Cowbridge School

Numeracy Policy

Formulated by: Leader of Mathematics
Adopted by: MGB 06.07.17
Last Reviewed: Autumn 2025 by Mr D Griffiths
Review: Annually or subject to changes in statutory guidelines or legislation
Next Review: Autumn 2026
Date of any amendments made to policy & brief points:

Date	Details	Approved by
Spring 2019	Updated Head of Department to Curriculum Leader. Updated 'More able and Talented' to 'higher attainers'. **I**ntervention programme updated. Addition to action plan Summer 2018	
Autumn 2022	Updated with reference to the Curriculum for Wales 2022, Additional Learning Needs and Blended Learning. Replaced reference to 'Students' and 'Pupils' with 'Learners'	MGB 19.01.2023
Autumn 2023-24	No changes	
Autumn 2025	Added greater reference to the 3 to 19 continuum Replaced reference to Numeracy Framework to Curriculum for Wales Cross-Curricular Skills Framework Added section on transition planning. Removed non-super numeracy subject areas from	

1. Defining Numeracy

1.1 Cowbridge School is committed to raising standards of numeracy of all its learners across the 3-19 continuum. They need to develop the ability to use numeracy skills effectively in all Areas of Learning and Experience and the skills necessary to cope confidently with the demands as ethical informed citizens. All teachers and support staff have a role to play in supporting learners' progress in numeracy.

1.2 Numeracy is a proficiency which involves confidence and competence with numbers and measures. It is more than an ability to do basic arithmetic and requires an understanding of the number system, repertoire of mathematical techniques and an inclination and ability to solve quantitative or spatial problems in a range of contexts. Numeracy also demands understanding of the ways data is gathered and presented.

1.3 Mathematics is a part of numeracy, but to be numerate means you are able to apply some of these mathematical skills in many more contexts than in mathematics lessons and across several subject areas. It is therefore our expectation that **all** teachers will be teachers of numeracy.

*1.4 Numerate pupils **understands mathematical concepts and procedures**—not just performing calculations but grasping why and how they work. **Applies these mathematical skills to real-life contexts**, such as interpreting data, making decisions based on number, solving problems and reasoning logically. **Uses numeracy across different areas of learning and in everyday life**—for example budgeting, measuring, analysing information and interpreting statistics.*

1.5 **A numerate learner is one who:**

Early Years (Ages 3–5)
- recognise numbers and count up to at least 10
- understand basic concepts of size, weight, and shape
- begin simple addition and subtraction, using objects
- recognise patterns and sequences
- develop spatial awareness and sorting skills

Lower School (Ages 5–7)
- count, order, and compare numbers up to 100
- perform basic addition, subtraction, multiplication, and division
- recognise simple fractions and their meanings
- identify common shapes and describe their properties
- measure length, weight, and time with basic units

Lower School (Ages 7–11)
- understand place value and work with larger numbers
- develop fluency in multiplication tables and arithmetic operations
- solve problems involving fractions, decimals, and percentages
- interpret simple graphs and charts
- begin to explore angles, area, and perimeter

Middle School (Ages 11–14)
- work confidently with negative numbers and algebraic expressions

- solve equations and inequalities
- understand ratios, proportions, and probability
- apply formulas for area, volume, and geometry
- interpret and analyse statistical data

Senior School (Ages 14–16)
- solve complex algebraic problems and use functions
- apply trigonometry to calculate angles and distances
- model real-world situations using statistics and probability
- develop problem-solving techniques across mathematical areas
- work with graphs, transformations, and vectors

Post-16 / Sixth Form (Ages 16–19)
- use advanced mathematical reasoning, including calculus and logarithms
- apply mathematical methods to scientific, economic, or technical problems
- work with statistical models and analyse large data sets
- understand mathematical proof and logical reasoning
- explore applications of mathematics in real-world contexts

Numeracy isn't just about calculations—it's about thinking critically, reasoning logically, and solving problems efficiently.

2. Policy Aims

(i) To adopt a whole-school approach to numeracy across the curriculum in keeping with the principles and practices established by Welsh Government, the Curriculum for Wales Cross-Curricular Skills Framework.
(ii) To enable all learners to reach their potential in the key numeracy skills.
(iii) To support the progressive development of numeracy skills across all phases and throughout the curriculum.
(iv) To raise staff awareness of key numeracy strategies.
(v) To encourage staff to take responsibility for the development of numeracy in their subject areas through the inclusion of appropriate schemes of work and lesson planning.
(vi) To support the development of numeracy across all phases and through the deployment of a range of resources in the School including blended learning.
(vii) To identify specific roles and responsibilities within the School with regard to the development of numeracy work.
(viii) To establish procedures for monitoring numeracy across phases, to ensure seamless transition, and across the curriculum.

3. The Numeracy Strategy

Cowbridge School will:
(i) ensure that learners master basic number skills thoroughly and have effective strategies to recall essential number facts quickly and accurately;
(ii) provide worthwhile opportunities for pupils to use numeracy skills, particularly number skills and numerical reasoning, in subjects across the curriculum;
(iii) help learners to become confident in numeracy and able to apply and communicate their results across the curriculum and in real life;

(iv) monitor the National Numeracy test data for learners to ensure pupil progress;
(v) share National Numeracy test data with all teachers to ensure there is appropriate challenge and support in lesson planning;
(vi) make sure that numeracy activities stretch learners appropriately; and
(vii) monitor and evaluate the impact of strategies for improving numeracy.

4. Implementation of the Strategy

4.1 The role of the Senior Leadership Team is to:

(i) participate in the planning, implementation and evaluation of the whole-school numeracy strategy;
(ii) specify expectations of all teachers;
(iii) support the development and implementation of a whole-school numeracy policy;
(iv) provide INSET, resources and opportunities for staff within the School, to accommodate the Cross-Curricular Skills Framework within schemes of work.

4.2 The role of the Senior Leader in charge of Numeracy is to:

(i) Work with the Senior Leadership Team to determine a strategy for developing numeracy across the curriculum and ensure the effective development and implementation of the numeracy policy;
(ii) review the Curriculum for Wales Cross-Curricular Skills Framework provision and identify opportunities to develop and apply numeracy skills;
(iii) audit existing examples of good practice in numeracy across the phases and curriculum;
(iv) encourage teachers of mathematics to provide assistance and advice to other Areas of Learning and Experience and phases so that a consistent approach is used across the whole school;
(v) advise on how good standards of numeracy help to improve standards across the curriculum, as well as how to introduce and consolidate the teaching of numeracy skills;
(vi) ensure consistency of approach across the School;
(vii) identify areas of numeracy that teachers are least confident of teaching within the context of a particular phase or area of learning,and discuss with senior managers the measures needed to address the identified issues; and
(viii) evaluate the whole-school impact of applying the numeracy policy.

4.3 The role of a Subject/Phase/Area of LearningLeader is to:

(i) identify opportunities for developing numeracy skills in schemes of work;
(ii) map progression in numeracy skills across phases, progression steps and year groups.
(iii) ensure coherence and consistency in the application of numeracy skills linked to the Curriculum for Wales Cross-Curricular Skills Framework across the 3-19 continuum and associated teaching staff;
(iv) work with teaching staff to plan progressive, differentiated and challenging tasks that will allow learners to demonstrate understanding and develop and consolidate the full range of numeracy skills; and

(v) monitor and evaluate the impact of these approaches on standards of learning for subject areas.

4.4 The role of a teacher is to:

(i) be familiar with the Curriculum for Wales Cross-Curricular Skills Framework and progression through it;
(ii) ensure they are familiar with correct mathematical language, notation, convention and techniques and encourage learners to use these correctly in their subject;
(iii) understand the importance of numeracy skills in relation to raising standards of work in their own subjects;
(iv) fully integrate these skills into their planning to provide exciting new learning experiences for learners;
(v) identify opportunities to develop and apply numeracy skills within subjects and across the curriculum;
(vi) plan tasks that will allow learners to demonstrate understanding and develop and consolidate the range of numeracy skills;
(vii) provide information for mathematics teachers on the stage at which specific numeracy skills will be required; and
(viii) monitor and evaluate the impact of these approaches.

5. Whole school policy on the use of calculators

In deciding when learners use a calculator in lessons we should ensure that:
(i) learners' first resort should be mental methods;
(ii) learners have sufficient understanding of the calculation to decide the most appropriate method; mental, written or calculator;
(iii) learners have the technical skills required to use the basic facilities of a calculator constructively and efficiently, the order in which to use keys, how to enter numbers as money, measures, fractions, etc.;
(iv) learners understand the four arithmetical operations and recognise which to use to solve a particular problem;
(v) when using a calculator, learners are able to say whether their answer is reasonable; and
(vi) learners can interpret the calculator display in context (e.g. 5.3 is £5.30 in money calculations).

6. Monitoring and Evaluation

Monitoring and evaluation will take place through the following mechanisms:
(i) analysis of prior, predictive and attainment data to track progress made by individual learners with reference to National Numeracy test data and assessment data as appropriate;
(ii) analysis of internal tracking data to monitor progress against the relevant Progression Steps, utilising a range of formative and summative assessment tools to identify individual developmental trajectories, in the absence of formal national testing;
(iii) The use of lesson visits and observations, quality assurance exercises and line management discussions with phase/curriculum leaders and assistant phase/curriculum leaders to evaluate the impact of numeracy provision on learners' day-to-day use of the four proficiencies.
(iv) whole school self-review procedures;
(v) discussion with and reports to governors.

7. Including All Learners

7.1 Differentiation

Learners at Cowbridge School are entitled to our highest expectations and support. Some will need additional support and others will need to be challenged and extended. Strategies that we use include:

(i) adjusting the demands of the task;
(ii) the use of additional support;
(iii) resources that support and challenge;
(iv) intervention programmes;
(v) creating an atmosphere where learners evaluate their own and others' work.

7.2 Numeracy Progress

Numeracy intervention provision varies each academic year depending on timetabling and staffing constraints. Targeted intervention will be used to help learners to catch up with their peers as quickly and effectively as possible in order to maximise access to the secondary curriculum. Teachers across the curriculum will be kept informed about which schemes learners are participating in. Teachers will be familiarised with the content of these various schemes in order that they can 'link the learning' into their subject area and provide learners with opportunities to practise their skills.

7.3 Higher Attainers

We will seek to:

(i) identify higher attaining learners;
(ii) promote ways of structuring learning for able learners by using Curriculum for Wales Cross-Curricular Skills Framework objectives and appropriately differentiated tasks;
(iii) develop a teaching repertoire which supports and challenges higher attaining learners.

7.4 Additional Learning Needs

We will teach our learners with additional learning needs appropriately with due regard to their individual development plans (IDPs), supporting their learning and providing them with challenges matched to their needs, through using a range of teaching strategies such as guided group-work, small group intervention and bespoke numeracy packages. Classroom teachers will use differentiated classroom strategies and liaise with the Additional Learning Needs Department to support in the delivery of additional learning provision (ALP).

8. Transition

Numeracy (Year 6–Year 7 Transition)

The school works in partnership with its cluster primary schools to ensure a consistent and cohesive approach to numeracy development during the transition from Year 6 to Year 7. Through collaborative planning and shared expectations, the cluster establishes a common understanding of key numeracy concepts, methods, and progression pathways across the age range. This alignment supports continuity in teaching and learning, enabling students to build securely

on prior knowledge and skills as they enter secondary education. Consistent approaches to numeracy instruction, assessment, and intervention help to identify strengths and areas for development early, ensuring that all students are supported to achieve confidence, fluency, and conceptual understanding in mathematics.

9. Curriculum for Wales Cross-Curricular Skills (Numeracy) Framework

9.1 The key aims of the Cross Curricular Skills (Numeracy) Framework are to:
- (i) help teachers across phases and of all areas of learning and experience to identify and provide opportunities for learners to apply numeracy across the curriculum;
- (ii) describe the expectations for numeracy for learners; and
- (iii) help determine learner progress in numeracy.

9.2 The four strands of the numeracy component of the Cross Curricular Skills (Numeracy) Framework are:
- (i) developing numerical reasoning;
- (ii) using number skills;
- (iii) using measuring skills; and
- (iv) using data skills.

https://hwb.gov.wales/curriculum-for-wales/cross-curricular-skills-frameworks/

10. Curriculum for Wales

10.1 Numeracy is one of the mandatory cross-curricular skills which underpin the four purposes of the Curriculum for Wales.

10.2 In developing learners' numeracy skills, the five mathematical proficiencies – Conceptual understanding, Communication using symbols, Fluency, Logical reasoning and Strategic competence – can be applied and connected, where appropriate across the Areas of Learning and Experience, by using a range of real-life contexts to introduce and explore mathematical concepts, as well as to consolidate them.

https://hwb.gov.wales/curriculum-for-wales/

11. Numeracy Across the Curriculum

The school aligns its strategy with the mandatory cross-curricular skills of the Curriculum for Wales, tracking progress through Progression Steps 1-5.

11.1 Design Technology

Measuring is used extensively in all areas of technology, involving the use of both metric and imperial units. When making models or constructions learners work in millimetres and are required to measure accurately using this unit. The need for plans requires learners to be able to produce scale drawings and be able to draw 2D representations of 3D shapes. Identifying and drawing plans and elevations of 3D shapes are also used when planning project work. In Food & Nutrition learners require an understanding of proportion when working with and adapting recipes. Learners also use percentages when identifying the nutritional content of different foods. In Textiles shape and measurement are

used when designing and making different items. 2D shapes and tessellations are used in some designs.

11.2 Digital Technology (ICT)

Learners will apply numeracy in a variety of ways in ICT lessons. These include collecting and classifying data and entering it into software, producing graphs and tables, interpreting and explaining their results. When learners use computer models they will use their ability to interpret numbers and identify patterns and relationships. When designing power point presentations or websites, Learners will use proportion and their knowledge of shape and space as well as an understanding of enlargement when changing the size of an object. Other numerical skills are used when using formula and formatting within Excel spreadsheets.

11.3 Geography

Numeracy is used in many aspects of learning in Geography. Scale, direction, ratio and distance are used in map reading. Graphs and charts are used in the interpretation of patterns and trends. Learners generate, analyse and present data through fieldwork investigations.

11.4 Physical Education

Athletic activities require measurement of height, distance, time, speed and symmetry. Movement and direction are used in areas of dance, gymnastics and ball games. Learners also use their numeracy skills when evaluating their own performance over a period of time.

11.5 Science

Scientific investigations and experiments require learners to use their numeracy skills to classify objects, accurately measure distances and quantities, estimate outcomes and quantities when required, recording results in tables and graphs. In Science, learners will order positive and negative numbers, including decimals, calculate means of a set of data and calculate percentages of a quantity. At a higher level learners will apply their algebra skills to substitute into formulae and rearrange scientific equations. Choosing an appropriate graph and being able to interpret data and make predictions will also take place in Science lessons.