GLENDALE INTERNATIONAL SCHOOL

Maths Policy

Version History

Ver. No.	Authors	Date	Reviewer	Next Review Date
1.0	Tamima Shikh	September 2025	Amol Vaidya	August 2026

Vision, Mission, and The Glendale Jewels

Vision: To Evolve, To Excel, To Be Inspired

Mission: Glendale International School delivers an enriched British education with a strong focus on character development, leadership, and academic excellence. Students explore learning through a framework that integrates social and emotional growth alongside a curriculum designed to inspire creativity, curiosity, and compassionate behavior.

Core Values – The Glendale Jewels (3Rs and 3Es):

- **Respect:** Valuing and accepting everyone, regardless of differences.
- **Responsibility:** Being dependable, making sound choices, and taking accountability for one's actions.
- **Resilience:** Overcoming challenges and bouncing back from adversity.
- **Empathy:** Understanding others' feelings and considering their perspectives.
- **Excellence:** Producing high-quality work, setting high personal standards, and taking pride in achievements.
- **Empowerment:** Motivating oneself and others to achieve goals and aspirations.

Mathematics Curriculum

At Glendale, our mathematics curriculum aligns with the National Curriculum's Program of Study and aims. Mathematics is a creative, interconnected discipline developed over centuries to solve complex problems. It is vital for everyday life, essential in science, technology, engineering, and finance, and underpins most careers. A high-quality mathematics education provides students with a foundation for understanding the world, reasoning mathematically, appreciating the beauty of mathematics, and fostering enjoyment and curiosity.

Aims of the National Curriculum for Mathematics:

- Develop fluency in fundamental mathematics through frequent practice with increasingly complex problems. Pupils gain conceptual understanding and the ability to recall and apply knowledge accurately and efficiently.
- Encourage mathematical reasoning by following lines of inquiry, identifying patterns, and justifying arguments using appropriate mathematical language.
- Foster problem-solving skills, enabling pupils to apply mathematics to both routine and novel problems, breaking complex tasks into manageable steps.

Vision for Mathematics at Glendale:

- Promote a positive attitude towards mathematics.
- Engage pupils in enjoyable and meaningful exploration of mathematics.
- Connect mathematical learning with other subjects, particularly Science.
- Ensure all pupils progress appropriately, challenged through in-depth understanding.
- Use concrete, pictorial, and abstract representations to develop relational understanding.
- Encourage confident use of mathematical vocabulary in reasoning and explanations.
- Promote a growth mindset, especially in problem-solving contexts.

Teaching & Learning – Mastery Approach

Glendale employs a **Mastery Approach** in mathematics, which emphasizes deep, sustainable understanding through **Concrete, Pictorial, Abstract (CPA)** strategies.

Concrete (Doing): Pupils engage physically with objects to model problems, making abstract concepts tangible. For example, students may use real fruit to understand addition before progressing to counters representing the fruit.

Pictorial (Seeing): Pupils transition to visual representations of objects, such as drawings, diagrams, or models, to bridge concrete experiences with abstract understanding.

Abstract (Symbolic): Pupils finally use symbols and notation (+, –, ×, ÷) once they demonstrate a strong understanding of concrete and pictorial stages

Fluency, Reasoning, and Mathematical Talk

Fluency: Achieved through deep knowledge and practice, encompassing conceptual understanding, accuracy, rapid recall, and retention. Pupils develop speed, precision, and the ability to retain knowledge over time.

Reasoning: Encourages pupils to justify, explain, and discuss mathematical thinking verbally, fostering a deeper understanding. Classroom discussions and debates help students articulate logical reasoning.

Mathematical Talk: Mastery classrooms emphasize communication, where pupils explain answers and reasoning using structured sentence stems. Examples include:

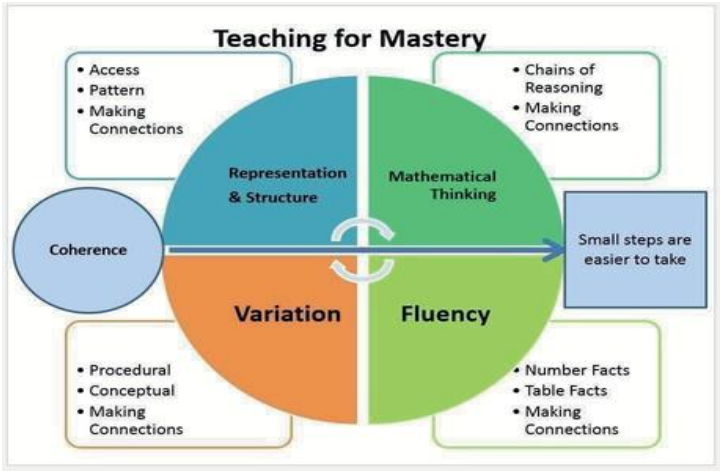
- "The denominator is 5 because the whole is divided into 5 equal parts."
- "The numerator is 3 because 3 parts are shaded."

Teachers provide regular opportunities for questioning and discussion, such as:

- "Show me how to solve this problem."
- "Teach your friend how to complete this calculation."
- "Why did you choose this method?"
- "How else could you represent this number?"

Problem Solving

Problem solving is central to the Mastery Approach. Pupils learn to apply mathematical principles, make connections, and tackle unfamiliar problems. Multiple representations and real-life applications enrich understanding, enabling students to select and apply knowledge effectively.



Lesson Structure (Years 1–6)

- **Mixed-ability groups** support transitions within classrooms.
- Mathematics is taught for **50 minutes per day, four lessons per week**, with additional sessions added as needed.
- Pupils progress at the same pace where possible; rapid learners are challenged with enriched problems, while others consolidate understanding through additional practice.

Typical Lesson Format:

1. **Starter Activity:** Quick exercises to reinforce fluency and "non-negotiable" concepts (up to 3 minutes), e.g., mental maths games, mini whiteboard exercises, times table chanting.
2. **New Learning:** Mastery Approach strategies (CPA) applied to new concepts.
3. **Reflective Plenary:** End-of-unit reflection using Purple Pen (KS2) or pictorial methods (KS1).

Progress Evidence: Pupils record learning through written reflections or drawings, demonstrating new understanding or improved skills. Teachers model Purple Pen comments to maintain consistent quality and include mathematical vocabulary.

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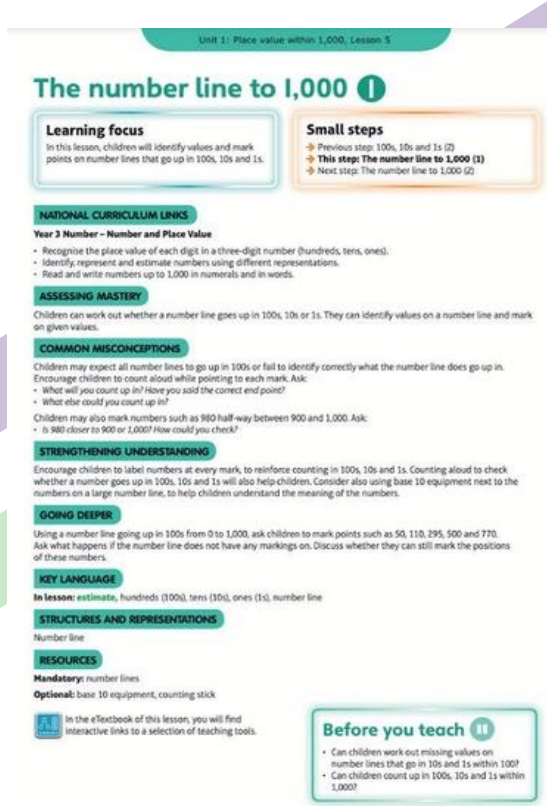
Planning and Resources

- **Planning:** Teachers use **Power Maths** for yearly overviews and medium-term plans. Calculation policies follow the Mastery Approach and are displayed in classrooms.
- **Number Skills:** Priority is given to number competency and fluency, forming the foundation for more advanced concepts.
- **Challenge for Rapid Learners:** Pupils who grasp concepts quickly complete "strengthen and deepen" activities instead of accelerating to new content.
- **Resources:** Concrete manipulatives, Power Maths practice books, NCETM, MyMiniMaths, and Twinkl. Teachers select resources to differentiate and meet individual learning needs.

***Power Maths* Year 3, Textbook 3A (Term 1) Overview**

Strand 1	Strand 2	Unit		Lesson number	Lesson title	NC Objective 1	NC Objective 2	NC Objective 3
Number – number and place value		Unit 1	Place value within 1,000	1	Counting in 100s	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Read and write numbers up to 1,000 in numerals and in words	Identify, represent and estimate numbers using different representations
Number – number and place value		Unit 1	Place value within 1,000	2	Representing numbers to 1,000	Identify, represent and estimate numbers using different representations	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Read and write numbers up to 1,000 in numerals and in words
Number – number and place value		Unit 1	Place value within 1,000	3	100s, 10s and 1s (1)	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Identify, represent and estimate numbers using different representations	Read and write numbers up to 1,000 in numerals and in words
Number – number and place value		Unit 1	Place value within 1,000	4	100s, 10s and 1s (2)	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Identify, represent and estimate numbers using different representations	Read and write numbers up to 1,000 in numerals and in words
Number – number and place value		Unit 1	Place value within 1,000	5	The number line to 1,000 (1)	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Identify, represent and estimate numbers using different representations	Read and write numbers up to 1,000 in numerals and in words
Number – number and place value		Unit 1	Place value within 1,000	6	The number line to 1,000 (2)	Compare and order numbers up to 1,000	Read and write numbers up to 1,000 in numerals and in words	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
Number – number and place value		Unit 1	Place value within 1,000	7	Finding 1, 10 and 100 more or less	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Identify, represent and estimate numbers using different representations
Number – number and place value		Unit 1	Place value within 1,000	8	Comparing numbers to 1,000 (1)	Compare and order numbers up to 1,000	Identify, represent and estimate numbers using different representations	Read and write numbers up to 1,000 in numerals and in words
Number – number and place value		Unit 1	Place value within 1,000	9	Comparing numbers to 1,000 (2)	Compare and order numbers up to 1,000	Solve number problems and practical problems involving these ideas	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
Number – number and place value		Unit 1	Place value within 1,000	10	Ordering numbers to 1,000	Compare and order numbers up to 1,000	Recognise the place value of each digit in a three-digit number (100s, 10s, 1s)	Read and write numbers up to 1000 in numerals and in words
Number – number and place value		Unit 1	Place value within 1,000	11	Counting in 50s	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Solve number problems and practical problems involving these ideas	



Unit 1: Place value within 1,000, Lesson 5

The number line to 1,000

Learning focus
In this lesson, children will identify values and mark points on number lines that go up in 100s, 10s and 1s.

Small steps
- Previous step: 100s, 10s and 1s (2)
- **This step: The number line to 1,000 (1)**
- Next step: The number line to 1,000 (2)

NATIONAL CURRICULUM LINKS
Year 3 Number – Number and Place Value
- Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).
- Identify, represent and estimate numbers using different representations.
- Read and write numbers up to 1,000 in numerals and in words.

ASSESSING MASTERY
Children can work out whether a number line goes up in 100s, 10s or 1s. They can identify values on a number line and mark on given values.

COMMON MISCONCEPTIONS
Children may expect all number lines to go up in 100s or fail to identify correctly what the number line does go up in. Encourage children to count aloud while pointing to each mark. Ask:
- *What will you count up in? How you said the correct end point?*
- *What else could you count up in?*

Children may also mark numbers such as 980 half-way between 900 and 1,000. Ask:
- *Is 980 closer to 900 or 1,000? How could you check?*

STRENGTHENING UNDERSTANDING
Encourage children to label numbers at every mark, to reinforce counting in 100s, 10s and 1s. Counting aloud to check whether a number goes up in 100s, 10s and 1s will also help children. Consider also using base 10 equipment next to the numbers on a large number line, to help children understand the meaning of the numbers.

GOING DEEPER
Using a number line going up in 100s from 0 to 1,000, ask children to mark points such as 50, 110, 295, 500 and 770. Ask what happens if the number line does not have any markings on. Discuss whether they can still mark the positions of these numbers.

KEY LANGUAGE
In lesson: estimate, hundreds (100s), tens (10s), ones (1s), number line

STRUCTURES AND REPRESENTATIONS
Number line

RESOURCES
Mandatory: number lines
Optional: base 10 equipment, counting stick

In the eTextbook of this lesson, you will find interactive links to a selection of teaching tools.

Before you teach
- Can children work out missing values on number lines that go in 10s and 1s within 100?
- Can children count up in 100s, 10s and 1s within 1,000?

Global Schools Group
An initiative of GSF

At the end of each unit, all pupils should demonstrate progress by either learning a new technique, developing a deeper understanding of a concept, or being able to complete a new activity. This progress should be evidenced through a purple pen comment (for KS2 and Year 2) or a self-assessment drawing (for Year 1).

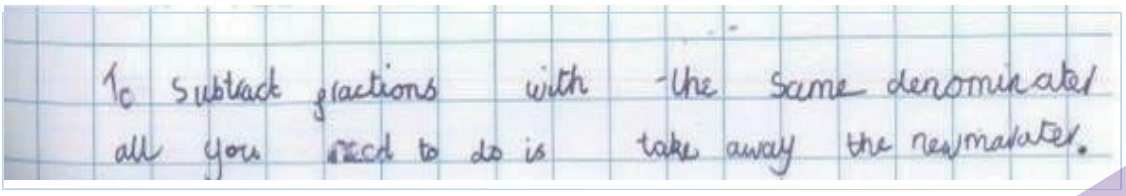
Note: At the start of the academic year, it is especially important to model how to write a purple pen comment. This ensures consistency and encourages detailed responses that include appropriate mathematical vocabulary.

Examples:

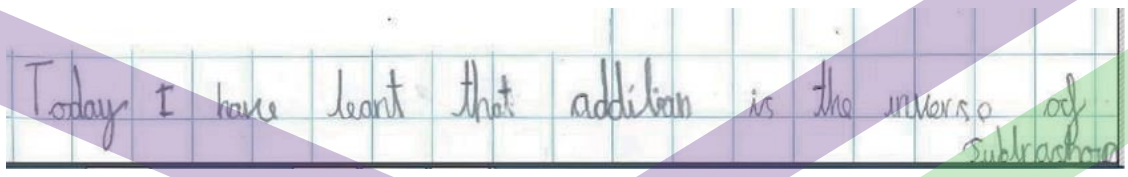
Today I learned that percentages are always out of 100, which means I can create an equivalent fraction with 100 as the denominator.

I now know that when I multiply by 10, all digits move one place value column to the left. When multiplying a whole number, I must also introduce a placeholder.

FS2



Year 2



SEND Children

During daily mathematics lessons, teachers provide targeted activities to support pupils who find mathematics challenging. Children with SEND are included in the daily lessons and are encouraged to participate whenever possible. Where appropriate, children's Individual Profiles incorporate suitable objectives from the National Curriculum and White Rose Maths, and teachers take these objectives into account when planning lessons.

Throughout the year, SEND pupils also have the opportunity to participate in tailored intervention programmes. These programmes help address gaps in understanding, reinforce key concepts, and support children in reaching their full potential.

Information and Communication Technology (ICT)

ICT is used in a variety of ways to support teaching and motivate pupils' learning. This includes the use of computers and audio-visual aids. However, ICT will only be integrated into mathematics lessons when it is the most effective and efficient method of achieving the lesson objectives.

Spiritual, Moral, Social and Cultural (SMSC) Development

The teaching of mathematics supports pupils' social development through opportunities for collaborative learning. Children often work in groups, share ideas, and discuss their results.

Cultural development is enriched through the study of famous mathematicians, global mathematical contributions, and historical number systems. Mathematics also contributes to spiritual development by enabling pupils to observe shapes, patterns, and symmetry in nature, while appreciating the order, logic, and structure that mathematics provides.

Moral development is fostered by encouraging pupils to use logical reasoning to consider the consequences of decisions and to understand the value of mathematical truth.

Times Tables

Times tables are a mathematics **non-negotiable** and must be explicitly taught, regularly practiced, and consistently applied. The teaching of times tables follows a clear progression:

Year 1 – Count in multiples of 2, 5, and 10

Year 2 – Recall 2, 5, and 10 multiplication and division facts

Year 3 – Recall 3, 4, and 8 multiplication and division facts

Year 4 – Recall 6, 7, and 9 multiplication and division facts

Year 5/6 – Apply multiplication and division facts to problem-solving tasks

Note: All pupils are expected to learn times tables up to **12 × 12**.

Planning and Resourcing

When planning and resourcing, teachers should use the White Rose V3.0 planning as a foundation, while also selecting additional resources that complement it and align with the **Mastery Approach**:

Concrete (hands-on manipulatives)

Pictorial (visual representations)

Abstract (formal written methods)

Teachers are encouraged to use professional judgment in choosing the most effective resources to support **differentiation** and ensure all learners develop **fluency, reasoning, and problem-solving skills**.

Resources are available online, in classrooms, and in the mathematics resource room. Examples include:

Concrete manipulatives (e.g., fraction walls, counting beads, place value counters)

Power Maths practice books

NCETM website

MyMiniMaths website

Twinkl website

Recording of Learning

Each pupil is provided with a square-paged Mathematics Exercise Book. **All learning must be evidenced in every lesson.** Evidence may include photographs, worksheets, or written reflections using a Purple Pen.

Example: "Today I went outside and measured the perimeter of the playground using a trundle wheel. I measured each side in metres and then added the values together."

The presentation of mathematics books should be consistent, age-appropriate, and demonstrate that pupils take pride in their work.

Expectations:

The date must be written in figures (e.g., *05.07.18*).

The Learning Objective should be written at the top of the page on the left-hand side (handwritten or typed).

When completing computations, pupils are encouraged to fold the page in half to create two columns. This saves space and helps align place value columns correctly.

Question sheets or resources should be trimmed neatly to fit onto the page before sticking.

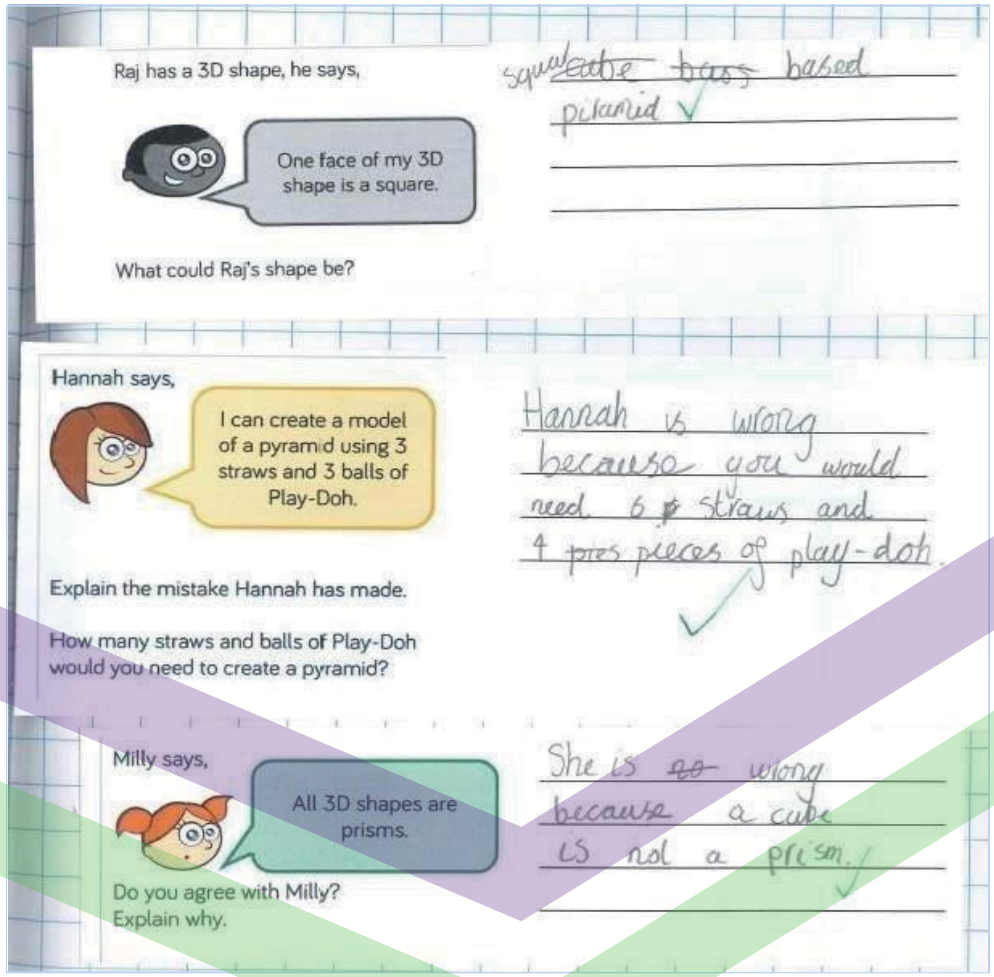
Work should be completed in pencil, with rubbers used when necessary. Pens are not permitted, except for Purple Pen comments.

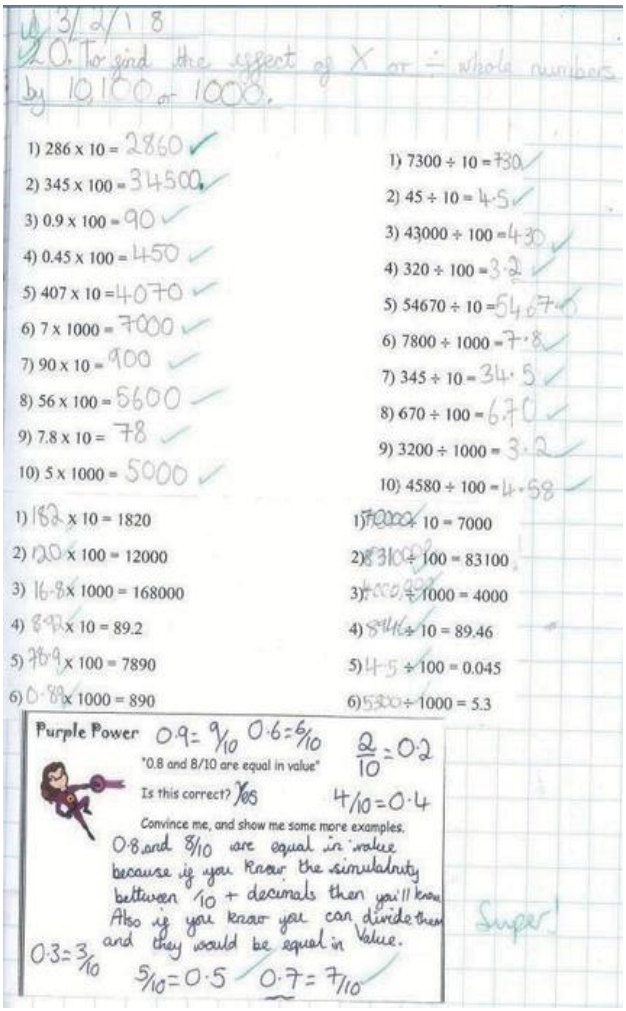
Feedback and Marking

Immediate intervention is essential. Every pupil should finish each lesson feeling successful, and any misconceptions or concerns should be addressed promptly. All teachers are expected to follow the **Newlands Marking Policy**.

Where appropriate, pupils may be given opportunities to self-assess or peer-mark their work; however, the teacher must always complete their own marking and assessment.

Examples of Exercise Books:





LO: To find the effect of X or ÷ whole numbers by 10, 100 or 1000.

1) 286 x 10 = 2860
2) 345 x 100 = 34500
3) 0.9 x 100 = 90
4) 0.45 x 100 = 450
5) 407 x 10 = 4070
6) 7 x 1000 = 7000
7) 90 x 10 = 900
8) 56 x 100 = 5600
9) 7.8 x 10 = 78
10) 5 x 1000 = 5000

1) 182 x 10 = 1820
2) 120 x 100 = 12000
3) 16.8 x 1000 = 168000
4) 8.92 x 10 = 89.2
5) 78.9 x 100 = 7890
6) 0.89 x 1000 = 890

1) 7300 ÷ 10 = 730
2) 45 ÷ 10 = 4.5
3) 43000 ÷ 100 = 430
4) 320 ÷ 100 = 3.2
5) 54670 ÷ 10 = 5467
6) 7800 ÷ 1000 = 7.8
7) 345 ÷ 10 = 34.5
8) 670 ÷ 100 = 6.7
9) 3200 ÷ 1000 = 3.2
10) 4580 ÷ 100 = 45.8

1) 70000 ÷ 10 = 7000
2) 831000 ÷ 100 = 83100
3) 4000 ÷ 1000 = 4000
4) 894.6 ÷ 10 = 89.46
5) 4.5 ÷ 100 = 0.045
6) 5300 ÷ 1000 = 5.3

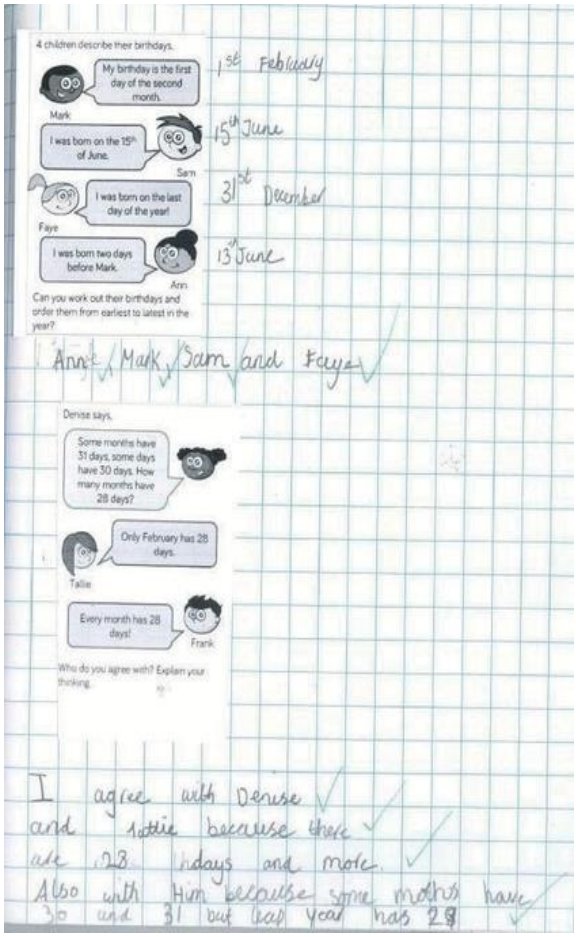
Purple Power

"0.8 and 8/10 are equal in value"
Is this correct? Yes

0.9 = 9/10 0.6 = 6/10 2/10 = 0.2
4/10 = 0.4

Convince me, and show me some more examples.
0.8 and 8/10 are equal in value because if you know the similarity between /10 + decimals then you'll know. Also if you know you can divide them and they would be equal in value.
0.3 = 3/10 5/10 = 0.5 0.7 = 7/10

Super!



4 children describe their birthdays.

Mark: My birthday is the first day of the second month. — 1st February
Sam: I was born on the 15th of June. — 15th June
Faye: I was born on the last day of the year! — 31st December
Ann: I was born two days before Mark. — 13th June

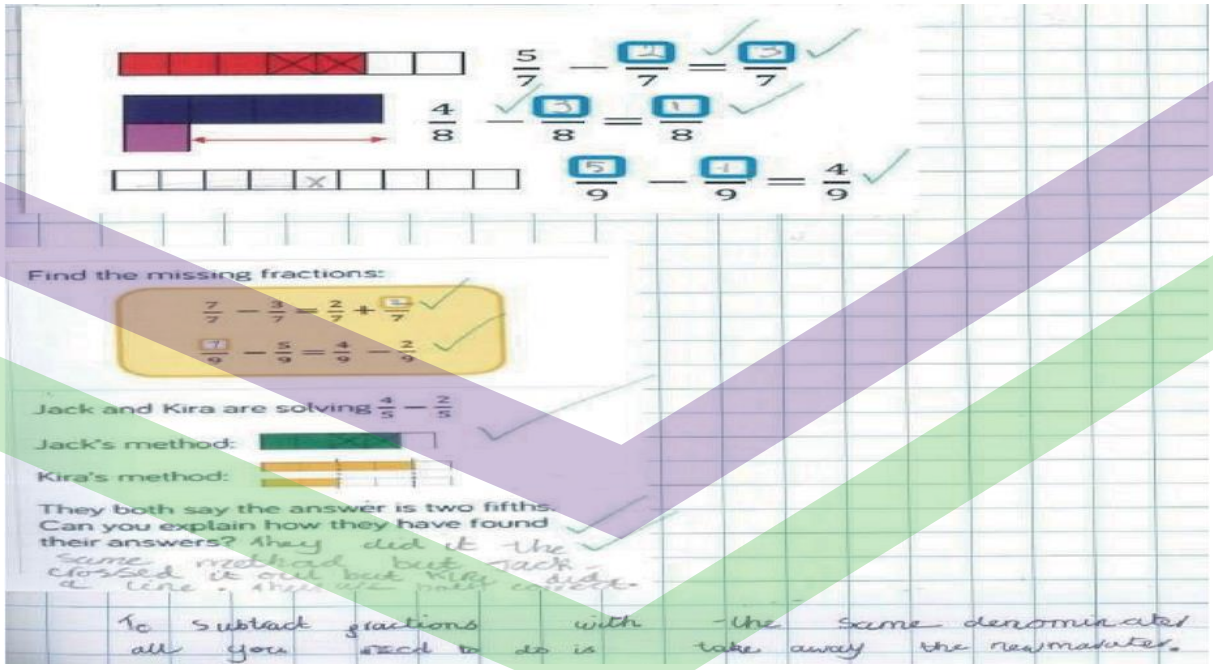
Can you work out their birthdays and order them from earliest to latest in the year?

Ann, Mark, Sam and Faye

Denise says,
Some months have 31 days, some days have 30 days. How many months have 28 days?
Tallie: Only February has 28 days.
Frank: Every month has 28 days!

Who do you agree with? Explain your thinking.

I agree with Denise and Tallie because there are 28 days and more. Also with Him because some months have 30 and 31 but leap year has 28



5/7 − 2/7 = 3/7
4/8 − 3/8 = 1/8
5/9 − 4/9 = 4/9

Find the missing fractions:

7/7 − 3/7 = 2/7 + 2/7
4/9 − 5/9 = 4/9 − 2/9

Jack and Kira are solving 4/5 − 2/5

Jack's method:
Kira's method:

They both say the answer is two fifths.
Can you explain how they have found their answers? they did it the same method but Jack crossed it out but Kira didn't. Any one could be correct.

To substract fractions with the same denominator all you need to do is take away the numerator.

Assessments

Assessment should be conducted regularly to inform teaching and planning. Teachers make assessment judgements at the end of each term using the **Student Tracker**.

Formative Assessment – Carried out regularly to guide planning:

- Questioning
- Written work
- Mental Maths
- End-of-unit checks
- End-of-block White Rose assessments

Summative Assessment – Conducted at specific intervals:

Baseline Test: Annually for Years 1–6

Power Maths Assessments: Each term (Arithmetic, Reasoning, and Problem-Solving papers)

GL Assessments: Annually

Practice SATs Papers: Each term for Years 2 and 6

Assessment data must be recorded in **Classroom Monitor**. All assessment documents are available in **Power Maths resources online** and **Power Maths books**.

KS1 Assessment Benchmarks:

Year 1: ~60% (15/25) = Expected; 85% (21/25) = Greater Depth

Year 2: ~60% (21/35) = Expected; 85% (30/35) = Greater Depth

KS2 Assessment Benchmarks:

~55% (28/50) = Expected; 86% (43/50) = Greater Depth

These assessments should inform teacher judgements.

At the end of each term, teachers attend **Pupil Progress Meetings** to review data and discuss pupils who are 'off target' in **SIMS**. Identified pupils are placed in **Intervention/Booster groups** with clearly defined **SMART targets**.

Negotiable

To ensure pupils are prepared for the next year group's curriculum, teachers must ensure all pupils can successfully complete the **non-negotiable concepts**. These are the fundamental requirements that enable progression and should not come at the expense of other curriculum areas. Pupils should be assessed against the **non-negotiable framework** for their year group each term. Assessment outcomes are recorded in the **Insight Tracker**, with the non-negotiable objectives highlighted in **bold** within the year group's objectives.

Resources:

Details of the non-negotiable objectives and assessment documents can be found in:

•*Primary Maths Folder Year 22-23 – Non-negotiable Objectives*

Non-negotiables should be taught and reinforced during the **'Starter' section** of each maths lesson.

Mathematics Classroom Environment

Mathematics should be prominently displayed in all classrooms, which could include **interactive wall displays** or a **dedicated Maths table**.

Expectations:

•Relevant **concrete apparatus** should be readily accessible for all pupils.

•Key **vocabulary**, **pictorial**, and **abstract representations** should be visible for reference.

•Relevant sections of Glendale's **Calculation Policy** should be displayed, either directly from the policy document or in a **child-friendly version** (e.g., pupil posters).

•Each classroom should have a **Gold Challenge Box** containing additional activities for 'Rapid Graspers' to further deepen their understanding.

Homework

•Mathematics homework is assigned on **Friday** and is due on **Wednesday**.

•Homework should be **acknowledged by the teacher**.

•It may be marked in class through **self-assessment** or **peer-assessment**.