



Primary
National Strategy

Guidance

Curriculum and
Standards

Primary Strategy
Learning Networks with
mathematics centres

**Headteachers and
teachers in learning
networks**

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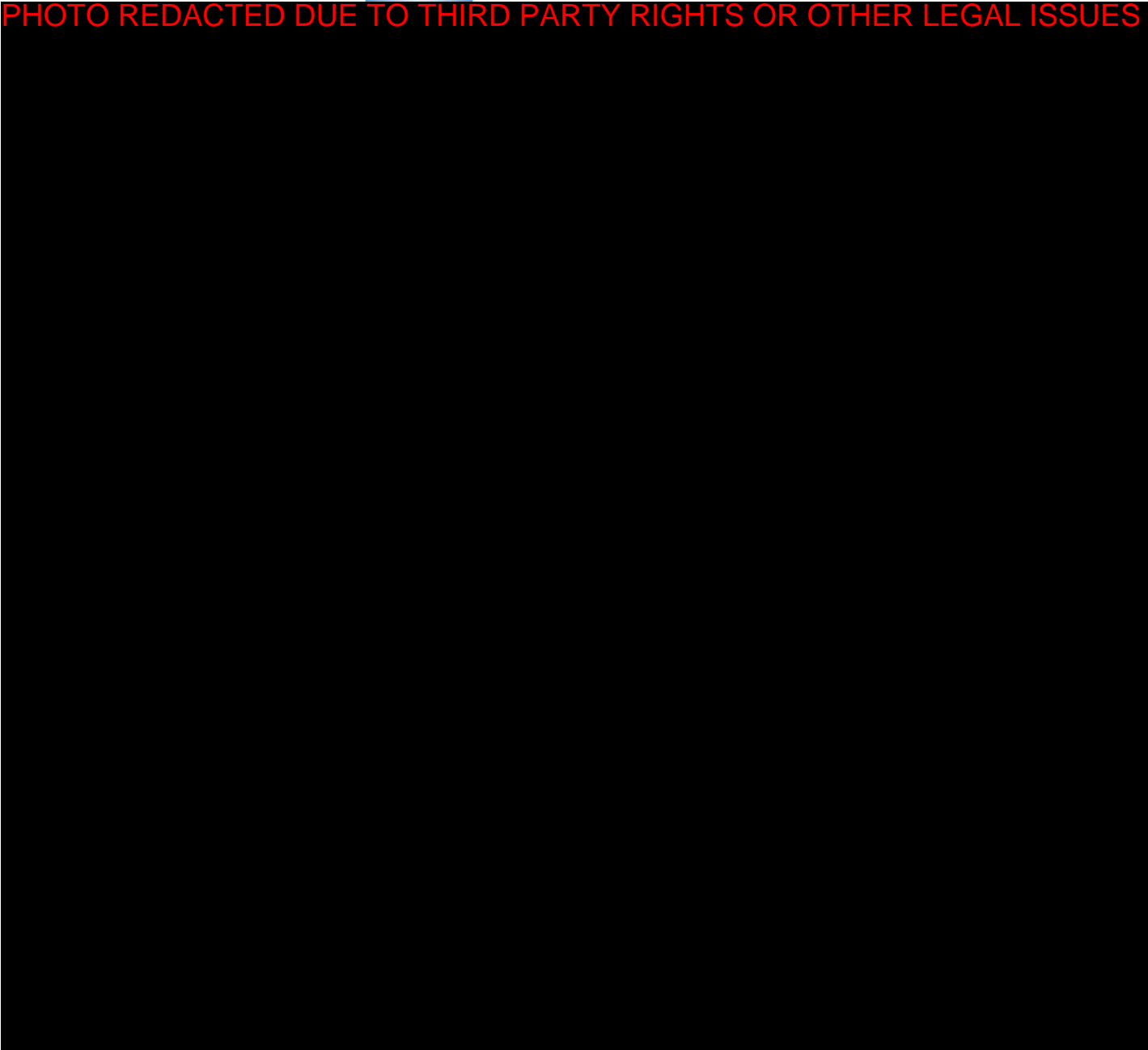
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The establishment of primary 'mathematics centres' was in response to Adrian Smith's report to the DfES *Making Mathematics Count 2004*. A significant focus in the report was on the importance of CPD provision in mathematics, recognising that secure subject knowledge and effective pedagogy are both essential for high quality teaching and learning in mathematics to take place.

'We have been delighted to see the enthusiastic uptake by primary schools that are part of Primary Strategy Learning Networks to be involved in mathematics centres. It is early days but it is particularly encouraging to hear the positive impact of work in your schools that is taking place as a result.'

Celia Hoyles, Chief Mathematics Adviser to the Secretary of State, DfES

Primary Strategy Learning Networks – facts and figures

There are already 1239 Primary Strategy Learning Networks across the country, with a further 300 expected to be established shortly. Schools have been enthusiastic to become involved in networks and the work of most of them is now well established. Each network has selected its own 'learning focus'. These vary widely across the country. Overall, more networks are working on mathematics than on other areas of the curriculum, and where a particular age range is identified, Year 3 then Year 4 are the most frequently occurring.

Over 600 of the networks have received a little additional funding as 'mathematics centres'. The remit of these networks is to develop their capacity to teach mathematics effectively. Most of these networks, but not all, have a focus on mathematics – some have another focus but are committing funding to work together to share the use of outstanding teachers in mathematics.

Why address issues through networks?

The nature of working in a network provides particular opportunities for staff development and consequent improvements in schools, for example:

- teachers working together to exchange ideas and share good practice;
- increased opportunities for staff training and professional development as expertise is shared across a network of schools;
- enhanced teacher confidence due to support from colleagues;
- wider curriculum choice for children as teachers begin to develop their confidence in new areas;
- professional conversations which focus on learning and teaching develop as teachers and classroom assistants share planning and observations;
- smoother transitions as teachers share common practice within and across schools.

Extra help for mathematics centres

Adrian Smith's report to the DfES *Making Mathematics Count 2004* also recommended the establishment of a national centre to support professional development for teachers in mathematics. This is close to coming to fruition. NCETM – the National Centre for Excellence in Teaching Mathematics – is now getting off the ground, with a proper start at the beginning of April and a launch in late June. Professor David Burghes has been appointed as Director of NCETM. The centre will have a regional structure, will phase the start of its work in different regions and has an interim website at www.ncetm.org.uk.

A key aim of the work of NCETM is to encourage collaborative models of working on improving the quality of mathematics teaching and raising standards of children's attainment. Over the course of the coming year, as the centre starts its work in all regions, it will be keen to build on the work of schools involved in 'mathematics centres'.

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The story of one network

This network is in South East England and comprises five primary schools and one infants school. The schools are small to medium in size.

Focus: The schools in the network analysed their data and found that their children were not using and applying their mathematical knowledge efficiently. The network group decided that they needed to raise the profile of using and applying mathematics within their schools. All schools had a 'maths week' to launch the work.

Adult learning that has followed: A trawl of planning revealed that teachers were setting less demanding objectives for using and applying mathematics than they were for the skills and knowledge aspects of mathematics. This issue is being addressed and monitored through the work of the network. A focus group of teachers has a full day of development time every term. In the focus group, teachers are paired to plan together and are in the process of visiting each other's schools. There has been input from the LA on peer working and observation.

Building capacity through networking: The teachers from the focus group are all very positive about the value they gained from planning alongside a colleague and the sharing of strategies and ideas. Small groups of children have already visited other schools for a 'more able' morning and similar visits are planned for different groups of children with different schools hosting.

An emphasis on children's self-assessment is common to all the schools and a traffic light system and other assessment for learning strategies are being established.

Evaluation: There is a changing approach to teaching and learning, which is already having some observable effects. Children who are hard to engage and lower-attaining children are more actively involved in their learning.

Teachers are reporting that children are more systematic, that they talk to each other about their learning and that the impact is evident as children are beginning to draw pictures and or symbols to demonstrate and aid their thinking.

Continuing monitoring and evaluation will be based on:

- confidence levels of children and adults;
- analysis of children's answers to National Curriculum test questions;
- improved planning that reflects high expectations in all areas of the mathematics curriculum;
- the enthusiasm of the teachers to continue the work.

Useful information

Some National College for School Leadership (NCSL) publications to which you might want to refer are described below.

Making mathematics count in school networks is one of the *What are we learning about...?* series. It contains 'think pieces' looking on the work of networks with a mathematics focus. To order a copy of this publication and others in the series, please email nlc@ncsl.org.uk quoting the reference WAWLA/Making mathematics count.

What makes a network a learning network is a summary of the research of Professor Lorna Earl and Dr Steven Katz, edited by Julie Temperly. It outlines some key messages for network leaders from phase two of the external evaluation of NCSL's Networked Learning Communities programme and can be downloaded at www.ncsl.org.uk/nlc.

Do you want to contact networks with a similar focus to your own?

Shortly, the Primary Strategy and the NCSL will be producing a Directory of Primary Strategy Learning Networks. It contains all the details of the networks that have registered on the website, including the focus of their work and their contact details (where the networks have given permission for these to be made available).

A new Framework for teaching mathematics – a further opportunity for schools in Primary Strategy Learning Networks to support each other

In September 2006, there will be a renewed version of the teaching Framework for mathematics, building on the renewed mathematics Framework produced by the National Numeracy Strategy in 1999. The printed part of the Framework will be slimmer with a sharper focus on the most important objectives that children have to master each year. This will be supported by an 'electronic framework' that will link this slimmer printed booklet to the range of current and future guidance tailored to the needs of a particular teacher, for example a Year 3 teacher.

The draft of the mathematics Framework, both printed and electronic, will be available in April 2006 – you are invited to comment on this to inform the publication in September. We are particularly keen to get comments from those who are leading the way in Primary Strategy Learning Network mathematics centres. See <http://www.standards.dfes.gov.uk/primary/features/frameworks/consultation/> for more details.

Supporting the effective use of the renewed mathematics Framework

Local authorities will have a range of ways of supporting schools with the introduction and use of the renewed mathematics Framework (and literacy Framework, similarly being renewed at the same time). These will include briefings for headteachers, specific training for school mathematics (and literacy) subject leaders and consultancy support for some schools.

Where networks wish, they could take a key role in increasing the capacity of schools to make effective use of the renewed frameworks by the sharing of expertise and, where available, leading teachers and advanced skills teachers. With this in mind, some local authorities may consider ways of supporting the strategic introduction of the revised frameworks using the structures of their learning networks.

Three possible models

Local authorities will want to plan the introduction of the frameworks with their own context and knowledge of their authority in mind. The following models are suggestions for ways of thinking about this planning. It may be that local authorities decide to use only parts of these suggestions or, indeed, use the network structures in some areas but not others. This has the potential for reducing costs of professional development programmes for individual schools, for spreading ideas and practice from school to school and for more school subject leaders to support others.

1. School subject leaders from a network attend the programmes on leading effective use of the new frameworks. They jointly plan an approach to introducing the frameworks for their schools
2. Particular school subject leaders from a network are identified as network representatives. They attend the programmes on leading effective use of the new frameworks. They are charged with planning an approach for all the network schools and with leading professional development programmes with other school subject leaders in the network
3. The specific training for school subject leaders is delivered to networks of schools rather than individual schools. Training materials are disseminated to network representatives, who then plan an approach for all network schools to participate in joint professional development

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