

Continuing professional development

This section contains suggestion for a staff meeting to introduce the Primary National Strategy Wave 3 mathematics pack and strategies for Wave 3 mathematics provision.

Outline for a staff meeting

Objectives

- To provide some background to the development of the Primary National Strategy Wave 3 mathematics materials
- To develop practice in supporting children's mathematical development and self-confidence by providing a suggested model for Wave 3 mathematics intervention
- To familiarise staff with specific detail about using the Wave 3 mathematics pack
- To consider the identification of specific areas of mathematics that can prevent children achieving expected levels of progress

Key messages

- It is important that the Wave 3 mathematics materials are seen as a suggested model for providing Wave 3 intervention, which teachers should adapt to suit the needs of their children.
- There are key features in the design of the materials to support good practice in working with children with mathematical difficulties.
- Good day-to-day assessment is fundamental in supporting effective use of Wave 3 mathematics intervention.

Resources

- A complete Primary National Strategy Wave 3 mathematics pack *Supporting children with gaps in their mathematical understanding*
- A copy of the addition and subtraction tracking children's learning chart for each member of staff
- Copies of handouts 1, 2 and 3 from Appendix 3 for each member of staff
- Computer, etc. to demonstrate CD-ROM from pack

Introduction

- 1 Share the objectives for the session, setting these in the context of the three 'waves' of inclusion.

Three 'waves'

Provision for effective mathematics learning and teaching can be described in terms of three 'waves' of intervention.

 **Wave 1** The effective inclusion of all children in high quality learning and teaching of mathematics in the daily mathematics lesson.

 **Wave 2** Additional time-limited provision in the form of small-group intervention to accelerate progress and enable children to work at age-related expectations.

 **Wave 3** Additional time-limited provision to enhance the progress of identified children where Waves 1 and 2 are not, on their own, having the desired effect. This will involve focused teaching activities which tackle fundamental errors and misconceptions that are preventing progress.

- 2 Briefly mention the development of the materials, their piloting and revision in response to feedback.
- 3 Refer to the research background that informed the design, mentioning that key features of effective Wave 3 interventions highlighted in the research review have been incorporated in the design of the Wave 3 mathematics pack.

In particular these are:

- *a focus on the most commonly occurring types of mathematical difficulties*
The materials focus on number and calculation, tackling areas such as understanding the structure of number and operations between numbers. Problem solving is integrated and exemplified in the materials, and opportunities are provided for children to develop mathematical vocabulary.
- *an individualised approach based on the particular areas the child finds difficult*
The materials reflect best practice in assessment for learning and include tracking children's learning charts that support the identification of the particular knowledge, skills and understanding with which the child needs help.
- *relatively small amounts of individualised intervention*
The Wave 3 teaching activities provide brief, focused teaching sessions which make it possible for the child to benefit more fully from whole-class teaching. Where appropriate, the activities finish with related activities for whole-class use in order to reinforce individual learning and promote inclusive practice.

Activity 1: Getting to know the Primary National Strategy Wave 3 mathematics materials

Introduce the components of the pack to illustrate what the pack has to offer. Briefly mention each of the items (see notes on page 7).

Activity 2: Understanding the purpose of the tracking children's learning charts

- 1 Ask colleagues to scan **Handout 1**, *Structure of Wave 3 mathematics materials*, to begin to get an overview of the tracking chart. They should then scan the addition and subtraction chart, working in pairs to identify a familiar error/misconception from the second column.
- 2 Ask colleagues to look at the third column of the chart to find questions to confirm their diagnosis.

How would they see themselves using these questions? One to one? Working with a small focus group including the target child?

Ask them to suggest further questions to confirm diagnosis of the chosen error/misconception.

- 3 Explain that the fourth column contains an outline of work they could cover when they choose a booklet and the fifth column shows how teachers could extend the work after the child has completed activities in the booklet.
- 4 Ask colleagues to focus on the code of their error/misconception, find the related A4 booklet and read through the activities, identifying:
 - helpful aspects for teaching and learning.
 - any suggestions for improving the work in the booklet to suit the needs of their children.

Take feedback, emphasising the intention that teachers modify the materials as necessary for their children.

Demonstrate the tracking back process using the CD-ROM interactive tracking chart.

Activity 3: Focusing on the teaching activities

As they look at the booklet they have selected and use **Handout 2**, *Mathematical themes and assessment approaches in the Wave 3 materials*, ask colleagues to find examples of the mathematical themes listed on the handout.

Some questions to consider:

- What are the implications for your practice?
- What guidance would you need to give to your teaching assistant to support them in working with a child, or a couple of children, with Spotlight 1 in the booklet?

At the end of Handout 2 is a list of the ways in which best practice in assessment for learning is reflected in the materials. Ask colleagues to look at this list and the booklet they have been using to identify the ways in which assessment for learning is supported.

Activity 4: Assessment and planning process

Ask colleagues, in pairs, to use **Handout 3**, *Assessment and planning process*, to draw together the elements of the suggested model for using the materials to support children's learning.

Ask for questions and suggestions about how the school can incorporate the use of this pack to support children's learning.

Activity 5: Developing Wave 3 mathematics in our school

This part of the session will need to focus on the practicalities of Wave 3 mathematics planning in the individual school.

Refer to material from this booklet to focus the discussion – See the section entitled 'Classroom' page 17.

From this meeting, the leadership team will have gathered knowledge to inform their further planning. Support will be found in the management guidance, starting on page 12.

End by referring to some of the next steps identified by the pilot schools as they planned how to further improve Wave 3 provision for their children.

I think we might need to rethink our assessment records so that there is more space for the richness of the observations we can do in Wave 3.

We're going to do more TA training.

My advice to anyone setting out to do Wave 3 would be to keep asking yourself 'Am I doing this the best way?' We kept changing what we did in the light of circumstances and we're now on our third way of doing it ... The results have been fantastic – more confidence and raised self-esteem and kids smiling and wanting to do maths.

Keep doing it! It's great!

We want to involve the parents more.

Anything that gets the kids this excited about maths has to be worth putting lots of time and effort into. We just want to do more of it next year.