

# Improving the teaching and learning within Mathematics for mixed-age classes across school

2023/2024

| Area for development (Why?)<br>What needs to change e.g. teacher behaviour, student behaviour, attainment?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Intervention (What?)<br>What are the essential 'active ingredients' of the intervention?<br><br>What activities and behaviours will you see when it is working?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Implementation (How?)<br>How will it be done?<br><br>What blend of activities are required?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Outcomes (How well?)<br>How will you know that it is working?<br><br>Do staff feel the approach is feasible and useful?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Final Outcome (and so?)<br>How will pupils, teachers and the school benefit?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <p><b>Teachers</b></p> <ul style="list-style-type: none"> <li>Further the knowledge of the use of the CPA approach and the use of manipulatives in the UKS2 classrooms, especially for lower attaining/SEN pupils.</li> <li>UKS2 data not consistent across all 3 classes, particularly those working at a greater depth standard.</li> <li>3 x ECTs joined in September 2023 across three different phases.</li> </ul> <p><b>Children</b></p> <ul style="list-style-type: none"> <li>Lower attaining readers, particularly in KS1 &amp; Y3, are disengaged from tackling written maths problems.</li> <li>SEND and lower attaining PP pupils are not receiving enough opportunities to re-visit informal methods and concrete materials.</li> <li>There is a GAP in mathematical vocabulary knowledge between pupils.</li> </ul> <p><b>Attainment and Progress</b></p> <ul style="list-style-type: none"> <li>The attainment GAP for SEND and PP is significantly lower in a number of year groups. Factors affecting this have been the prioritising of</li> </ul> | <p><b>Active Ingredient 1</b></p> <p>Mathematic leaders and SLT to regularly monitor and complete lesson walk throughs to ensure there is a consistent mathematical approach across the school, incorporating a CPA approach, with a focus on UKS2, lower attaining and SEN pupils.</p> <p><b>Active Ingredient 2</b></p> <p>ECTs will have a clear understanding of White Rose maths and the expectations of the subject and presentation as set out by the Maths leaders. They will be able to effectively plan and deliver lessons for a range of abilities within their classes, including lower attaining pupils, greater depth and SEN.</p> <p><b>Active Ingredient 3</b></p> <p>All learners will have the confidence to use and have consistent access to high quality resources, including manipulatives to aid and</p> | <ul style="list-style-type: none"> <li>Maths leaders to attend Maths Hub TRGs to ensure they are up to date with relevant practice and classroom based research with a key focus to improve mastery.</li> <li>In school support for teaching staff from subject leaders/SLT. Subject leaders to model effective mixed age maths lessons and to monitor the progression and give feedback against the outcomes.</li> <li>Maths leaders to offer a termly drop in to all teaching staff where they can discuss and provide support to any areas of the upcoming maths topics they feel they need further support and guidance with.</li> <li>Subject leaders to purchase CPD training from White Rose for all staff. - Meet the specialist WRM</li> <li>Subject leader action plan identifies and outlines key actions (smaller steps from those in SDP)</li> <li>Teachers to follow the updated 2023 version 3 of White Rose maths small steps and resources</li> </ul> | <p><b>Short Term (from September 2023)</b></p> <ul style="list-style-type: none"> <li>Maths leaders will have developed an action plan which will have been shared with the whole school team. Updated calculation policy will be a key 'go to' document for all staff to support differentiation and stepping stones when considering planning for learning.</li> <li>Leaders to observe the use of manipulatives and resources in classrooms to ensure effective use of them, specifically within KS2.</li> <li>ECTs are familiar with the progression frameworks for maths in order to support planning across two year groups.</li> <li>ECTs will be adapting their planning and be familiar with resources and teaching using White Rose CPD and progression documents.</li> <li>Updated V3 White Rose mixed year planning LTP in place.</li> <li>Maths leaders to lead staff meeting on internal moderation</li> <li>Teachers have a sound knowledge for the teaching of mathematics. Any further CPD/support is planned for as part of Performance</li> </ul> | <p>Increased pupil engagement and confidence in mathematics.</p> <p>Teachers are upskilled to effectively plan and deliver maths on a daily basis for their children and mixed aged classes.</p> <p>A consistent long term approach to the teaching and learning in mathematics across school.</p> <p>Strong subject leadership.</p> <p>A clear programme for ongoing monitoring and evaluation in mathematics.</p> <p>Children having a secure and developed knowledge across a variety of mathematical concepts and strands.</p> <p>Pupils have made good progress across the year and can demonstrate their knowledge.-</p> <p>UKS2 SATs scores will represent the upskilling of maths and show evidence of secure mathematical foundations.</p> |

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| <p>pastoral, behavioural and medical needs.</p> | <p>enhance their learning in mathematics. Learners should be able to independently access and choose their high quality resource.</p> | <p>to provide a coherent delivery across all year groups.</p> <ul style="list-style-type: none"> <li>• Staff to attend regular internal moderation to ensure their children's work is in line with national expectations.</li> <li>• Teachers to use the 2023/24 calculation policy to provide a broad and balanced approach to CPA learning across the school.</li> <li>• Pupil Progress meetings will highlight staff knowledge and understanding around both attainment and progress.</li> <li>• Staff pick up and recognise misconceptions in a timely manner within the lesson, giving children instant verbal feedback and opportunities to erase misconception.</li> <li>• Workbooks and presentation are of high standards following the marking and feedback policy to promote progress and limit misconceptions.</li> <li>• Maths leaders and mentors to support ECTs with the planning and delivery of maths in mixed age classes.</li> <li>• Maths leaders to observe alongside mentors to monitor teaching and progress.</li> <li>• All staff and children have access to the high quality resources at any time. Children should have the autonomy to select their own resources to aid their learning style.</li> </ul> | <p>management and through monitoring activities</p> <p><b>Medium Term<br/>(From February 2024)</b></p> <ul style="list-style-type: none"> <li>• Subject leaders/SLT to monitor lessons to ensure that mixed age maths is being delivered in a coherent and structured manner with a CPA approach and manipulatives.</li> <li>• SENDCo to support in the monitoring and provision mapping for appropriate interventions.</li> <li>• Staff are consistently using a range of practical strategies for teaching vocabulary in lessons (CPA).</li> <li>• Subject leaders ongoing monitoring and evaluation of maths across school is a growing strength.</li> <li>• All teachers have a better knowledge and understanding of how the maths curriculum builds on what progression through the subject looks like and can use this to support their planning, delivering quality teaching across a mixed-age class.</li> </ul> <p><b>Long Term<br/>(By November 2024)</b></p> <ul style="list-style-type: none"> <li>• Assessment in maths is used well to help pupils embed and develop knowledge fluently. It checks understanding and informs teaching.</li> <li>• Mathematical vocabulary becomes an integral aspect when teaching any element of mathematics including when cross-curricular.</li> </ul> |  |
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|  |  | <ul style="list-style-type: none"> <li>Monitoring the use of mathematical vocabulary across school through lesson drop ins, discussions with children, observations of the classroom environment, learning walls and regular book looks.</li> <li>Children to have an active role in producing and adding to the maths working wall/word of the week explanations.</li> <li>Maths leaders to purchase Fluency Bee from White Rose as a KS1 and LKS2 intervention and consolidation resource</li> <li>Maths leaders to purchase IDL as a KS2 intervention.</li> </ul> | <ul style="list-style-type: none"> <li>Maths leaders lead the subject well across school and this is reflected through their ongoing monitoring and evaluation processes, including through attainment and progress data.</li> <li>Children's work across the curriculum is consistently of a high quality; age appropriate and shows continuous progression.</li> <li>Children can confidently communicate how to use manipulatives in the lesson and demonstrate this within their work to aid learning.</li> <li>KS2 SATs data will show an improvement on the previous academic year and becoming more in line with national.</li> </ul> |  |
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