



EDClass Numeracy Policy

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Policy Introduction and Purpose

At EDClass, we believe numeracy is central to the development of lifelong learning. It is used to develop knowledge and understanding and to promote personal growth and social interaction. Numeracy is an integral part of the learning experience that crosses all subject boundaries. Learners are entitled to the development of numeracy skills throughout all subjects and should experience a rich numeracy learning environment, regardless of perceived "ability".

Many learners accessing EDClass as an alternative provision have experienced interrupted education, persistent attendance barriers, or heightened levels of mathematics anxiety. This policy establishes a unified, cross-curricular framework to ensure that students do not encounter conflicting calculation methods across subjects. By aligning our specialist Mathematics curriculum with whole-school numeracy strategies, we ensure that numerical fluency, quantitative reasoning, and problem-solving skills are systematically nurtured across every subject area.

Definition of Numeracy

Numeracy is the ability to understand, reason with, and apply mathematical concepts in everyday life. It goes beyond simply performing calculations and encompasses a broader range of competencies, including:

- ✓ Using numbers to solve problems in both abstract and practical contexts.
- ✓ Interpreting data, graphs, tables, and statistics critically.
- ✓ Estimating, rounding, and measuring accurately using appropriate units.
- ✓ Making informed decisions based on quantitative and financial information.
- ✓ Recognising, formulating, and manipulating patterns, sequences, and relationships.

Strong numeracy skills are essential for academic attainment, economic independence, further education, employment, and everyday life.

Aims of the Numeracy Strategy

We believe that all learners can develop strong numeracy skills. Our vision is to equip learners with the confidence and ability to:

- ✓ Apply mathematical concepts and solve problems in real-world situations.
- ✓ Communicate mathematical ideas and reasoning effectively using formal notation and precise terminology.
- ✓ Develop critical thinking and analytical skills to interrogate quantitative information.
- ✓ Use technology effectively as a tool for learning numeracy, exploring patterns, and modelling solutions.
- ✓ Overcome mathematical anxiety through scaffolded instruction and regular experiences of success ("little wins").

Guiding Principles

Our whole-school numeracy strategy is underpinned by five core principles:

- ✓ **Individualised Learning:** We recognise that learners have different learning styles and prior knowledge depending upon their circumstances. We use a variety of instructional approaches and resources to meet individual needs and tailor numeracy instruction accordingly.
- ✓ **Relevance and Engagement:** Learning activities endeavour to be relevant to learners' interests and future aspirations. We use real-world examples, financial scenarios, and interactive digital tools to make numeracy engaging and meaningful.
- ✓ **Building Confidence:** We create a positive learning environment where learners feel comfortable taking risks and making mistakes. We provide regular feedback, celebrate learners' progress, and actively counter the misconception that mathematical ability is innate.
- ✓ **Developing Metacognitive Skills:** We teach learners how to learn and think mathematically. This includes helping them develop strategies for problem-solving, self-assessment, estimation, and reflection.
- ✓ **Technology Integration:** We leverage the strengths of online learning by incorporating digital tools, dynamic calculators, interactive graphs, and data models to support numeracy instruction.

Cross-Curricular Numeracy Framework

Other curriculum areas must be aware of the strategies used in the Mathematics curriculum. A consistent approach to teaching and learning numeracy across the platform is essential if learners are to gain confidence and become familiar with standard techniques when manipulating numbers.

Science (Biology, Chemistry, Physics)

- ✓ **Equations and Formulae:** Applying consistent substitution before rearranging equations
- ✓ **Units and Measurements:** Standardising the use of SI units, metric prefixes (kilo-, milli-, micro-, nano-), and conversion protocols.
- ✓ **Data and Graphing:** Plotting variables consistently, determining lines of best fit, identifying anomalies, calculating gradients and drawing tangents to curves.
- ✓ **Notation:** Enforcing consistent rules for standard form, decimal places, and significant figures.

Geography and Humanities

- ✓ **Cartographic Skills:** Calculating scale, distance, area, and coordinates using 4-figure and 6-figure grid references.
- ✓ **Demographic and Climate Data:** Constructing and interpreting population pyramids, climate graphs, scatter diagrams, and choropleth maps.

- ✓ **History:** Calculating chronological intervals, reading timelines, and analysing economic data (e.g., hyperinflation in Weimar Germany).

PSHE, RSHE and Careers

- ✓ **Personal Finance:** Calculating percentage increase/decrease, compound interest, loan interest rates, taxation, National Insurance, and net pay on payslips.
- ✓ **Budgeting and Risk:** Managing household budgets, calculating utility costs, evaluating gambling odds, and making informed consumer choices.
- ✓ **Labour Market Information (LMI):** Interpreting employment statistics, salary bands, and economic growth trends.

Food Technology, Physical Education and Creative Arts

- ✓ **Food Technology:** Scaling recipes proportionally using ratio, calculating nutritional values, and measuring mass and volume accurately.
- ✓ **Physical Education:** Calculating heart rate recovery, analysing fitness test percentiles, and recording performance data.
- ✓ **Art and Design:** Applying geometric ratios, scale factors, grid enlargement, and spatial proportions.

Instructional Delivery and Provision Models

Numeracy instruction is delivered systematically across our four core operational models:

EDLive (Synchronous Group Teaching)

- ✓ **Direct Mathematical Modelling:** Qualified mathematics teachers deliver live, scheduled lessons that explicitly model problem-solving processes.
- ✓ **Dual-Coded Instruction:** Live digital whiteboards, dynamic geometry software, and step-by-step calculation walkthroughs ensure that abstract concepts are visually concrete.
- ✓ **Oracy and Mathematical Dialogue:** Students articulate their reasoning using formal Tier 2 and Tier 3 vocabulary (e.g., *product, quotient, reciprocal, gradient, integer*) before completing written calculations.

EDTeach (Targeted On-Demand Intervention)

- ✓ **Real-Time Calculation Support:** When a learner struggles with an e-lesson calculation checkpoint, an EDTeach specialist provides immediate one-to-one or small-group live coaching.
- ✓ **Deconstructing Misconceptions:** Rather than supplying final answers, teachers use cognitive questioning, visual breakdowns, and scaffolded hints to guide students through calculation steps.
- ✓ **Reducing Math Anxiety:** Provides a supportive environment for students who lack confidence with arithmetic, ensuring that numerical difficulties do not prevent access to wider subject content.

Live Timetabled Provision (Structured Daily Routines)

- ✓ **Scheduled Numeracy Pacing:** Full-time timetabled provision (9:00 AM to 4:00 PM) incorporates dedicated daily mathematics sessions and cross-curricular numeracy application.
- ✓ **Attendance and Progress Tracking:** Real-time monitoring tracks student engagement, completion rates, and problem-solving accuracy, providing schools with auditable evidence of mathematical progression.

EDInclude (Inclusion, AP and Reintegration Model)

- ✓ **Whole-School Flexible Seat Model:** When a school purchases an EDClass seat, the entire school gains access to our mathematics and numeracy curriculum. Seats can be rotated dynamically across internal isolation, detention clinics, inclusion rooms, and off-site learners.
- ✓ **Targeted Interventions:** Students placed in internal exclusion or working on reduced timetables engage in purposeful, curriculum-aligned numeracy modules, preventing learning loss while away from mainstream lessons.

Agreed Pedagogical Strategies and Consistent Mathematical Methods

To ensure consistency across the platform, all subject departments adhere to standard mathematical methodologies established by the Mathematics Department so staff can use identical terminology and problem-solving methods to prevent student cognitive overload:

- ✓ **Order of Operations (BIDMAS):** Enforces a consistent hierarchy (Brackets, Indices, Division/Multiplication, Addition/Subtraction) so students do not calculate strictly left-to-right across different classrooms.
- ✓ **Algebraic Equations (Balancing Method):** Mandates teaching formal inverse operations to both sides of an equal's sign, avoiding misleading procedural shortcuts like "move it across and change the sign," while prioritising substituting known values before rearranging.
- ✓ **Proportional Reasoning (Unitary Method):** Prioritises finding the value of a single unit first (e.g., "find the cost of 1, then multiply by n") to build conceptual clarity before introducing abstract shortcuts like cross-multiplication.
- ✓ **Graphical Conventions:** Standardises plotting rules across STEM subjects by placing the independent (manipulated) variable on the horizontal x-axis, the dependent (measured) variable on the vertical y-axis, and requiring uniform, linear intervals.
- ✓ **Statistical Measures:** Removes ambiguous use of the word "average" by requiring explicit definitions across all subjects: mean, mode, and median.
- ✓ **Estimation First:** Learners are consistently prompted to estimate answers before calculating, developing error-checking habits.
- ✓ **Step-by-Step Working:** Teachers emphasise that method marks are vital; all working out must be shown, reinforcing the logic behind calculations rather than relying solely on calculator outputs.

- ✓ **Interpreting Remainders:** In real-world problem solving, learners are taught to interpret remainders within the given context (e.g., rounding up for transport requirements or down for purchasing limits).

Progress Assessment, Diagnostic Screening and Monitoring

- ✓ **Baseline Diagnostics:** Upon entry, learners complete diagnostic assessments aligned with national standards to identify specific arithmetic and algebraic gaps.
- ✓ **Formative Checkpoints:** Low-stakes questions embedded in every digital lesson assess numerical comprehension before students move to higher-demand content.
- ✓ **Summative Assessment:** Modular assessments evaluate calculation fluency, multi-step problem solving, and data interpretation, tracking progress over time.
- ✓ **Data-Led Intervention:** Assessment data is tracked continuously by teachers to identify emerging misconceptions, deploy EDTeach intervention, and adjust individual learning pathways.

Inclusion and Addressing Diverse Needs

- ✓ **Visual and Cognitive Scaffolding:** Lessons use dual coding, visual representations (bar models, number lines), and color-coded formula steps to assist students with working memory difficulties or dyscalculia.
- ✓ **Platform Accessibility:** Learners can independently adjust font sizes, contrast backgrounds, and activate text-to-speech tools to support visual processing needs.
- ✓ **Differentiated Challenge:** Tasks provide varied levels of scaffolding, allowing learners to build confidence with core arithmetic before tackling complex, multi-step word problems.

Roles and Responsibilities

Every teacher plays a shared role in breaking down barriers to learning to fulfil the aims of our alternative provision. All teachers have a collective responsibility to deliver aspects of these core numeracy skills.

The Role of Teachers

- ✓ Ensure familiarity with the specific numeracy demands of their subject and agreed platform teaching strategies.
- ✓ Maximise opportunities for consistent numeracy teaching through curriculum planning.
- ✓ Seek advice from the Mathematics Department on teaching numeracy topics and effective differentiation.
- ✓ Recognise the differing numerical abilities and starting points of learners accessing the platform, proactively addressing potential learning barriers.
- ✓ Model consistent mathematical language, calculation steps, and graphical layouts in all live lessons and written feedback.

Curriculum Areas and Heads of Department

- ✓ Ensure that subject-specific numeracy is clearly identified in schemes of work, showing obvious progression across key stages.
- ✓ Ensure all departmental staff know how to develop numeracy within their subject area.
- ✓ Liaise regularly with the Mathematics Department to apply a consistent approach to mathematical methods.
- ✓ Monitor and evaluate the effectiveness of numeracy delivery within their subject areas, amending lesson plans and resources accordingly.
- ✓ Share models of good practice and celebrate student achievement in numeracy.

The Mathematics Department

- ✓ Provide initial training and ongoing guidance on current methodologies used by the mathematics department to maintain a consistent approach across the platform.
- ✓ Serve as a central resource of guidance and support for all curriculum areas implementing numeracy.
- ✓ Advise the Senior Leadership Team (Head and Deputy Head of Teaching and Learning) on whole-school numeracy priorities and standards.
- ✓ Assist in monitoring the impact of the numeracy policy on learning outcomes across the provision.

Head and Deputy Head of Teaching and Learning

- ✓ Accept overall strategic responsibility for the implementation and impact of the EDClass Numeracy Policy.
- ✓ Provide opportunities and time for staff training on numeracy methodologies and online delivery tools.
- ✓ Support the Mathematics Department in carrying out whole-school numeracy initiatives.
- ✓ Monitor the implementation of the numeracy policy across all curriculum departments via regular quality assurance.
- ✓ Model numeracy strategies in their own teaching and highlight good practice observed during quality assurance monitoring.

Review and Quality Assurance

This numeracy policy is reviewed annually by the senior leadership team in collaboration with the Mathematics Department, curriculum leaders, and external educational partners. Feedback and learner performance data are used to revise and update the policy to reflect current best practices and address emerging needs in online numeracy education.

The implementation of this policy is continually evaluated through:

- ✓ Regular audits of student work across STEM, humanities, and vocational subjects to ensure consistent calculation methods.
- ✓ Observations of live teaching across EDLive and intervention coaching on EDTeach.

- ✓ Termly reviews of progress assessment data and diagnostic tracking metrics.
- ✓ Feedback from partner schools, parents, carers, and learners regarding mathematical confidence, numeracy progress, and reintegration success.