SACRED HEART HIGH SCHOOL

NUMERACY POLICY

MARCH 2026

to be reviewed March 2028

This Policy should be read in conjunction with all other Sacred Heart High School Policies

CONTENTS

1 PHILOSOPHY

Sacred Heart High School is a Catholic 11 to 18 girls' school and we believe every student is created in the image of God and called to grow in wisdom, dignity and integrity. Mathematics allows pupils to explore the order and beauty of creation while developing perseverance, clarity of thought and intellectual curiosity.

We are committed to empowering girls through an ambitious and inclusive mathematical education. We work actively to challenge stereotypes and ensure students see themselves as capable mathematicians, scientists, engineers, analysts and leaders.

At Key Stage 3, all mathematics is taught in non-prior attainment groupings, ensuring equitable access to the curriculum. This supports a mastery approach in which classes progress together, focus on depth and build secure, connected understanding.

At Key Stage 4, we recognise that some students need further support and so we ensure they are in classes that is more appropriate to their prior attainment and have a pathway to succeed in Mathematics through the Foundation GCSE paper.

2 RATIONAL & DEFINITION OF NUMERACY

Numeracy is essential for learning, life and future pathways. It supports academic progress across all subjects, strengthens confidence and independence, and enables students to make informed decisions in everyday contexts. A secure foundation in numeracy allows pupils to think logically, solve problems, and engage positively with the world around them.

2.1 What Numeracy Is

Numeracy is the ability to understand, use and apply mathematical ideas confidently and accurately. It includes the capacity to:

- Work with number, place value and arithmetic
- Use proportional reasoning, including fractions, decimals, percentages and ratio
- Apply multiplicative reasoning in practical and abstract contexts
- Interpret and represent data using tables, charts and graphs
- Work with measurement, scale, units and geometry
- Use algebraic thinking to express relationships and solve problems
- Choose efficient strategies and check the reasonableness of answers

Numeracy is more than performing calculations. It is the ability to apply mathematical thinking to everyday life, academic study and future employment.

2.2 Why Numeracy Matters

Strong numeracy:

- Builds confidence, resilience and independence
- Supports learning in all subjects
- Enhances employability and widens career pathways
- Helps students make informed financial and practical decisions

- Develops logical reasoning and the ability to approach unfamiliar problems

2.3 School Commitment

As a Catholic school, we are committed to nurturing the God given potential of every young person. We ensure that all students:

- Develop secure and transferable numeracy skills
- Can reason, explain and communicate mathematically
- Are equipped for the quantitative demands of further education, apprenticeships and employment
- Have the confidence to apply mathematics meaningfully in daily life
- See themselves as capable and empowered learners

Numeracy development is a whole school responsibility and underpins our mission to support every student to flourish academically, socially and spiritually

3 AIMS

We aim to:

1. Provide a high-quality mathematical education for girls that raises aspiration and widens future pathways.
2. Promote a consistent, whole-school approach to numeracy.
3. Develop deep conceptual understanding alongside procedural fluency.
4. Ensure students experience mathematics as a connected body of knowledge.
5. Maintain consistent vocabulary, notation and representations across subjects.
6. Promote equity through non-prior attainment grouping and targeted intervention.
7. Use assessment to identify gaps and respond swiftly.
8. Prepare students for post-16 and post-18 pathways requiring strong numeracy.

4 RAISING STANDARDS

Raising standards in numeracy across our school cannot be solely judged on increased test percentages. There is a need to evaluate the pupils' ability to transfer skills into other subject areas, applying techniques to problem solving. This should lead to the pupils having a deeper understanding of your subject, for the topic in question.

Mathematical skills can be consolidated and enhanced when pupils have opportunities to apply and develop them across the curriculum using consistent approaches derived from the Mathematics department. Poor numeracy skills hold back pupils' progress and can lower their self-esteem. Improving these skills requires a whole school approach. Each department should identify the contribution it makes towards numeracy and other mathematical skills so that pupils become confident at tackling mathematics in any context.

Key members within school will ensure that this policy is effectively implemented and becomes a well-established part of our school practice:

The Senior Leadership Team is committed to the implementation and evaluation of numeracy across the curriculum. They understand the need to create time for cross-curricular liaisons in order to continue the promotion of numeracy

5 ROLES AND RESPONSIBILITIES

5.1 Senior Leadership Team (SLT)

The Senior Leadership Team plays a strategic role in ensuring that numeracy is prioritised across the school and embedded in line with our Catholic ethos.

The SLT:

- Promote numeracy as part of our Catholic mission and as a core element of high academic standards.
- Support the organisation and resourcing of non-prior attainment classes so all students have equal access to the full mathematics curriculum.
- Ensure staff have access to high-quality training, time for collaboration and the resources needed to deliver excellent numeracy provision.
- Lead and oversee whole-school quality assurance processes, including learning walks, book looks and assessment reviews.
- Monitor the impact of numeracy initiatives and interventions, responding to areas of need and supporting sustained improvement.

5.2 Numeracy Lead / Head of Maths (supported by the Second in Charge of Maths)

The Numeracy Lead and/or the Head of Maths has operational responsibility for the leadership of numeracy across the school. They:

- Lead and develop the whole-school numeracy strategy, ensuring it reflects curriculum intent and supports all learners.
- Maintain and update the 'Consistent Methods and Representations Guide', ensuring clarity for all staff.
- Deliver staff training on representations, curriculum coherence, assessment and effective pedagogy.
- Support departments across the school with the integration of numeracy in their curriculum areas.
- Oversee the design, analysis and use of assessments, ensuring they reflect curriculum priorities and significant ideas.
- Coordinate numeracy interventions including Year 7 registration numeracy, Curriculum Access (SEND) support and the Team Up tutoring programme.
- Facilitate collaborative planning, moderation and professional dialogue within the Maths Department

5.3 Subject Leaders (Non-Maths)

Subject Leaders ensure numeracy is consistently embedded within their disciplines. They:

- Identify, plan and integrate numeracy opportunities within their Schemes of Learning.

- Ensure teachers model accurate numerical methods, use correct units, interpret graphs correctly and handle data consistently.
- Promote the use of agreed representations (see Appendix B) where appropriate.
- Provide support and guidance for staff to strengthen confidence in teaching numeracy.
- Monitor numeracy in their subject through lesson observations, work scrutiny and assessment sampling.

5.4 All Staff

All staff contribute to developing students' numeracy skills, regardless of subject area. They:

- Model accurate mathematical language, methods and presentation.
- Use and reinforce agreed representations and conventions.
- Make meaningful mathematical connections within their subject where numerical or graphical reasoning is present.
- Promote a positive and confident attitude towards mathematics in line with the school's Catholic values and high expectations for girls.
- Ensure students use correct methods, units and graphing conventions in subject-specific work.

5.5 Students

Students play an active role in their own numeracy development. They:

- Present work clearly and accurately using agreed methods, units and layout.
- Use consistent mathematical vocabulary, representations and strategies.
- Take responsibility for checking their work, correcting errors and acting on feedback.
- Develop resilience, confidence and independence when applying mathematical thinking in all subjects.

5.6 Parents and Carers

Parents and carers play a crucial role in shaping their child's confidence, attitudes and progress in mathematics. We encourage families to be positive about maths, even if they do not feel confident themselves. Negative comments such as "I was never good at maths" can unintentionally affect a child's self-belief, so we ask parents to model a supportive and encouraging approach.

To promote numeracy at home, we suggest that parents:

Support numeracy through games

Family games such as **Scrabble, Chess, Draughts, Monopoly, Rummikub and card games** develop strategic thinking, probability, reasoning, number fluency and problem solving skills.

Use everyday activities to build numeracy

Shopping and budgeting

- Compare best buys and calculate best value
- Work out percentage increase or decrease during sales

- Budget for holidays, cinema trips or other family events
- Talk through utility bills, bank statements or mortgage examples to build financial awareness

Time

- Read analogue and digital clocks
- Use timetables to plan journeys (train, bus, tube)
- Calculate durations and time intervals throughout the day

DIY and home projects

- Calculate area, coverage and materials needed for tasks such as painting or tiling
- Measure accurately and scale quantities when planning projects

Distance and speed

- Speed limits: What they represent and understand physically how it feels
- Interpret road sign distances between towns
- Estimate fuel costs for journeys and compare route options

Our aim is to build a strong partnership between school and families so every child feels encouraged, supported and confident

6 WHOLE-SCHOOL APPROACHES

6.1 Non-Prior Attainment Teaching (KS3)

All KS3 classes are taught in non-prior attainment groups. This ensures:

- Shared progression through core content
- Deep understanding before acceleration
- Equal access for all students
- High expectations supported by strong representations

6.2 Consistent Methods and Conventions

To ensure clarity, accuracy and coherence across the school, all staff follow shared mathematical methods and conventions. These are outlined in the Consistent Methods and Representations Guide and reinforced through CPD.

Our agreed approaches promote stability and familiarity for students, particularly in non-prior attainment settings, by ensuring that mathematical expectations remain the same regardless of teacher or subject area.

Key features include:

6.2.1 Written and Mental Calculation Methods

Staff use consistent models and steps for the four operations, including agreed approaches for multiplication and division, strategies for mental arithmetic, and the use of representations such as number lines or area models when introducing or reinforcing concepts.

6.2.2 Algebraic Notation and Structure

All departments model algebra accurately and consistently. This includes clear layout for equations, appropriate use of brackets, correct symbolic notation and setting out working logically so students build strong habits of mathematical communication.

6.2.3 Units, Accuracy and Rounding

Students are consistently taught to include correct units in all subjects, use appropriate significant figures or decimal places, and explain the degree of accuracy required. Staff reinforce that accuracy is a valued mathematical behaviour across the curriculum.

6.2.4 Graphing Standards Across Subjects

All subjects adopt a unified approach to graphing conventions. This includes:

- Labelling both axes with quantity and unit
- Choosing sensible and even scales
- Plotting points accurately
- Drawing lines of best fit only when appropriate
- Adding clear titles or captions explaining what the graph shows

These shared expectations ensure that students experience a coherent mathematical message throughout their schooling.

6.3 Cross-Curricular Numeracy

Numeracy does not sit solely within the Maths Department. All subjects contribute to building students' confidence and competence in mathematical thinking, and each teacher is responsible for helping pupils recognise and apply numeracy within their discipline.

The school actively promotes numeracy across the curriculum by ensuring all departments:

6.3.1 Identify and Teach Numeracy Opportunities

Schemes of Learning highlight where numeracy naturally arises, such as interpreting graphs in science, reading scales in geography, analysing performance data in PE or comparing measurements in Design and Technology. Teachers plan these opportunities deliberately, identifying the vocabulary, representations or prior knowledge required.

6.3.2 Use Consistent Representations and Language

When subjects reinforce mathematical concepts such as ratio, scaling, averages or percentages, they use the same representations and terminology taught in maths. This reduces cognitive load and supports transfer of understanding.

6.3.3 Make Real-World Mathematical Connections Explicit

Teachers take opportunities to show how numeracy supports real-world decision making, professional practice and problem solving. For example:

- Geography lessons may analyse climate data trends
- Computing lessons may calculate efficiency or evaluate algorithms
- Science lessons frequently interpret experimental results using tables and graphs

6.3.4 Model Mathematical Thinking Beyond Maths Lessons

Across the curriculum, staff draw attention to mathematical reasoning by encouraging pupils to estimate, check plausibility, consider error margins, interpret graphical information and use proportional reasoning. This promotes confidence and reinforces that numeracy is essential to many areas of study and life.

6.4 Calculators

Calculators are used only when conceptual understanding is secure and students can reason about method and accuracy.

6.5 Fundamental Prior Knowledge in Every Maths Lesson

Every mathematics lesson includes focused practice of key foundational knowledge. This includes number fluency, multiplicative reasoning, algebraic basics and essential representations. This continual reinforcement strengthens long-term understanding and ensures students can access new content confidently.

7 USE OF REPRESENTATIONS TO MODEL KEY MATHEMATICAL IDEAS

7.1 Principles

Representations make mathematical structure visible and support understanding for all learners. They are used deliberately to build conceptual depth, particularly in non-prior attainment classrooms where clarity, consistency and shared models are essential.

Our approach to representations is guided by the following principles:

- **Concrete → Visual → Abstract progression**

Teachers introduce ideas through carefully selected concrete or visual models before moving to symbolic forms, building confidence and understanding.

- **Coherence across the curriculum**

Departments beyond maths (such as Science, Geography, and Design and Technology) adopt the same core representations for proportion, scaling, graphing and data handling, so students experience a unified mathematical landscape.

- **Consistent models and conventions**

Teachers select from a shared set of representations, ensuring all students meet the same models regardless of teacher or subject.

- **Progressive fading of support**

As understanding increases, representations are gradually reduced so students can work confidently using abstract methods while still being able to return to a model if needed.

- **Full details in Appendix B**

Appendix B provides the complete set of representations, including when and why they are used, what they look like, and how they should be transitioned from concrete to abstract. Staff should refer to it when planning.

7.2 Avoiding Tricks and Ensuring True Understanding

We do not teach shortcuts or tricks that bypass understanding. This includes avoiding methods such as formula triangles for speed, density or frequency density, which can promote rote substitution rather than comprehension. When a shortcut or simplified method is used, it is introduced only after students have explored the idea visually (for example, using bar models, ratio tables or graphical structures) and have understood the abstract relationships underpinning the formula. This ensures that all students learn why a method works before using it.

8 CAREERS EDUCATION IN MATHEMATICS AND ACROSS THE CURRICULUM

Mathematics contributes significantly to careers education across the school. All subjects, and mathematics especially, promote careers through:

- Demonstrating the role of numeracy in careers such as engineering, architecture, medicine, finance, design, data science, computing and research
- Highlighting the importance of mathematical thinking in real-world problem solving
- Presenting women in STEAM as aspirational role models
- Explicitly connecting lesson content with career pathways and real-world applications
- Working with the Careers Lead to signpost university, apprenticeship and technical routes that require strong numeracy

This helps students recognise how mathematics empowers them and expands their future opportunities.

9 INTERVENTION AND SUPPORT

Intervention in mathematics is designed to ensure that every student receives the support they need to access the full curriculum, develop secure fundamental knowledge and make strong progress. Our intervention structure reflects our Catholic ethos of inclusion, dignity and opportunity for all, and supports our commitment to non-prior attainment teaching by ensuring no learner is left behind.

9.1 Core Interventions

These interventions run throughout the year and are available to all year groups, providing structured support for students who require additional reinforcement of key concepts.

- **Targeted small-group support**

Short-term intervention groups focus on specific areas of need such as multiplicative reasoning, fundamental algebraic skills, or number fluency. Sessions use representations and carefully sequenced tasks to rebuild understanding.

- **One-to-one support for identified pupils**

Some students benefit from personalised explanations and intensive practice. One-to-one sessions focus on unpicking misconceptions and providing repeated high-quality modelling.

- **KS4 and KS5 support including GCSE resit preparation**

For students retaking GCSE Mathematics or strengthening their numeracy for Level 3 study, we provide structured programmes including exam practice, method revision and targeted feedback.

- **Diagnostic assessment to target misconceptions**

Diagnostics are used throughout the year to reveal gaps in foundational knowledge. Teachers use this information to plan reteach sequences, place students in interventions and ensure misconceptions are addressed quickly.

9.2 Additional School-Specific Interventions

These interventions are bespoke to our school and form a crucial part of our numeracy support offer.

a) Year 7 Morning Numeracy (Registration Sessions)

This daily intervention provides short, focused teaching of fundamental numeracy concepts. Priority is given to pupils who need additional support to access the KS3 curriculum.

Sessions focus on:

- Mental arithmetic and number fluency
- Understanding place value and number relationships
- Reading and interpreting analogue and digital time
- Key skills that underpin proportional reasoning (e.g., doubling, halving, benchmarks)

Impact: These sessions strengthen confidence early in the year, ensure misconceptions from KS2 do not persist, and prepare students to engage successfully in non-prior attainment classrooms.

b) Curriculum Access (SEND) Interventions – KS3 and KS4

Our Curriculum Access Department runs structured, specialist interventions for students on the SEND register. These sessions are tailored to individual needs and delivered by experienced staff.

Provision includes:

- Precision teaching of key numeracy elements
- Reinforcement of vocabulary, representations and reasoning
- Manipulative-based sessions to support conceptual understanding
- Scaffolds for working memory and language processing
- Close collaboration with Maths teachers to ensure alignment with classroom methods and content

Impact: Students gain confidence, improved independence and increased access to the full mathematics curriculum and wider school subjects.

c) Year 12 to Year 7 Peer Tutoring (Team Up Programme)

Our partnership with the Team Up programme provides structured peer tutoring led by trained Year 12 students.

Tutors work with small groups of Year 7 pupils once a week after school, focusing on core numeracy skills, curriculum consolidation and confidence building.

Benefits for Year 7 students:

- Personalised explanations from relatable role models
- Increased confidence and motivation
- Safe environment to ask questions and practise essential skills
- Improved transition into secondary school

Benefits for Year 12 tutors:

- Strengthened leadership, communication and empathy

- Deepened mathematical understanding through teaching others
- Development of service and stewardship in line with Catholic values
- Experience that supports university and apprenticeship applications

Impact: Peer tutoring enhances community cohesion, improves outcomes for younger students and develops leadership in older students.

9.3 Stretch and Challenge for Higher Attaining Students

Our commitment to excellence means that higher attaining students receive deliberate stretch to deepen their thinking, broaden their experience and nurture mathematical ambition.

UKMT Mathematical Challenges

We actively enter students for the UKMT Junior, Intermediate and Senior Mathematical Challenges. These national competitions develop mathematical reasoning, problem-solving, creativity and resilience. Preparation takes place through enrichment tasks, practice materials and exposure to non-routine problems during lessons and intervention sessions. Success in these challenges is celebrated with certificates in assembly.

Further Maths Enrichment at KS4

At Key Stage 4, students who show strong aptitude and enjoyment in mathematics are offered GCSE Further Mathematics as an enrichment option. This prepares them for A-Level Maths or Further Maths and exposes them to advanced topics such as matrices, surds, deeper algebra and additional trigonometric work.

Challenge Starters in Every Lesson

To build habits of deep thinking and perseverance:

- In KS3, every maths lesson begins with an opportunity for students to complete a UKMT challenge question that encourages problem solving, logical deduction and creativity.
- In KS4, every maths lesson begins with an opportunity for students to complete a GCSE exam question, developing mastery of exam techniques, multi-step reasoning and application of knowledge in unfamiliar contexts.

These routines normalise challenge and ensure that stretch is built into the daily experience of all learners.

Classroom Stretch and Deeper Learning Opportunities

Across all year groups, higher attaining students benefit from:

- Rich tasks with multiple entry points and multiple solution paths
- Reasoning prompts that require justification, generalisation and proof
- Extension problems that strengthen algebraic fluency, proportional reasoning and geometric insight
- Ambitious success criteria that emphasise explanation, clarity and precision
- Encouragement to compare strategies, evaluate efficiency and communicate mathematically in depth
- Opportunities to lead group discussion, model solutions and mentor peers appropriately

9.4 Identifying Students for Support or Stretch

Students are identified through:

- Baseline assessments and transition data
- Ongoing formative assessment
- Work scrutiny
- Teacher observation and professional judgment
- KS3, KS4 and KS5 assessment outcomes
- SEND information and student voice

High attainers are identified not only by test scores but also by potential, curiosity, reasoning sophistication and willingness to engage with challenge.

9.5 Monitoring the Effectiveness of Interventions and Stretch

Effectiveness is monitored through:

- Entry and exit assessments
- Tracking of assessment data and QLA
- Engagement and attendance data
- Student voice and tutor feedback
- Work scrutiny focused on reasoning and use of representations
- Review meetings between Maths, SEND, SLT and intervention staff

Findings inform future planning, CPD and curriculum adjustments to ensure continuous improvement.

10 ASSESSMENT

Assessment is purposeful, proportionate and aligned to curriculum intent. It checks that students have secure prior knowledge, can use agreed methods and representations, and can apply understanding to new contexts. Assessment information is used to adapt teaching, target support and celebrate success.

10.1 Principles

- Validity – assessments measure the intended knowledge and skills, including reasoning, problem solving and correct use of representations.
- Reliability – common assessments, shared mark schemes and moderation ensure consistency across classes and year groups.
- Fairness and access – access arrangements are applied appropriately; language is clear; unnecessary reading load is avoided where it is not the focus.
- Proportionality – assessment load is manageable and does not narrow the taught curriculum.

10.2 Types of Assessment

- In lesson formative checks – targeted questioning, mini whiteboards, exit tickets, hinge questions, and quick retrieval (e.g. number facts, multiplicative reasoning, algebraic fluency).
- Low stakes retrieval – regular short quizzes on fundamental prior knowledge to secure long term retention.

- Diagnostic tasks – brief probes to uncover misconceptions (e.g. equivalence in fractions/ratio, negative number operations, graph interpretation).
- Common regular assessments – curriculum aligned papers testing fluency, reasoning and problem solving, with agreed weightings and mark schemes.
- Non maths numeracy checks – sampled work from other subjects (graphs, units, proportional reasoning) to quality assure cross curricular numeracy.
- KS4/KS5 mocks – staged mock exams with feedback cycles to build exam readiness, including non-calculator and calculator components.

10.3 Assessment Design and Conditions

- Questions are mapped to taught content and significant ideas; items sample both routine and non-routine applications.
- Papers include representation prompts (e.g., bar models, ratio tables, coordinate axes) to elicit structured reasoning.
- Calculator/non-calculator balance reflects curriculum expectations; methods must be shown and justified.
- Where scaffolds or “shortcuts” appear, students are required to explain why a method works, not only apply it.

10.4 Feedback and Response

- Actionable feedback focuses on a small number of high leverage improvements (method, reasoning, representation, accuracy).
- DIRT time (Dedicated Improvement and Reflection Time) is built into lessons so pupils correct errors and redo selected questions with guidance.
- Whole class feedback is used when misconceptions are common; exemplars of strong working are shared.

10.5 Use of Assessment Information

- Teachers complete question level analysis (QLA) to identify strengths and gaps at class and pupil level.
- Identified pupils are routed into appropriate interventions (e.g. Year 7 registration numeracy, SEND programmes, Team Up peer tutoring).
- Leaders monitor outcomes for key groups (disadvantaged, SEND, EAL, high prior attainers) and evaluate the impact of support.

10.6 Reporting

- Students and parents receive clear summaries of attainment, progress and targets.
- SLT and Governors monitor attainment trends, intervention impact and next steps.

11 MONITORING AND EVALUATION

Monitoring assures the quality of provision and informs continuous improvement. It evaluates fidelity to the policy, the effectiveness of non-prior attainment grouping, and the impact of teaching, curriculum and intervention on pupil outcomes.

11.1 Quality Assurance (QA) Cycle

- Termly lesson visits and learning walks – short and long observations focused on clarity of explanation, use of representations, checking for understanding and equitable participation.
- Work scrutiny – sampling across year groups to check accuracy, method consistency, graphing standards, correct units and high quality reasoning.
- Assessment review – moderation notes, QLA summaries and re teach plans scrutinised for follow through.
- Student voice – structured interviews and surveys probing confidence, perceptions of challenge, usefulness of representations and sense of progression.
- Environment checks – classrooms display key representations, vocabulary and methods consistent with the guide.

11.2 Data and Impact Review

- Intervention evaluation – review of the effectiveness of targeted support, including impact on confidence, attendance and attainment.
- Evaluation of progress data – teachers and Subject Leaders analyse outcomes from online homework platforms and Pupil Progress termly to identify trends, measure the impact of teaching and intervention, and plan next steps.

11.3 Curriculum and Pedagogy Review

- Schemes of Learning are reviewed each term to ensure **coherent sequencing**, time for depth, and explicit mapping of representations.
- Particular attention is paid to **multiplicative reasoning** (fractions, ratio, proportion), transition points (KS2 to KS3, KS3 to KS4) and avoidance of non-understanding "tricks".
- Findings shape the **departmental CPD plan** and updates to the Consistent Methods and Representations Guide.

11.4 Success Indicators

- Increasing proportions of students demonstrate **secure fundamentals** and accurate use of agreed methods and representations.
- Gaps between key groups **narrow over time**.
- Work shows **clear reasoning**, correct units and graphing conventions.
- Students report rising **confidence and aspiration**, including interest in maths-related pathways.
- Interventions show **measurable impact** and are refined accordingly.

12 STAFF DEVELOPMENT (CPD)

Training includes:

- Non-prior attainment pedagogy

- Multiplicative reasoning and representations
- Mathematical language for SEND and EAL learners
- High-quality assessment design
- Collaborative planning

13 EQUALITY, INCLUSION AND CATHOLIC VALUES

Our Catholic ethos calls us to recognise the inherent dignity of every learner. We believe all students are capable of achieving mathematical success when provided with the right support, encouragement and high expectations. Numeracy is a gateway to educational opportunity, future pathways and full participation in society; therefore, equity in numeracy provision is central to our mission.

13.1 High Expectations for All

- All students, regardless of prior attainment, background or SEND need, have access to the full mathematics curriculum through **non-prior attainment** teaching.
- Staff maintain high expectations for every student, emphasising effort, improvement and resilience.
- Achievement is celebrated widely to promote confidence and mathematical identity.

13.2 Removing Barriers

- Lessons are carefully sequenced and supported so all learners can grasp significant ideas.
- Representations (see **Appendix B**) are used purposefully to support access and understanding for all.
- SEND needs are supported through targeted interventions, scaffolds, manipulatives and vocabulary development.

13.3 Inclusion Through Practice

- Teachers use clear language, consistent models and step-by-step explanations to support comprehension.
- Misconceptions are addressed with patience and precision; students are encouraged to make mistakes and learn from them.
- Learners are supported to express their reasoning verbally and in writing, fostering mathematical communication.

13.4 Role of Gospel Values

- Numeracy supports students to develop stewardship, responsibility, fairness and truthfulness.
- Peer support, such as the **Team Up** tutoring programme, fosters service, community and charity.
- All numeracy practice reflects our commitment to forming compassionate, confident and thoughtful young people.

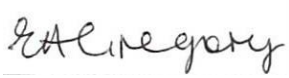
13.5 Monitoring Equity and Inclusion

- Progress data is reviewed to ensure any gaps between student groups narrow over time.
- Interventions are evaluated for impact on confidence, understanding and attainment.
- Student voice is used to inform decision-making and ensure all learners feel supported.

14 RATIFICATION

This Policy has approved at the Curriculum Committee in March 2026. To be reviewed every 2 years

Mrs S O'Donovan
Headteacher



Ms A Gregory
Chair of curriculum Committee

Appendix A
Consistent Methods & Presentation Standards

These standards ensure every student encounters the same methods, language and layout in every classroom. They support equity in non-prior attainment groupings and help pupils communicate mathematics clearly in exercise books, assessments and across other subjects.

A1. General Presentation

- Date and title on each piece of work. Rule off to separate tasks.
- One line per step when setting out working; align equals signs vertically.
- Black/blue pen for working, green/purple for corrections (school preference), pencil for diagrams and graphs.
- Units always shown with values (e.g., 5.2 cm, 3.1 m/s, 1.2×10^3 kg).
- Final answer boxed or clearly indicated on a new line.

A2. Notation and Language

- Use correct symbols: × (or a centred dot in algebra), ÷ rarely (prefer fraction bar), ≈ for rounding, ≡ for identities, ∝ for proportionality.
- Inequalities: $<, >, \leq, \geq$ written with space around them.
- Use function notation when appropriate: $f(x)$, $y = f(x)$
- Vectors underlined or with arrows; units with powers (e.g. m^2, m^3)
- Avoid ambiguous shorthand (e.g., write "gradient" not "grad", write "because" not "b/c").

A3. Number and Calculation Methods

- Order of operations: state and model explicitly; insist on brackets where clarity is needed.
- Written methods:
    - Addition/subtraction: column method, aligned place values.
    - Multiplication: long multiplication with partial products (grid/area method may be used to build understanding).
    - Division: long division; chunking as stepping stone where appropriate.
- Fractions:
    - Always simplify where appropriate.
    - Add/subtract via common denominators.
    - Multiply numerators and denominators directly.
    - Divide by a fraction using multiplicative inverse — model with bar models/area first.
- Percentages: emphasise % as "per 100"; use ratio tables and double number lines to model percentage change, increase/decrease and reverse percentages.
- Powers/roots & standard form: maintain one significant figure rule in standard form coefficient $1 \leq a < 10$

A4. Algebraic Conventions

- Write products without the multiplication sign (e.g. $3x - 2ab$)
- Solve linear equations by balancing; show the operation on both sides.
- Factorising: take out the highest common factor first; then quadratic forms.
- Expanding: brackets expanded systematically; FOIL only with reasoning attached (no trick mnemonics).
- Substitution: bracket substituted values, especially negatives.
- Rearranging formulae: show inverse operations step by step; label what is being isolated.

A5. Graphing Standards

- Pencil for plotting; ruler for axes and straight lines.
- Axes labelled with quantity and unit (e.g., *Time / s*, *Temperature / °C*).
- Even, sensible scales covering the data range. Avoid awkward scales (e.g., 3.7 per square).
- Points plotted with small crosses or dots; line of best fit only for scatter graphs when appropriate.
- Title or caption that states what the graph shows.
- For proportion: check for straight line through origin; discuss gradient meaning.
- Trigonometric and function graphs: indicate key points, asymptotes, periods, intercepts.

A6. Accuracy, Rounding and Units

- Agree per task the level of accuracy: significant figures (default 3 s.f. unless context dictates), decimal places, or exact form.
- Do not mix s.f. and d.p. in one answer; match the required precision or data precision.
- Always carry units through calculations and state units in answers.
- Use SI units unless the context demands others; convert before calculating where possible.

A7. Construction & Diagrams

- Use compass, protractor, ruler correctly; mark equal lengths, right angles, parallel lines.
- Diagrams to scale where requested; otherwise “Not to scale” indicated.
- Angle reasoning written in words (e.g., “Alternate angles on parallel lines are equal”).

A8. Probability & Statistics Conventions

- Probabilities between 0 and 1; fractions, decimals or percentages allowed but be consistent.
- Two-way tables, Venn, tree diagrams laid out clearly with totals and probabilities labelled.

- Averages: always pair with spread (range, IQR, standard deviation where appropriate).
- Frequency tables include class width and midpoints when needed.

A9. Use of Calculators and Digital Tools

- Calculators support but do not replace reasoning. Expect students to estimate first and check plausibility after.
- Programs/spreadsheets: include cell formulas or a brief note of method if part of assessed work.

Appendix B
Reference Representations

A quick, practical guide for selecting, sequencing and reusing representations so pupils see the structure, build transferable understanding, and avoid tricks. Representations are used across the curriculum for coherence.

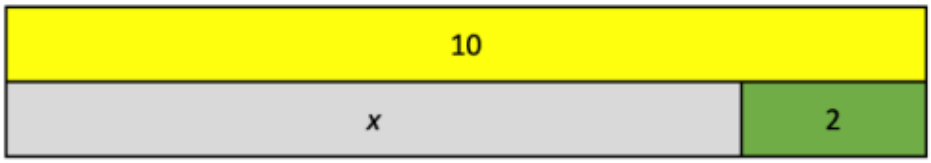
Concrete → Visual → Abstract. Move fluently between forms; keep the representation live long enough for meaning to stick, then fade.

B1. Core Set (when to use, how to introduce, what to fade to)

1) Bar Models

- **Use for:** part–whole with fractions and percentages, comparison problems, ratio splits, difference problems.
- **Introduce via:** real contexts (recipes, budget splits). Start with drawing equal partitions; label totals and parts explicitly.
- **Fade to:** equations, fraction–percentage conversions, ratio tables.
- **Common pitfalls:** unequal bars; unlabelled totals; swapping part and whole.

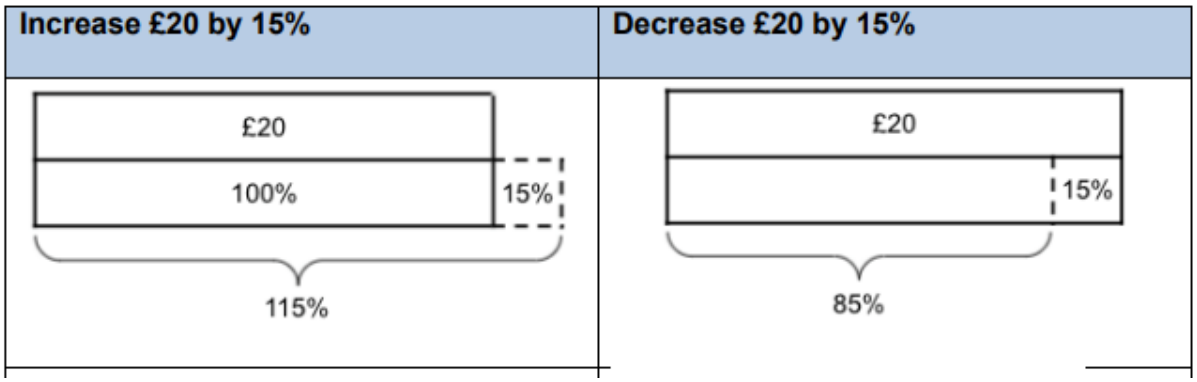
Example 1: *Describe how each of the following is represented in this bar model.*



a) $x + 2 = 10$
b) $10 - x = 2$
c) $10 - 2 = x$

Example 1 uses the familiar representation of a bar model to draw attention to the different relationships that exist and ways that they can be written symbolically. Although students may have seen this sort of image before, the focus here is particularly on the equality demonstrated between the top and bottom bars.

***Common difficulties and misconceptions*:** When solving problems involving unequal sharing, students may view a problem as a combination of multiplicative and additive processes. For example: *'Alice and Brenda share some money in the ratio 4:3. Alice has £20. How much does Brenda have?'* For questions such as this, it is common for students to work multiplicatively: halve Alice's £20 to give £10, halve this again to give £5; and then additively combine these results to calculate that Brenda has £15. The use of a bar model representation in this situation can reinforce this combination of additive and multiplicative thinking:



2) Ratio Tables

- **Use for:** equivalent ratios, unit rates, mixtures, direct proportion, recipes, map scales, speed/density.
- **Introduce via:** table with structured multipliers; show × and ÷ moves explicitly; connect to factor trees and scaling.
- **Fade to:** unitary method, algebraic forms $y = kx$, simultaneous equations in proportional contexts.
- **Pitfalls:** additive jumps only; unlabelled columns; forgetting units.

***Example 1:** Which sets of numbers show a proportional relationship? Explain your choices.*

a)

$\frac{1}{2}$	1
3	6

d)

2	4
6	8