Trewirgie Infants' & Nursery School

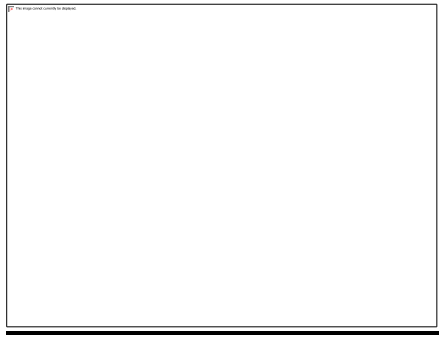
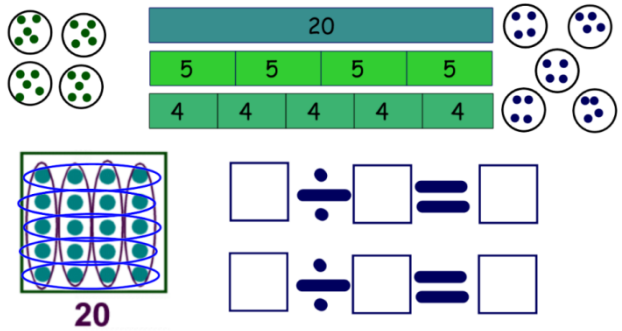
Maths STRATEGY for 2021 – 2022

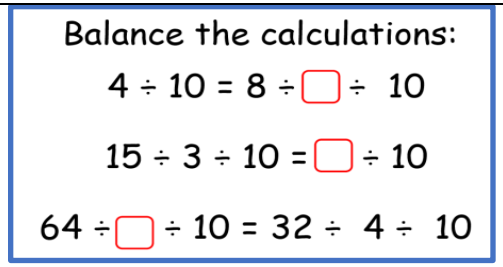
Mathematics - Intent and Implementation		
Intent	At Trewirgie Infants' School our vision is to help, care and succeed. Our maths curriculum has been developed to ensure that children from the outset all children are given the best foundations to become confident, articulate and fluent mathematicians. Structured and progressive taught maths lessons enable children to learn and deepen their understanding of mathematical concepts through a range of intertwined experiences that promote fluency, reasoning and problem-solving. It is our intent for children to leave our school ready for their on-going learning journey and recognise how maths surrounds them in their everyday lives.	
Planning	FS	Y1/Y2
Intent	To ensure coverage of the EYFS curriculum, long term planning will be created from the ELG and Development Matters Framework. It will pupil-led and bespoke to; 'Practitioners must consider the individual needs, interests, and development of each child in their care, and must use this information to plan a challenging and enjoyable experience for each child.' (2021 Framework) The curriculum will therefore be adapted throughout the year to reflect AfL.	Long term planning is created to ensure coverage of the national curriculum and broken down into weeks and terms.
Implementation	Long term planning has been developed from Development Matters and linked to the 'Karen	Long-Term maths planning will be guided by the maths lead in school following review of the previous year. For 2021-2022 this

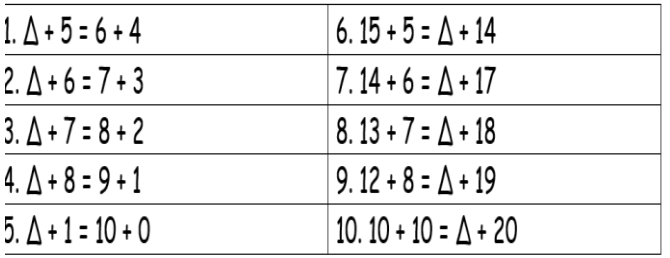
	Wilding' approach including continuous provision on the agreed format. This is supplemented through the use of Numberblocks episodes White Rose, NRich, the School Calculation Policy and Development Matters Framework. Daily adult-taught sessions and will be reflected in continuous provision opportunities throughout the week as identified on weekly plans.	will include planning and resourcing as identified at a local, regional and National level to address the longer-term impact of COVID-19. Maths objectives will be included within the medium term planning. For each block/topic of learning objectives will be broken down in to smaller steps in order to provide an explicit teaching sequence using White Rose and adapted according to prior attainment, coverage and knowledge. (COVID-19) Individual lessons are planned from this framework in the form of White Rose powerpoint / alphabook slides which provide a clear progression of skills and calculations are chosen carefully in order to maximise lesson effectiveness. When planning maths lessons we follow the model of: **'Teach, Learn, Confuse, Understand'** This model will be presented sometimes within a single lesson but mostly it will be evident within a group of lessons which will be highlighted within the child's maths book. 'Sticky Maths Friday' will from an essential part of weekly plans.
Lesson design – Teach		
Intent	Lessons will be structured to ensure that progression is made from start to finish. Children will be taught new concepts in each unit however the starting point will always be a recap of the previous year to ensure strong foundations for the next stage.	
Implementation	Direct modelling using the Karen Wilding	Direct modelling from class teacher of new concepts follows the

	approach will be given from class teacher of new concepts following the school calculation policy, ensuring there is a clear progression. Direct whole class teaching will be for 15 minutes daily including 'maths talk.' sessions. Lessons will use a variety of different teaching styles to suit all learners, ensuring manipulatives are readily available to support and extend all children.	school calculation policy, ensuring there is a clear progression. Lessons will be x5 per week for 50 minutes and will use a variety of different teaching styles to suit all learners, ensuring manipulatives are readily available to support and extend all children. Lessons will follow the planning format (See Appendix) to ensure consistency of approach across the school.
Resourcing and Display:	In each classroom a maths working wall that will be used actively within lessons to aid learners during their learning. This will include; • Vocabulary linked to current area of learning – four calculations • Number line 0-20 using a variety of visual representations including ten frames or Numicon. • Number sense 12 strategies cards as these are taught and can be referred to. • Confuse sentence stems (Reasoning and Problem-solving) • A focus 'This week we are learning to…' or Essential Question 'How can we share objects equally?' linked to the small steps in learning. • WAGOLL of pupil work including commentary from them to promote positive attitudes towards maths. • Children will have access to concrete materials within the classroom from a specified learning area or through table resources. Working Wall example Photograph here. Maths Bag Example EYFS Area example	

	In each classroom children will be able to explore and access all required resources that may support them in their learning. These may be centrally stored or table based in 'Maths Bags' on tables. Through individual planning teaching staff will encourage and promote children in accessing resources independently – identifying learning opportunities from these decisions through positive questioning.

Lesson design – Learn	
Intent	Children will have a variety of opportunities to practise the new skills they have been taught through an array of rich and stimulating activities provided by the class teacher which include fluency, reasoning and problem solving.
Implementation	**Practical hands on activities:**  **Pictorial representations:**  **Careful, progressive and well planned sequences of calculations:** **Missing number problems:**

<table>
<tr><td></td><td>




</td></tr>
<tr><td colspan="2">Lesson design – Confuse</td></tr>
<tr><td>Intent</td><td>In order to ensure deep understanding, confuse elements will be incorporated in to the teaching sequence. The confuse may be within the lesson, an activity within the books or as a challenge or extension activity. The confuse activities allow the children to demonstrate their knowledge in a different way and thus provides depth of understanding. These can be written or through verbal discussions and applies to all year groups.</td></tr>
<tr><td>Implementation</td><td><u>Conjecture:</u> <u>See, think, wonder:</u>

<u>Convince me:</u></td></tr>
</table>

	Odd one out: **Always, Sometimes, Never**	
Lesson design – Understand		
Intent	Children will demonstrate their understanding of the concept that they have been taught by being fluent and able to problem solve and reason deeply about the topic area. Sticky Maths sessions will also allow children to demonstrate what knowledge has stuck in previously taught lessons throughout the year	
Implementation	Children will be able to use the skills taught within their play and continuous provision. FS staff will provide opportunities for these skills to be used within the setting and will encourage children to 'talk' about their maths.	They will be able to demonstrate their understanding in a variety of ways using manipulatives, practical resources (measures and geometry) and through technology such as 'Purple Mash' Teachers will give children opportunities to reason and problem solve in a variety of different contexts using both pictorial and abstract representations of the same or similar idea. This will be evident in books demonstrating the progression of the learning leading towards the understand phase.

		On a Friday during the sticky maths lessons, pupils will work on questions from previously taught topics Class teachers will create sticky maths challenges (2-4) per session for the child to complete independently. TAs may support the recording of this. Tasks will be separate and children can stick these in to their books and work through them in an order specified by the teacher. In the last 15 mins, teachers will go over the questions with the pupils on the board, allowing for instant feedback to all learners. This method of sticky maths once per week, will assess whether the knowledge has 'stuck' and what needs repeating or recapping again as we progress throughout the term.
Number fluency		
Intent	For children to develop a range of taught calculation strategies that enable them to become flexible, accurate and efficient in using the four operations of number. (Rapid recall).	
Implementation	Use focussed direct teaching time through the Karen Wilding approach, including daily number talk to develop a deep sense of number through use of natural and concrete maths materials, visual representations and continuous provision.	Daily 15 minute Number sense lessons that progressively build on prior knowledge in EYFS by introducing a range of different strategies relating to number facts on a daily basis and builds upon this by using 12 effective strategies. See Appendix for progression and strategies. Through daily starters and specific lessons children will be encouraged to develop rapid recall and fluency in a progressive order from the Spring Term.
Presentation		

<table>
<tr><td>Intent</td><td colspan="2">Children’s books will show their mathematical journey and tell a story of the learning, building on skills with well planned activities to stretch and challenge all learners.</td></tr>
<tr><td>Implementation</td><td></td><td>Each lesson will have the short date and an LO (learning focus) to describe the learning.

Children will use squares for each digit within books by the end of Year 1.

Where numbers or mathematical symbols have been reversed or written incorrectly, this will be highlighted within marking and children will have to rewrite the number several times to practice. Initially this my use highlighters to trace and copy to support children in getting the correct formation.

Where a mistake has been made, this will be shown when marked and pupils will complete these with a purple pen at the beginning of the next lesson.

<u>Presentation in books example:</u></td></tr>
<tr><td colspan="3">Assessment</td></tr>
</table>

<table>
<tr><td>Intent</td><td colspan="2">School draft assessment policy
• To identify what children know in all subject areas – explicit achievements.
• To indicate levels of engagement in learning and development of learning characteristics
• To celebrate achievements and successes
• To support pupils in the identification of next steps.
• To inform practice and pedagogy
• To help staff to help children.</td></tr>
<tr><td>Implementation</td><td>National Baseline assessment will take place within the first 6 weeks of children entering reception.

On-going assessment through observation will be recorded using insight at the end of learning experiences. These will be recorded in relation to the Development Matters Framework

Half-termly assessment review with subject leader/SENCo to ireview impact of new curriculum model and discuss any specific concerns with individual children.

EYFSP – Foundation Stage Profile reported to parents including moderation through TPAT.</td><td>Daily assessment of pupil progress within individual lessons will be recorded in Pupils' books following the school marking and feedback policy. Whenever possible in lesson marking will enable immediate feedback and correction.

As above this includes presentation and formation of number and mathematical symbols.

Rapid Intervention to address misconceptions This will include afternoon work with class teacher or TA to address any misconceptions prior to the next lesson.

At the end of each lesson and though an end of unit assessment a judgement will be made a recorded on insight.

The progress of each pupil, the impact of teaching and AfL will be discussed in year groups and at pupil progress meetings as specified on the school timeline document.

Groups will be identified and placed on planning documents from these discussions to plan focus groups and additional support. After each termly assessment, the strengths and weaknesses of pupils in each class will be analysed by the class teacher. This analysis is then fed to the Maths leader who will identify strengths and weaknesses in the teaching of maths across the</td></tr>
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		school, and arrange corresponding CPD workshops.
Impact		
Impact of Implementation:	Data & Assessment (Insight, pupil and teacher conferencing)	
	Teach (lesson observations, planning scrutiny, CPD)	
	Learn (book looks, moderation, pupil conferencing)	
	Understand (Data, book look, pupil conferencing, teacher review)	
	Display (learning walk, pupil conferencing)	

Fluency and rapid recall facts to be introduced within lessons 2021-2022.	
Summer Term Starters linked to Multiplication & Division **Year 1:** 1. Counting in 5's to 100 **forwards** 2. Counting in 5's to 100 **backwards** 3. Counting in 10's to 100 **forwards** 4. Counting in 10's to 100 **backwards** 5. 2 x table 6. 5 x table 7. 10 x table 8. Mixed 2,5,10	Revision of Year 1 objectives End of Autumn Starters Spring Term **Year 2:** 1. Counting in 10's backwards from any 2 digit number 2. Counting on in 5's from a multiple of 5 3. Counting forwards and backwards in 3's 4. Multiplication and division facts for 5 x table 5. Multiplication and division facts for 10 x table 6. Multiplication and division facts for 2 x table 7. Multiplication and division facts for 3 x table 8. Multiplication and division facts for 4 x table