

The National Strategies' Programmes of Support for the National Challenge

Core Plus mathematics

User guide for subject leaders

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This user guide is for use by subject leaders to help decide which parts of Core Plus will be most useful.

A separate **Core Plus overview** sets out the wider picture and, in particular, explains how Core Plus links with other programmes in the National Challenge.

How the materials are presented

Support for mathematics departments is part of Core Plus provision. For each core subject the elements follow the same structure, offering quality standards, a self-assessment tool and exemplification.

Each element used should, however, be adapted to meet the needs of individual departments.

Elements

Mathematics Core Plus consists of six elements.

Element 1a Leading improvement and raising standards in mathematics through senior and subject leader partnership offers guidance about how to use the National Challenge as a fresh opportunity to break through potential obstacles to improvement. It closely links the actions of senior leaders, through the Raising Attainment Plan (RAP), to the priorities required to help subject leaders and mathematics teachers improve the rates of progress and levels of engagement of pupils and to sustain that improvement.

Element 1b Leading improvement and raising standards in the mathematics department: Pivotal pupils in Year 11 will require immediate action. This element addresses the urgency of Year 11 in a measured and systematic way. It is not a short-term plan but a tactical response which, once established, can become part of the department's routine provision for Year 11 pupils as they approach the examination period.

Element 2 Planning for progression in mathematics: Raising expectations by developing sequences of learning in Years 10 and 11 provides support for teachers in planning units of work for Year 10 and Year 11 mathematics classes to strengthen progression through:

- identification of strategically chosen clusters of objectives to help pupils make progress towards identified curricular targets
- an emphasis on selected teaching and learning approaches designed around rich tasks so that pupils are engaged in their learning and make more progress
- guidance on how to gather day-to-day evidence of pupils' progress so that ongoing assessment is strengthened.

Element 3 Improving mathematics subject pedagogy and the climate for learning explores how mathematics teachers can work together to develop sequences of learning, focusing on developing a particular aspect of pedagogy. It describes how subject leaders and senior leaders can support these priorities and provides mechanisms for focusing the evaluation of impact through joint work in the classroom and by capturing pupils' views.

Element 4 Tracking pupils' progress using Assessing Pupils' Progress and the underpinning principles of Assessment for Learning helps subject leaders and teachers to work together to develop better assessment for learning approaches. The aim is to raise pupils' and teachers' awareness of progress and identification of next steps by:

- improving teachers' understanding of what is required in order for pupils to attain a grade C
- developing teaching and learning strategies for improving awareness of progress during, and at the end of, sequences of lessons
- promoting meaningful and manageable recording of tracking information so that underperformance can be identified and tackled.

Element 5 Intervention and personalisation in mathematics involves a departmental contribution to whole-school systems and is essential to pupils' progress. All schools and all mathematics departments will be taking action to improve intervention and will be expected to report on the impact of intervention actions as part of the six-weekly evaluation of the RAP. Element 5 will help mathematics departments address curricular gaps, misconceptions and individual barriers to learning.

Element 6 Securing consistent pupil performance across core subjects (addressing factors influencing in-school variation); Developing Personal Learning and Thinking Skills (PLTS) in mathematics explores how mathematics teachers can work with other subjects to plan, teach and review lessons that are delivered using specific and explicit links between teaching strategies and thinking skills across subjects, aiming to motivate pupils to succeed. Developing thinking skills that use strategies common to the pupils' 'stronger' and 'weaker' subjects can help to transfer successful learning from one subject to another.

Selecting elements

Choosing and aligning the mathematics elements is not a one-off decision; it should be reconsidered as evidence of impact and potential obstacles to progress are identified as part of the six-weekly evaluation process built into the RAP.

Establishing the priorities from the elements on offer should be informed by existing departmental self-evaluation evidence. In addition, the senior line manager, the subject leader and the local authority (LA) consultant will hold collective intelligence about the relative strengths and weaknesses of the team in the department, the current systems and routines and the real or perceived barriers to improvement. If, however, the development needs of the department are not sufficiently clear from existing self-evaluation you can use the self-assessment tools to guide both the initial selection of elements and the focus of work within a selected element.

Each element addresses ways to bring about longer-term, sustainable improvement as well as developing strategies for raising attainment for the cohort soon to complete their Key Stage 4. In mathematics this is organised so that each of

Elements 2 to 6 highlights strategies that are especially relevant to the urgent needs of Year 11. Element 1b, however, offers a tactical approach to teaching and learning, which focuses on the particular and urgent need to raise attainment in Year 11.

In starting this work we recommend that most departments will find it useful to begin with aspects of Core Plus Elements 1a, 1b and 5.

Overall, it is better to start some elements of improvement and maintain an ongoing review of the focus than to spend several days or weeks finding out what should be done. Often a group of teachers working together to improve teaching will gradually realise the nature of further improvements that are needed.

So the message is – get started on some collaborative work in the department. Make sure this impacts on target pupils as quickly as possible. Maintain a keen eye on the effect of the work and be prepared to refocus as barriers to improvement become apparent and productive developments begin to emerge.

Using the self-assessment tools

Self-assessment tools are available in each element and provide a summary of the relevant quality standards. You can also access the self-assessment tools for all the elements in a single document.

The tools can be used in two ways.

1. They can be used in their entirety to decide which Core Plus mathematics elements should be used and which quality standards addressed.
2. Alternatively, the self-assessment tool for a particular element can be used to focus work and provide a baseline for development in that area.

Whichever approach is used, completing the self-assessment should be a rapid process. To ensure this, we suggest you familiarise yourself with the standards, 'traffic light' the current situation, relate development needs to priorities described in the school's RAP and use this as a basis for planning action.

Where possible, try to use a wide range of perspectives in the self-assessment process to establish a rounded view, including senior staff, teaching and learning responsibility (TLR) holders and other members of the department, asking different groups to agree their judgements in groups. In bringing together responses, focus both on agreed areas for development and on areas where there are significant differences in perception.