



Llywodraeth Cymru
Welsh Government

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Mathematics and numeracy plan 2023

The plan sets out our aims, actions and timescales for implementation.

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Our ambition

Our national mission is to achieve high standards and aspirations for all, by tackling the impact of poverty on educational attainment and supporting every learner. Nothing is so essential as universal access to, and acquisition of, the experiences, knowledge and skills that our young people need for employment, lifelong learning and active citizenship.

Through its focus on the **four purposes of the curriculum** and **progression**, **Curriculum for Wales** presents a unique opportunity to secure that universal access for learners in Wales.

The **Curriculum for Wales framework** provides a clear articulation of what we value in learning and sets out expectations for the essence of learning which should underpin the topics and activities schools and settings choose. As part of this, the framework recognises that there are foundational aspects of learning which unlock the breadth and depth of learning to all.

Health and well-being, literacy, numeracy and digital competence are all gateways to further learning and so are central to raising standards and supporting every learner to progress to their full potential. They are foundational skills, required for life, successful education, training and employment.

Mathematics and numeracy are fundamental to the well-being of **future generations**, whether that is through learning about personal budgeting and financial literacy, adding value to the Welsh economy, or increasing an individual's future employment and earning potential.

The purpose of the plan

We know that there is still much to do to meet our aspirations for mathematics and numeracy and to secure these benefits for all learners, not least in light of the impact of the disruption caused by the coronavirus (COVID-19) pandemic.

The statistical release on patterns of attainment in reading and numeracy, based on national-level data from the personalised assessments, indicates learners' attainment in procedural numeracy has been negatively impacted by the disruption caused by the pandemic.

A fragility around mathematics and numeracy progress in both primary and secondary schools has also been identified in the [Estyn Annual Report of 2021 to 2022](#) and [Estyn's sector summaries for 2022 to 2023](#).

We know from the Organisation for Economic Co-operation and Development (OECD) that, globally, mathematics and numeracy is often perceived as difficult, and assumptions about the importance of mathematics within wider society can influence learners' engagement.

We understand that attainment in mathematics and numeracy is an issue which permeates our education system as a whole and the responsibility for solving it should not be borne by individual schools, settings, clusters or subject leads. All of us must work together, collectively across the breadth of the sector, including us as the Welsh Government.

The importance of mathematics and numeracy learning cannot be overlooked. As such, we must focus together on developing further support for schools and settings to design their curriculum so that it engages and inspires, incorporates effective approaches to progression, and meets the needs of learners. Feedback from learners shows they would value more support in learning how to budget and become financially literate. They recognise and understand the longer-term

advantages of developing mathematics and numeracy skills.

We want to enthuse children and young people about mathematics and numeracy. Alongside this, we want to support learners and practitioners to develop strategies to overcome the barriers associated with mathematics anxiety, enabling them to realise their potential with confidence.

We want to draw on the effective mathematics and numeracy provision that is already happening in Wales and use it to support all schools and settings as they move forward in their Curriculum for Wales journey.

This plan sets out additional actions we will take to further support schools and settings to engage, enthuse and strengthen practitioners' confidence with the provision of mathematics and numeracy across the curriculum and achieve our long-term aims.

What we're already doing

Cross-curricular skills

Numeracy, alongside literacy and digital competence, are included in legislation as mandatory **cross-curricular skills** within Curriculum for Wales. This means schools and settings must support and develop learners' skills and should consider how they can be applied and developed across the curriculum. When designing engaging learning experiences, schools and settings will need to ensure that learners progress in these skills throughout their educational journey, supporting them to realise the four purposes of Curriculum for Wales and improve their future life opportunities.

The **Literacy and Numeracy Framework (LNF)** and the **Digital Competence Framework (DCF)** are available to support practitioners to plan for learning

opportunities which apply, develop and extend learner's skills. These frameworks support Curriculum for Wales by helping schools and settings be aware of expectations for learners' progressive development of literacy, numeracy and digital skills across all areas of learning and experience of Curriculum for Wales.

Mathematics and Numeracy Area of Learning and Experience

Through the **Mathematics and Numeracy Area of Learning and Experience** Curriculum for Wales has strengthened the focus on both the taught and applied elements of mathematics and numeracy through the introduction of 5 inter-related mathematical proficiencies. The proficiencies support practitioners to design engaging experiences which embed the full breadth of knowledge, skills and dispositions needed for positive and progression-focused learning in mathematics and numeracy.

This approach has been developed by Welsh practitioners. We expect it will empower practitioners to consider how skilful pedagogy, experiences and the development of knowledge and skills, can equip our learners to be confident to apply their numerical skills in a range of contexts, including the unfamiliar. Although comparatively a nation small in population, we are a nation with growing aspirations for the children and young people of Wales and their futures.

In response to the implementation of Curriculum for Wales, 3 new mathematics qualifications are being developed by **Qualifications Wales**.

Statutory **personalised assessments**, for learners between Years 2 and 9, include an assessment of learners taken in 2 parts, Numeracy (Procedural) and Numeracy (Reasoning). The online assessments provide an individualised assessment experience that dynamically adjusts the level of challenge for each learner. The Numeracy (Procedural) assessment focuses on numerical facts and procedures, and the tools needed to apply numeracy within a range of contexts.

The Numeracy (Reasoning) assessment provides information on how well learners can apply their procedural skills to solve numerical problems.

What we want to accomplish

Our long-term vision is:

- high expectations for all learners: supporting learners to progress towards realising the four purposes of Curriculum for Wales so they are confident in their mathematics and numeracy skills and able to apply their learning in a range of authentic contexts, and play a full part in life and work
- a confident education profession able to plan and apply purposeful mathematics and numeracy learning across all areas of learning and experience, supported by a **professional learning offer** which provides effective support for the development of pedagogy coherent with Curriculum for Wales
- a national step change: a positive change in mindset towards mathematics and numeracy to support learners' acquisition of the experiences, knowledge and skills that they need for active citizenship, lifelong learning and employment

What we will do

Action: actively promote the importance and relevance of mathematics and numeracy skills

We will:

- develop support for schools and settings to understand the purpose of

learning mathematics and to design opportunities for learners to experience authentic and purposeful mathematics and numeracy application in real-life situations as part of their learning

- review the impact of our grant programmes to ensure they focus on supporting all learners to build confidence, resilience and self-belief
- work with school improvement partners and Estyn to maintain a focus on the development of mathematics and numeracy skills for practitioners

Action: support the development of a positive ‘can do’ mindset and approach across schools, settings, parents, carers and the wider community to promote mathematics and numeracy

We will:

- work with our partners to ensure the teaching and learning of mathematics and numeracy focuses on providing challenge in an enjoyable, fun and engaging way
- research and share effective practice to developing positive approaches to mathematics and numeracy, as well as resilience and self-belief, to tackle mathematics anxiety for learners, practitioners, parents and carers
- promote positive mindset messaging and raise awareness of the importance of the application of mathematics and numeracy skills for everyday life

Action: develop a national professional learning offer for mathematics and numeracy coherent with Curriculum for Wales and underpinned by the National Professional Learning Entitlement (NPLE)

We will:

- work with professionals to understand the support and resources needed to aid the application of mathematics and numeracy across the curriculum and to develop understanding of progression and assessment in mathematics and numeracy for all practitioners, in particular supporting non-specialists to access the support and understanding they may require
- engage with the **National Network for Curriculum Implementation** and practitioner policy groups to ascertain a thorough sector-level understanding of mathematics and numeracy teaching and learning in Wales, and how these are currently presenting in schools and settings
- ensure this understanding informs our long-term curriculum refinement
- through professional support, ensure every practitioner, regardless of subject specialism, is afforded the opportunity to develop their own mathematics and numeracy skills and a secure understanding of progression of cross-curricular numeracy
- provide clear principles for a national professional learning and support offer for all schools and settings to support the teaching of mathematics and numeracy. This will be developed with our key partners to deliver high-quality and equitable professional learning across Wales
- build on existing supporting materials to create timely, bilingual resources which aid the teaching of mathematics and numeracy and build on the points above
- in addition to securing the pedagogy of foundational mathematical concepts (see action below), we will ensure professional learning also includes Number, Measure and Data to complement 14 to 16 qualifications. This is to enable learners to progressively develop conceptual understanding through purposeful teaching, experiences, skills and knowledge during their educational journey
- pilot work with schools and settings to support their assessment approaches and understand learner progress. Through this work, we will support schools and settings in progression and assessment regarding mathematics

Action: in realising Curriculum for Wales, support educators throughout Wales to develop their practice, knowledge and confidence so that they in turn can encourage and guide learners in how to apply their mathematics and numeracy skills across the curriculum

We will:

- establish an evidence, research and advice group of mathematics and numeracy specialists from within Wales to work alongside international experts to consider effective pedagogy and emerging academic developments which would benefit practitioners and learners
- engage with the National Network and practitioner groups to ascertain how the expectations of Curriculum for Wales for mathematics and numeracy, including the 5 proficiencies, are currently understood and realised in schools and settings
- work with practitioners to understand where clarification of guidance, further professional learning or supporting materials are required and work to address this to meet their needs

Timescales

Over the next 12 months, in partnership with school improvement partners, Estyn and practitioners, we will take responsibility for coordinating delivery of these actions.

In January 2024, we will engage in a National Network conversation.

Between January and July 2024, we will establish a practitioners' group, drawing

from the policy group model, which will meet monthly. Through this approach, we will maintain our commitment to co-constructing support for Curriculum for Wales.

Between January and September 2024, we will establish and facilitate a research, evidence and advice group of mathematics specialists from Wales, the UK and from around the world.

We will engage with school improvement partners and initiate the creation of a made-for-Wales national professional learning package. The package will be piloted during academic year 2023 to 2024 and will be available for wider access by practitioners from September 2024.

Evaluation and review

We will evaluate our ambition to affect positive change on the teaching of mathematics and numeracy for the benefit of learners throughout Wales by:

- speaking to practitioners and learners
- regularly engaging with and receiving feedback from our partners across the education sector and our grant programme providers
- considering anonymised information on national-level trends in reading and numeracy attainment
- considering the Estyn annual reports
- tracking trends in GCSE and A level outcomes
- being sighted on PISA (Programme for International Student Assessment) outcomes now and following the next cycle of PISA numeracy assessments in 2026

We will provide a written review of progress towards achieving the actions set out in this plan during 2024.

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