GIGGLESWICK
SCHOOL

Prep School Calculation Policy

Lead Author(s)	Prep School Deputy Head
Reviewed by	Head of the Prep School Prep School Maths Lead
Last review	August 2025
Review frequency	Annually
Next review	August 2026
Policy Type	Non-statutory

1 INTRODUCTION

This policy has been adopted from the White Rose Maths Scheme, using their LTPs and MTPs alongside their concrete, pictorial and abstract (CPA) approach to support the children's Maths learning. It is noted that as the pupils progress through Upper Key Stage 2, methods and terminology may be adapted to meet the needs of transition to Senior School. These will be discussed with Head of Maths Senior School, Prep School Maths Curriculum Lead and Prep School Deputy Headand amendments documented.

Alongside this, the school also uses an array of online Maths Challenge resources,Times Table Rockstars and Number Bots to support children's enjoyment and understanding of a specific skill.

We also follow the calculation policy defined by White Rose Maths, which is split into 2 sections (Addition & Subtraction, and Multiplication & Division), see Appendix 1 for example.

Children in EYFS will begin to introduce the visual and manipulative forms when ready to aid transition to Year 1 and promote appropriate levels of challenge.

2 CHALLENGE FOR ALL

We believe that appropriate challenge is at the heart of everything we do at Giggleswick and Maths learning is no different. Whilst following the basic principles of White Rose Maths, we always look to challenge and extend our children's learning using a variety of sources. This may be resources from lower year groups, or through concrete or pictorial resources, to support our less confident mathematicians, or using challenge tasks such as reasoning & problem-solving activities, NRICH and NACE to support our more confident learners.

We use the workbooks that are produced by White Rose Maths, and that work alongside their LTPs and MTPs, to support children's understanding of concepts and allow teachers to plan accordingly using the appropriate methods. Alongside the workbooks, each child will have a Maths exercise book which is designed to show how they are being challenged and supported effectively in Maths. This is alongside the challenge and support shown in the workbooks, where differing confidence levels will dictate which question a child will start on in a particular lesson.

More information is provided in the school's More Able Policy.

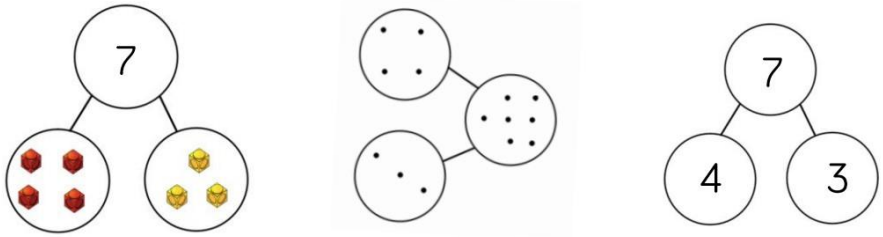
3 CPA approach

At the centre of White Rose Maths's philosophy is the CPA (Concrete, Pictorial, Abstract) approach to learning.
At the Prep School, new concepts are always introduced using concrete resources to help children manipulate the Maths and gain their understanding.
When children are ready, this concept is then taught in a pictorial approach, where children are actively encouraged to draw pictures to replace the manipulatives in their work on a concept.

Finally, when children are confident in a concept, concrete and pictorial resources may be withdrawn as the children can successfully access the abstract Maths concept independently.

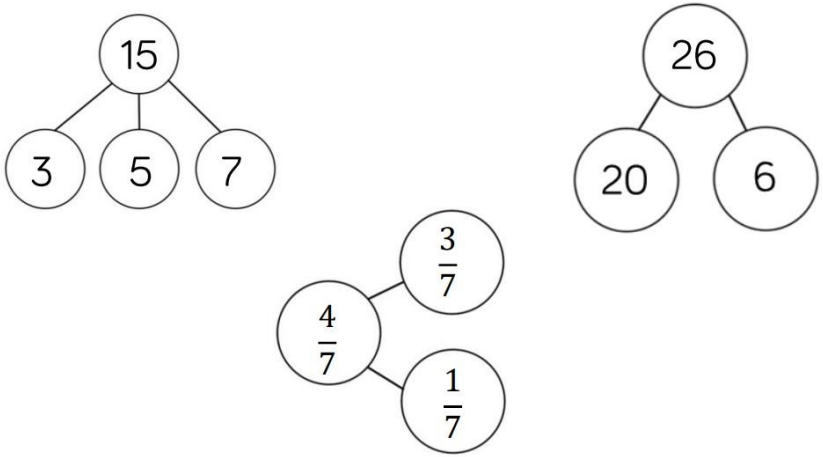
Appendix 1 – Addition and Subtraction Example taken from White Rose Calculation Policy

Part-Whole Model



$7 = 4 + 3$ $\quad$ $7 - 3 = 4$

$7 = 3 + 4$ $\quad$ $7 - 4 = 3$



Benefits

This part-whole model supports children in their understanding of aggregation and partitioning. Due to its shape, it can be referred to as a cherry part-whole model.

When the parts are complete and the whole is empty, children use aggregation to add the parts together to find the total.

When the whole is complete and at least one of the parts is empty, children use partitioning (a form of subtraction) to find the missing part.

Part-whole models can be used to partition a number into two or more parts, or to help children to partition a number into tens and ones or other place value columns.

In KS2, children can apply their understanding of the part-whole model to add and subtract fractions, decimals and percentages.

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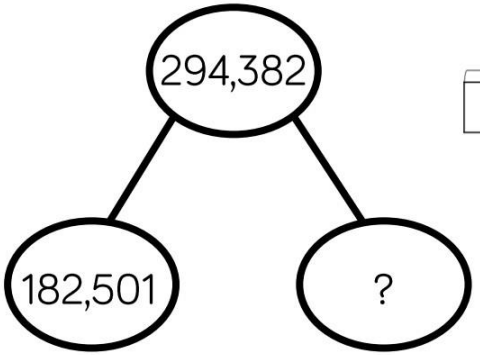
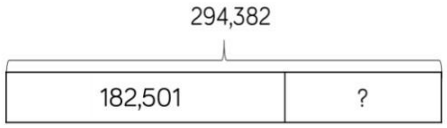
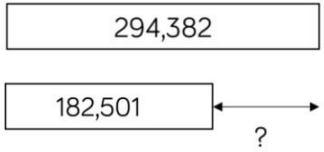
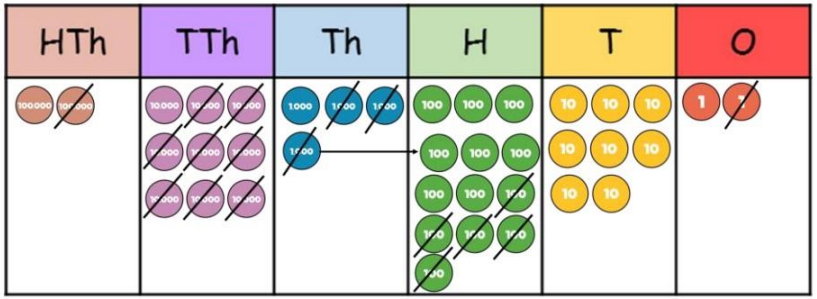
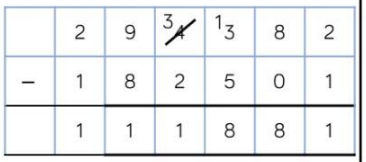
Skill: Subtract numbers with more than 4 digits	Year: 5/6
   **294,382 – 182,501 = 111,881**  	Place value counters or plain counters on a place value grid are the most effective concrete resource when subtracting numbers with more than 4 digits. At this stage, children should be encouraged to work in the abstract, using column method to subtract larger numbers efficiently.