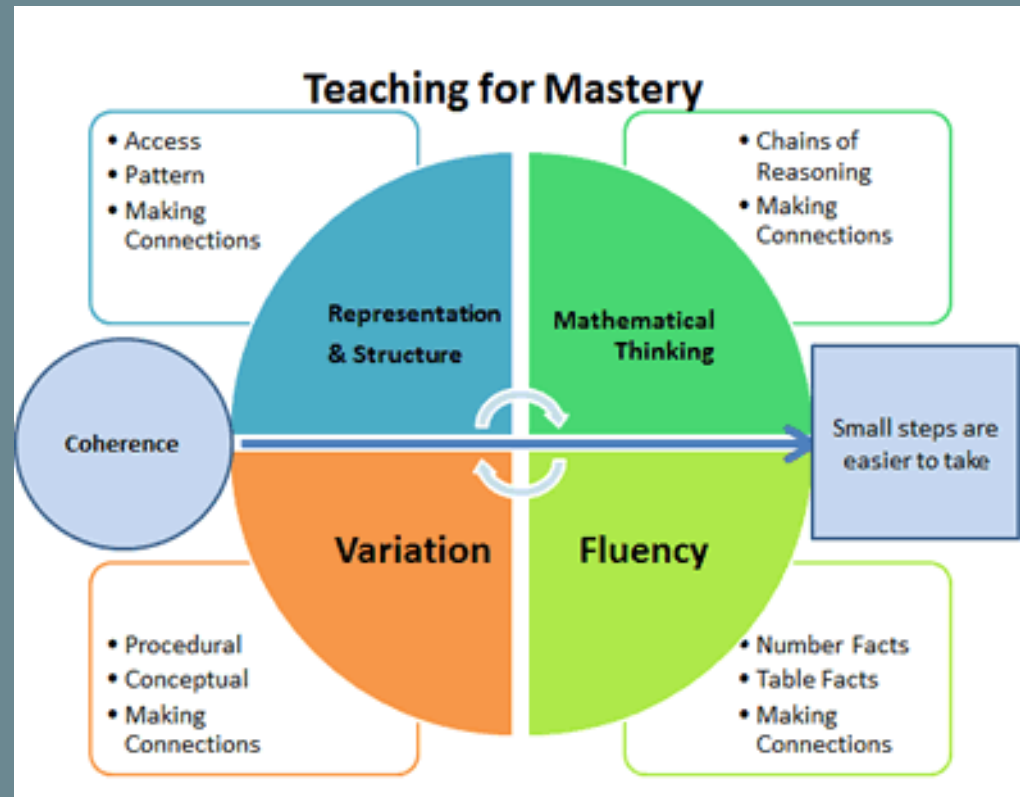
Mastering maths means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject.

The phrase 'teaching for mastery' describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths.

Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable pupils to move on to more advanced material.

Coherence: Lessons are broken down into small chunks, gradually unfolding a concept.

Representation and Structure: Mathematical representations explore the structure/ concepts being taught with the larger aim that students can eventually do the maths without the visual cues.



Mathematical Thinking: Ideas are to be understood deeply by pupils – thought about, reasoned about and discussed with others.

Fluency: Quick and efficient recall of facts and flexibility to move between contexts and representations.

Variation: How teachers may represent a concept in more than one way and how they sequence activities – looking at what is kept the same and what is different.

AUTUMN TERM MATHEMATICS

LITTLE EXPLORERS PRE SCHOOL SHALFLEET

Maths integrated into puzzles.



Measure –
comparisons
of height –
taller / tallest /
shorter /
shortest.



Capacity and volume.



Sorting into sets. Counting
and comparison.



Exploring shapes
through pictures.

Cardinality and
counting.



AUTUMN TERM MATHEMATICS LITTLE STARS PRE SCHOOL YARMOUTH



Exploring shape, space and measure through a range of fun and hands on activities.



Placing mathematical equipment throughout the learning environment e.g. in the Home Corner – “maths is everywhere.”

AUTUMN TERM MATHEMATICS

BEACH CLASS RECEPTION YARMOUTH



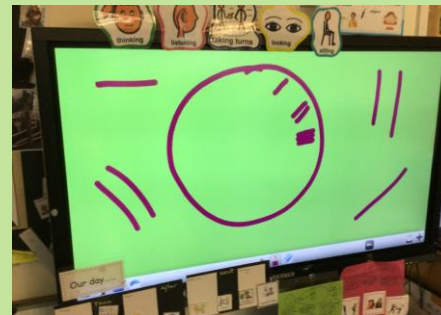
Exploring the value behind the digit through our play.



Links in our child led learning to whole class teaching – counting snails – lining them up to count accurately.



Subitising activities – a child made observations of subitising on clocks – whole class discussion about the roman numerals on a clock face rather than numbers.



Number games in the environment.

BEACH CLASS CONTINUED

Whole class directed
NCETM teaching
activities each day.



Counting songs
allowing children to
use finger dexterity
to show value
behind number –
counting up and
counting down.

Challenges within the
environment –
opportunities for
children to recognise
digits and practise
writing numerals.

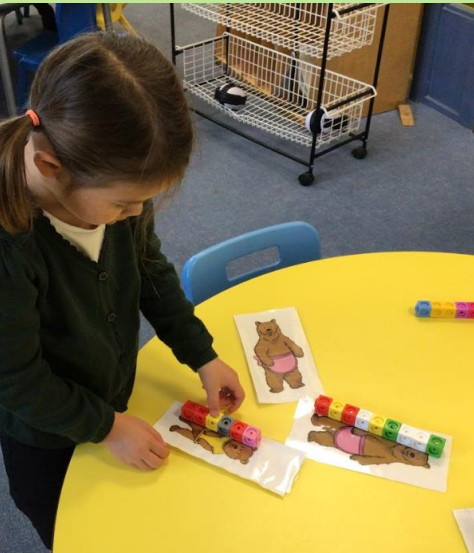


Child led learning
– applying maths
skills e.g.
subitising through
games together.



AUTUMN TERM MATHEMATICS

RAINBOW CLASS RECEPTION SHALFLEET



Embedding maths throughout the learning environment to ensure children see the role that maths plays in everyday life. Allowing opportunities for children to use and explore mathematical equipment and games, both bought and natural resources.



RAINBOW CLASS CONTINUED..



Applying number value –
counting out into sets.

Sample of a maths
working wall.



Cardinality and
counting through
our child led
learning – natural
resources –
expanding our
understanding that
maths is all around
us.

SPRING TERM MATHEMATICS

LITTLE EXPLORERS PRE SCHOOL SHALFLEET



Building bricks provide fun opportunities to explore shape and measure.



Pouring and filling – early exploration of capacity.



Making links to maths within stories – meaningful number work.



Using puzzles to practise number order, digit recognition and counting forwards and backwards.



Role play sorting by categories.

LITTLE EXPLORERS SPRING TERM CONTINUED...



Jigsaw puzzles
promoting
spacial
awareness.



Play-doh shapes.



Drawing
shapes.



Consistency in maths equipment
across pre-school and school.
Allowing children to use
equipment in fun activities.

Opportunities for children
to sort into sets by a
category. Compare bear
equipment.

Drawing with
matching colours.



SPRING TERM MATHEMATICS

LITTLE STARS PRE SCHOOL YARMOUTH

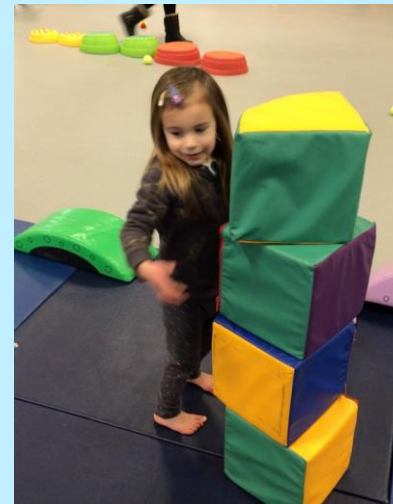


Adult led games and challenges to support children in their 1:1 correspondence and to develop understanding of number.

5's frame and equipment that children encounter during Reception Class years – aiding transition in each child's maths journey.



Setting up real life maths opportunities in response to children's interests. "A cake shop."



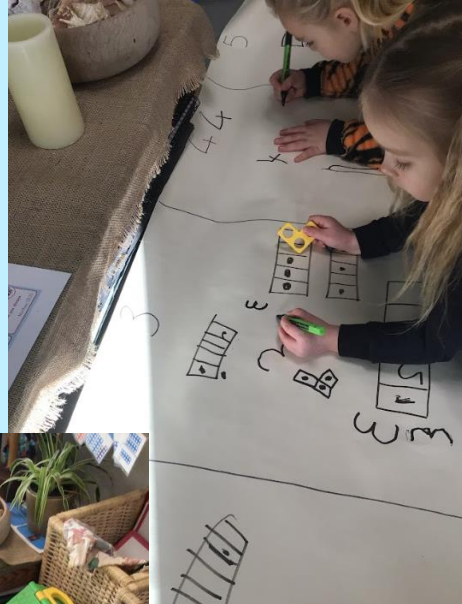
Play scenarios to explore height and comparison.



SPRING TERM MATHEMATICS BEACH CLASS RECEPTION YARMOUTH



Maths throughout the learning environments – helping children to see the links to maths in their play and the role maths plays within our daily lives.



Exploring different representatives of a number.



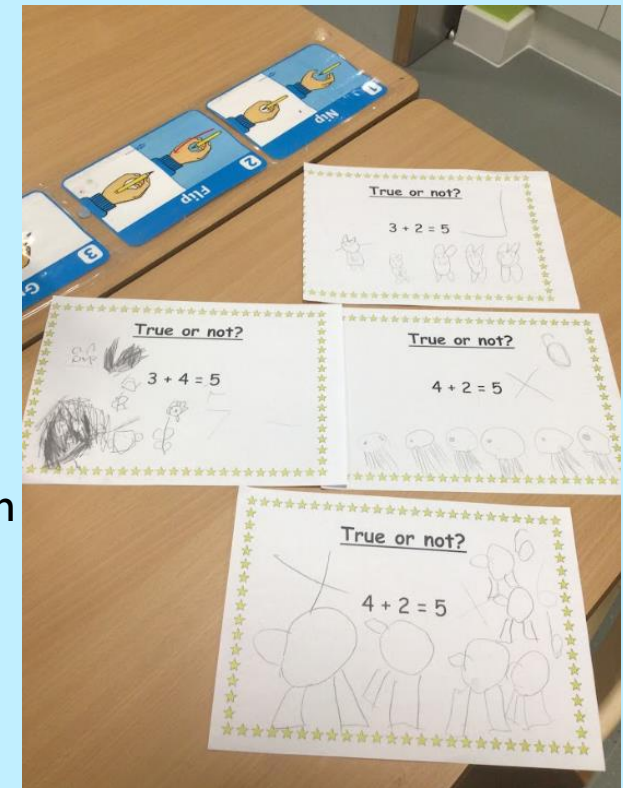
Number challenges within the environment, allowing children to apply their learning from whole class teacher directed tasks.



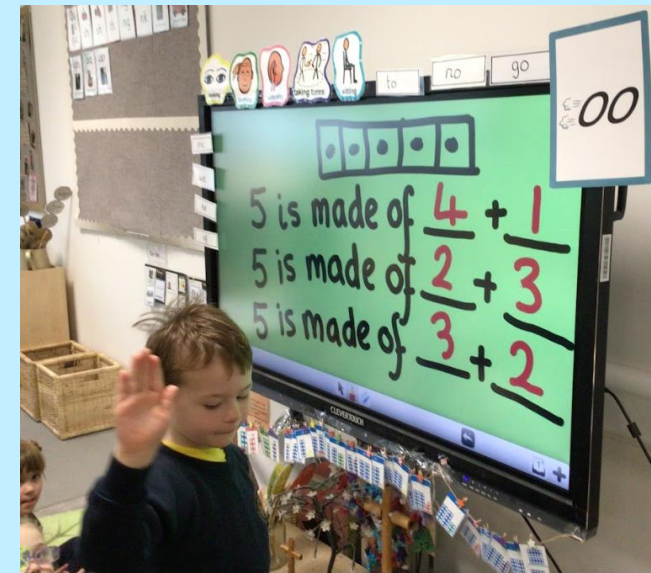
BEACH CLASS SPRING TERM CONTINUED..



Challenging the most able students to showcase their understanding through pictures and apparatus.



Whole class teaching using a range of concrete resources to support children in visualising a concept.



SPRING TERM MATHEMATICS

RAINBOW CLASS RECEPTION SHALFLEET



Exploring number composition and using stem sentences to explain our reasoning e.g. “4 add 4 is equal to 8.”

Exploring shape and sorting into sets.

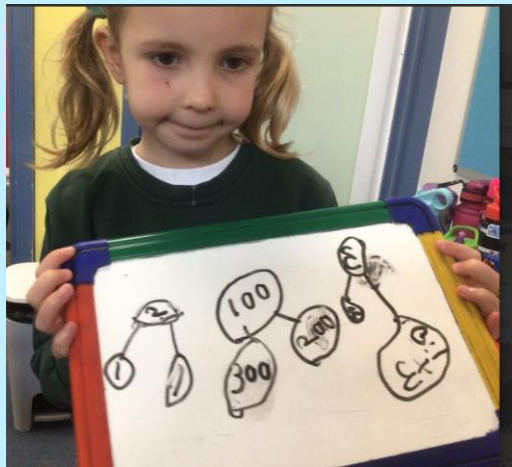
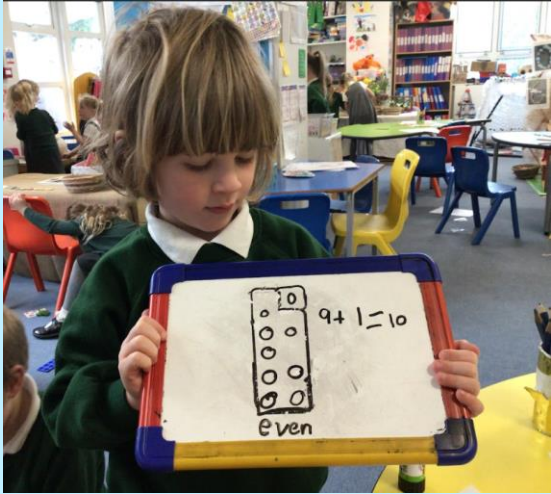


Number games with a range of equipment within the environment allow children to explore number order, counting, comparison and composition – concepts explored initially as a whole class through NCETM directed teaching time.

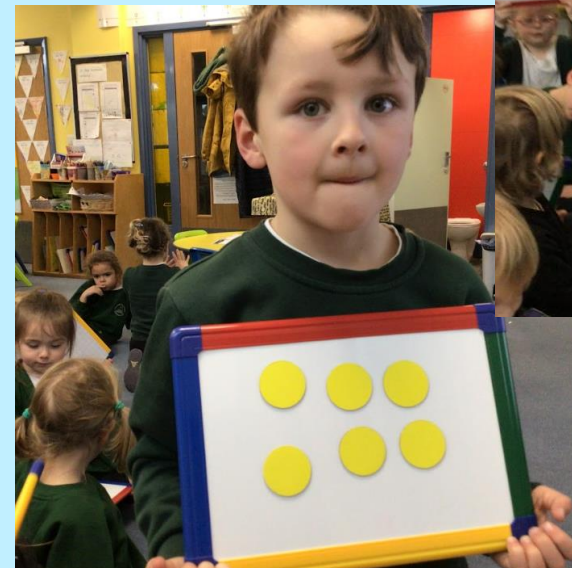


RAINBOW CLASS SPRING TERM CONTINUED..

Representing a concept through pictures and equipment.



Linking
maths to
our text
drivers –
maths is all
around us.



SUMMER TERM MATHEMATICS

LITTLE EXPLORERS PRE SCHOOL SHALFLEET



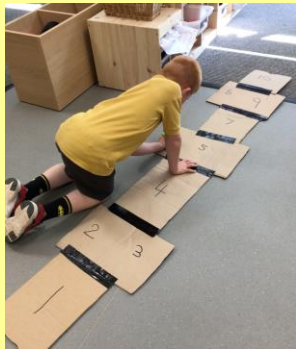
SUMMER TERM MATHEMATICS

LITTLE STARS PRE SCHOOL YARMOUTH



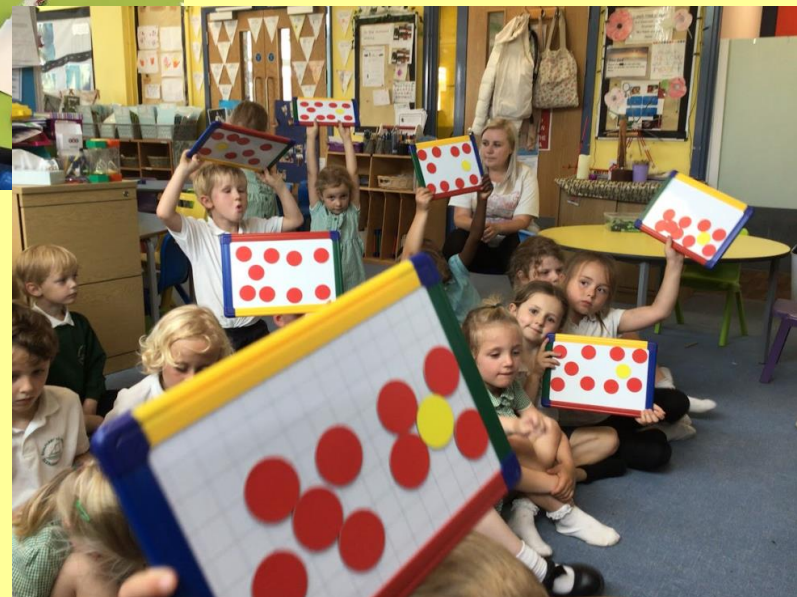
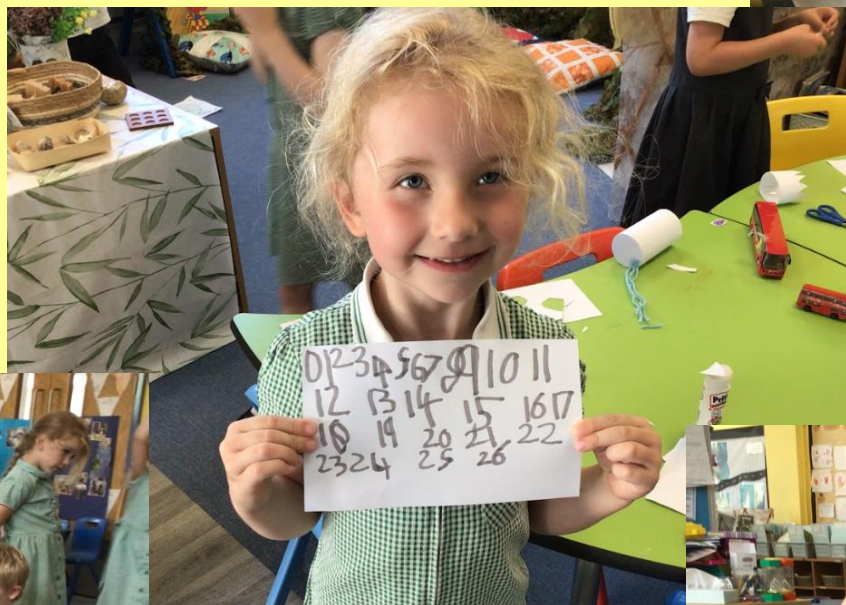
SUMMER TERM MATHEMATICS

BEACH CLASS RECEPTION YARMOUTH



SUMMER TERM MATHEMATICS

RAINBOW CLASS RECEPTION SHALFLEET



WHAT WERE IDENTIFIED AS PRIORITIES FOR
THE DEVELOPMENT OF MATHEMATICAL
SKILLS IN EARLY YEARS 2022/23?

SUBJECT AUDIT

2022/2023 One Page Subject Action Plan

Subject – EYFS maths

Subject Lead – Emma Haisell

FDP Link -

ACTION	WHY?	HOW? <i>Success Criteria</i>	WHO?	COST/RESOURCES?	OBJECTIVE ACHIEVED?	EVALUATION <i>What has been the impact?</i>	NEXT STEPS
To enrol reception class teachers on EYFS mastery training NCETM and implement approach in class.	To update our approach to teaching number to ensure mastery approach is consistent across Federation in all year groups.	-Follow steps from Debbie Lewis to enrol on NCETM programme. -Ensure reception teachers attend all training sessions and when this can't be together, meet to discuss training. -Keep Debbie Lewis up to date with maths approach in Reception in light of new scheme. - Ensure time allocated on EYFS timetables to allow daily session of discrete maths teaching for NCETM. -Reception teachers print and begin NCETM daily planning sessions in class.	EH with CH.		Yes	Positive feedback from lesson observation during OFSTED. Increased mathematical language, engagement and understanding from class within setting (adult led and child led).	Ensure joined up thinking with pre-school to ensure maths mastery approach begins in pre-schools.
To conduct maths audit of resources with reception classes.	To ensure that there is sufficient and correct equipment available to ensure application of NCETM mastery approach.	-Attend training sessions from NCETM and in collaboration with CH, place a request for missing resources.	EH with CH.	Varied depending on how many resources are required to complete NCETM approach in class effectively.	Yes	Resources have supported the teaching and application of maths mastery within Reception classes and Little Stars.	Ensure Little Explorers now access maths mastery resources – audit and order missing components.

To visit both pre-schools to allow time to explore maths approach, provision and resources.	To ensure consistent approach across the Federation – to share new mastery approach to number in Reception to ensure continuity for children between pre-schools and Reception class. To support nurseries in needs they identify or visit identifies e.g. through sourcing more equipment etc.	<ul style="list-style-type: none"> - Plan a time to allow a visit to each pre-school site. - Meet with both nursery managers to discuss their maths approach and needs going forward. 	EH	Time to cover EH in class to allow visits to pre-school settings.	No	Ongoing – time now found out of class to allow for EH to visit settings.	
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Minimum of 2 actions to take forward – Maximum of 3 actions to take forward.