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Mathematics Policy

1. Intent

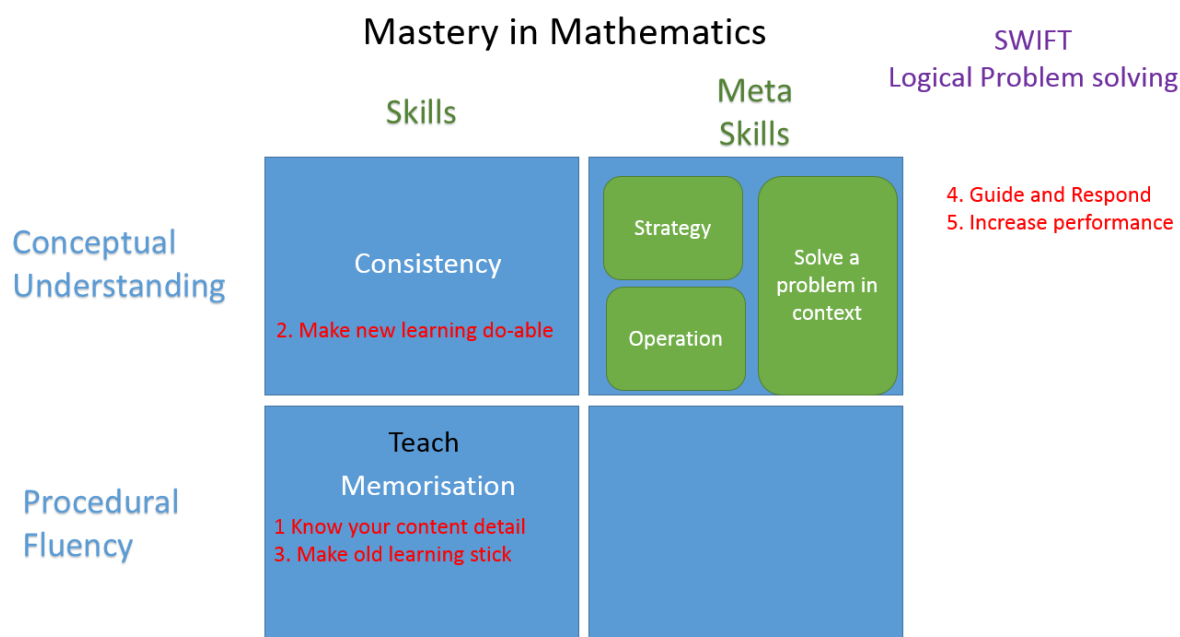
- 1.1 The intention is for children to make sense of the world around us through developing mathematical skills that are based on long-term memory of facts, methods, and concepts, leading to conceptual understanding and ultimately meta skills, which enable pupils to select the correct strategies and operations to solve problems in context. This will be enabled through professional development support and monitoring of lessons, which results in high quality teaching that allows pupils to make the links between programmes of study.

At Pelsall Village School we intend to:

- Cover different mathematical areas of study every week to enhance the brain's connectivity to a broad range of concepts, enabling the purpose of learning to be recognized by pupils
- Provide clear achievable progression steps that eliminate misconceptions and gaps in learning
- develop a mastery of mathematics matched to each child's ability
- enable children to become fluent in the fundamentals of mathematics;
- for children to reason mathematically and solve problems by applying their mathematics;
- promote wider understanding, confidence and competence with numbers and the number system;
- develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- develop a practical understanding of the ways in which information is gathered and presented;
- explore features of shape and space, and develop measuring skills in a range of contexts;
- understand the importance of mathematics in everyday life;
- promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;

2 Implementation

- 2.1 Mathematical skills will be developed through a mastery approach as shown in the schematic diagram below:



This is achieved through a daily lesson which has a high proportion of whole-class and group-direct teaching which ensures coverage of the National Curriculum throughout the year. During these lessons children are encouraged to ask as well as answer, high order, age appropriate, mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Wherever possible, the children are encouraged to use and apply their learning in everyday situations.

2.2 High quality maths lessons are planned and delivered using White Rose Maths ,Big Maths (Andrell Education), and the Singapore approach, as follows;

- Lessons are organized to cover number, calculation, fractions / statistics shapes and measures each week, together with weekly assessment to identify gaps ('Big Maths Beat That'). An example structure is provided below:

Monday	Tuesday	Wednesday	Thursday	Friday
Number (including place value and measures)	Calculation (addition, subtraction, multiplication and division)	Fractions / Statistics	Shapes and measures	Gap analysis 'Big Maths Beat That'

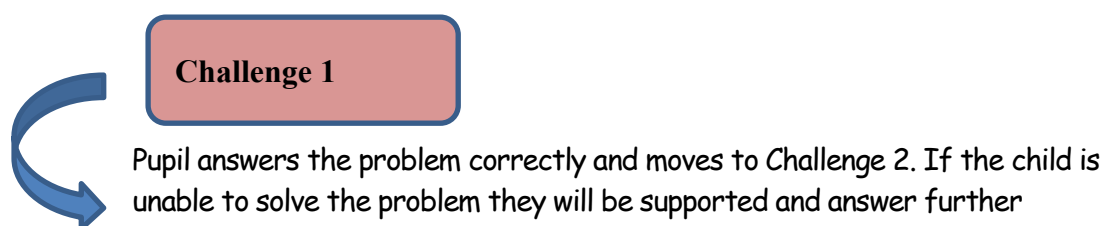
- Times table and number facts are practiced on daily basis - presented in the form of division, fractions, percentages and decimals (year dependent). Number facts, such as fact families and number bond skills are applied for addition and subtraction calculations.
- Lessons are organized on progressive challenge approach. The challenges are designed for all children to be able to access the learning and progress through the Pelsall Village codes:

1	2	3	4	5	6
Starting to move towards age group expected level	Moving towards age group expected level	Working slightly below age group expected level	Working at age group expected level	Starting to work with greater depth of understanding	Working with greater depth of understanding

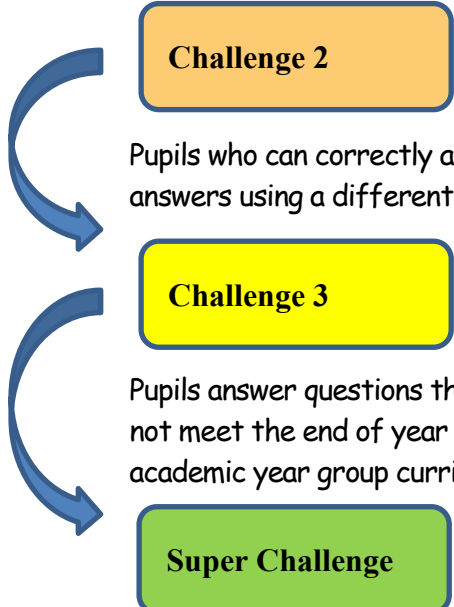
Pupils are familiar with the meaning of these codes and can, therefore, relate this directly to their current progress of learning. The following flow charts describes this approach:

Every new lesson begins with a 'ready to learn' problem (Singapore or White Rose) approach. Pupils who correctly explain and answer the problem can proceed to Challenge 2, or begin at Challenge 1 if it is new learning, as described in the following flowchart:

Autumn Term - Example



questions until they are secure.



Challenge 2

Pupils who can correctly answer the questions and are able to test their answers using a different method or inverse operation can move to Challenge 3.

Challenge 3

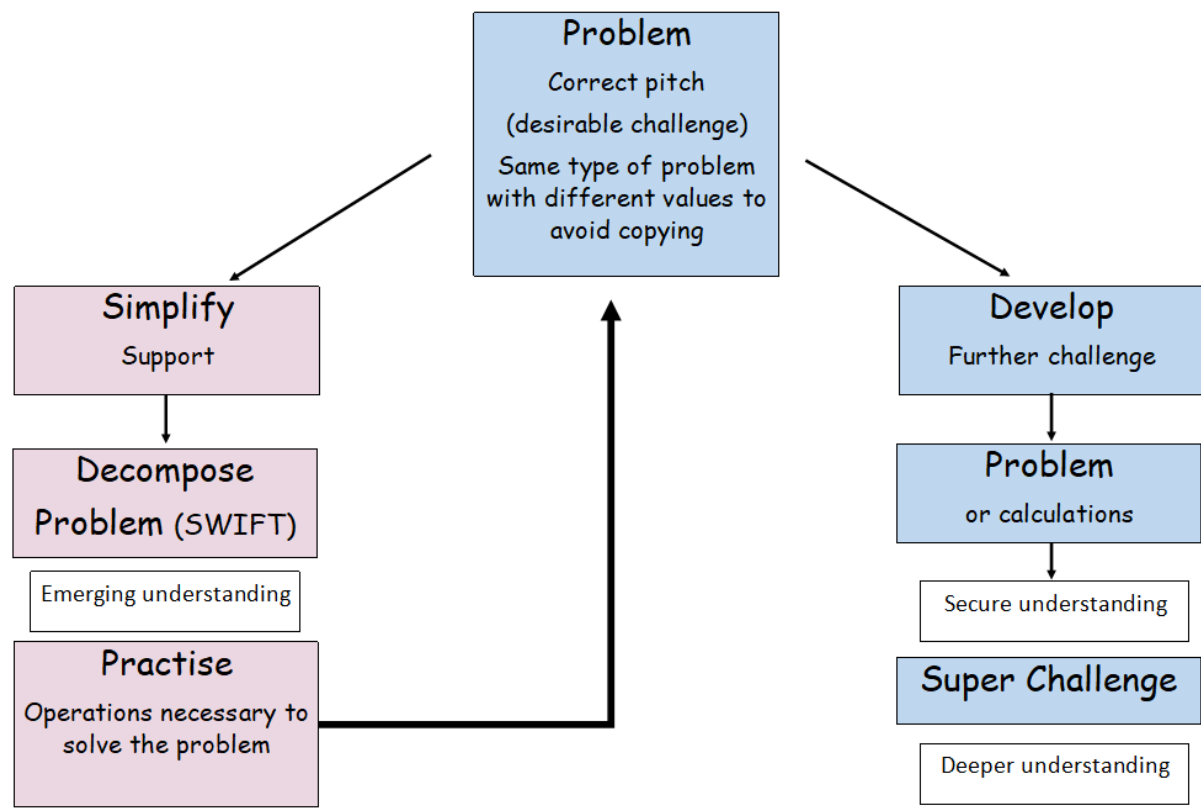
Pupils answer questions that are designed to test deeper understanding but may not meet the end of year expectations, given this is the beginning of the new academic year group curriculum.

Super Challenge

Pupils are challenged with higher order reasoning questions.

The same approach is used in the Spring and Summer terms but with increased level of challenge in line with the National Curriculum expectations. The most able children will be able to access Level 6 challenges to demonstrate greater depth, whilst children who have not yet mastered a particular level are able to revisit their learning with support or practise. This approach is designed to check pupils understanding, identify gaps / misconceptions, whilst at the same time allowing pupil's ownership of their learning, enabling them to progress quickly but within their capability.

- Where necessary, children are supported using a method of decomposition, practise, developing, securing and deepening understanding, as represented below:



- Classes are organized so that children are in mixed ability groups to foster peer and collaborative learning (EEF research has shown this to have high impact, +5 months for each).
- Pupils who do not complete all of the work set are encouraged to 'take away' the next challenge to complete at home. This is designed to foster metacognition and self-regulation (EEF research has shown this to have very high impact, + 7 months)
- Within lessons, pupils will be given the opportunity to mark / correct their own work with verbal and reasoning support from the teacher (EEF research has shown this to have very high impact +8 months)
- Additional feedback is provided at the beginning of the next lesson through 'Do it right time' (DIRT) where a targeted correction is made and 'My unique development' (MUD) to offer higher challenge for those who were secure. See marking policy.
- Interventions are made for those children with SEND or those as identified by their teacher as needing precision teaching.

3 Impact

- 3.1** Teacher assessments are made for every lesson using the Pelsall Village Codes. An assessment is made, for each of the areas of learning, at the end of every half-term, which is subsequently recorded by the teacher on the individual class spreadsheets. This enables progress and gaps in learning to be identified.

- 3.2** Weekly Big Maths 'Beat That' sessions are delivered where children complete core numeracy (CLIC) and outer numeracy (SAFE) questions. Misconceptions and gaps are recorded, identified and addressed at the beginning of each session. Additionally, the marked questions are sent home so that parents can offer additional support.

Progress is tracked using the Big Maths online system and results entered onto the class spreadsheet every half-term.

- 3.4** Termly, summative assessments are made using Rising Stars 'Progress in Understanding Maths Assessment' (PUMA). The standardized scores from these assessments are tracked for each pupil to show their progress over time at Pelsall Village School.
- 3.5** The results of each terms progress are shared, in a graphical format, with parents during consultation meetings. The purpose is to inform parents of progress in the different areas of learning so that they can offer additional support at home.

Signed:

Date: