



National Literacy and Numeracy Strategies: Guidance on Teaching Able Children

Executive summary

Overview: This guidance is intended to advise primary headteachers and teachers on how best to provide for able pupils within the National Literacy and Numeracy Strategies.

Action required: Ensure that all staff members involved in the delivery of the National Literacy and Numeracy Strategies are fully aware of the content of this guidance.

Further information: The guidance will be supplemented with exemplification material which will be made available later in the academic year 1999/2000.

Headteachers & Teachers

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Related documents:

National Literacy Strategy

Framework for Teachers

(www.standards.dfes.gov.uk/literacy);

Framework for Teaching

Mathematics from

reception to year six

(www.standards.dfes.gov.uk/numeracy)

Superseded documents:

None



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National Literacy and Numeracy Strategies: Guidance on Teaching Able Children

The National Literacy and Numeracy Strategies are already proving to be effective tools for raising standards among primary aged children, including able pupils. The 1999 Key Stage 2 results showed a significant improvement in the percentage of children achieving level 4 and level 5 in English and in mathematics. This guidance gives further help to teachers in providing for pupils who are more able than the majority in their class in literacy or mathematics.

What do we mean by more able in literacy and mathematics?

Able pupils are quick to understand and apply their knowledge and skills in creative and original ways. The chart illustrates some characteristics of pupils who are particularly able in literacy or mathematics.

Pupils who are able in ...	
Literacy:	Mathematics:
<ul style="list-style-type: none">● can orchestrate the various reading cues at an early age;● are active readers who can generalise from their reading experience;● latch on quickly to the conventions of different types of writing;● think in original ways and experiment with new styles;● manipulate language, sentence structure and punctuation;● use apt terminology and varied vocabulary.	<ul style="list-style-type: none">● generalise patterns and relationships and approaches to problem solving;● are persistent and flexible in their search for solutions;● develop logical arguments, often taking valid shortcuts;● use mathematical symbols confidently;● rapidly grasp new material;● may not be exceptional in carrying out calculations, but may see calculations as detail and less important than the problem as a whole.

High ability does not always result in high attainment. Able pupils may conceal their ability because of social pressures, becoming reticent in class and difficult to involve. Attainment can be uneven, for example an outstanding reader may produce writing which is superficial and undeveloped. In key stage one, some pupils develop an early proficiency in reading using sight vocabulary and contextual cues, but lack phonic skills; others may have the ability to produce language and ideas for composing texts, but experience problems in transcription.

Schools can use a range of information to identify able pupils including: tests and examinations; portfolios of work from previous schools or teachers; and parents' perceptions and pupils' self-assessment. Identification should involve balancing these different sources of evidence and should not be a one-off judgement. It is important to reassess pupils regularly and to avoid stereotyping, for example by gender.

Using the Frameworks

The Frameworks for teaching literacy and for mathematics summarise the approach towards teaching able pupils through the Literacy and Numeracy Strategies.

The Literacy Framework covers the national curriculum for reading and writing for Key Stages 1 and 2, enabling pupils to progress from level 1 to level 5. Similarly, the Framework for teaching mathematics covers the national curriculum for Key Stages 1 and 2 for mathematics from pre-level 1 up to level 4 and includes parts of level 5. Further enhancement of level 5 work is included in the *Framework for teaching mathematics: Extension* which will be sent to schools in March 2000. A framework for English for year 7 pupils, building on the primary Literacy Framework is also being developed and will be available in draft on the Standards website by March 2000.

The scope of the Frameworks is wide enough for most able pupils in the primary phase. They are catered for by covering objectives:

- in greater depth (e.g. more detail and complexity)
- to a broader range (e.g. more challenging texts and tasks)
- and at a faster pace (e.g. tackling objectives earlier).

Organisation in the Literacy Hour and daily mathematics lesson

At whole school level, schools need to generate a positive ethos for able pupils, and an able pupil policy which commands support and commitment from the head teacher, all staff, governors and parents. Schools should have:

- a co-ordinated approach to implementing their policy;
- effective identification processes;
- effective systems for recording, reporting, monitoring and evaluation; and
- suitable arrangements for staff training.

The structure of the Literacy Hour and the daily mathematics lesson allows for class teaching that meets individual needs and provides for differentiated group and independent work. Within the classroom, able pupils need direct teaching and opportunities to work with their peers. Lessons involving able pupils should be based on the principle of inclusive whole class and group teaching.

In some cases, however, you may need to consider other organisational arrangements. The main options are set out overleaf. Schools should consider all of these approaches in determining their response to individual pupils' needs.

Approach	Advantages	Drawbacks	Considerations
Setting	<ul style="list-style-type: none"> ● Allows use of challenging material and tasks ● Questioning can be more closely tailored to ability ● Pace can be increased to ensure appropriate challenge ● Can make planning easier 	<ul style="list-style-type: none"> ● Other pupils miss out on able pupils' contributions (and vice versa) ● Gender implications – need to avoid risk of boys clustering in lower sets 	<ul style="list-style-type: none"> ● Variations on setting: <ul style="list-style-type: none"> – Temporary setting e.g. during revision sessions – Part-time setting e.g. 2 or 3 lessons per week – Have a top set but mixed ability for other groups ● Age of pupils – setting may be more appropriate as pupils get older ● Deployment of teachers needs to be considered to ensure that low sets also have access to good levels of expertise ● If setting is across 2 years, need to ensure that work is not a repeat of previous year
Placing in older class (acceleration)	<ul style="list-style-type: none"> ● Might suit individual able pupil ● Enables highly able pupils to progress further and faster, so can improve motivation and self-esteem 	<ul style="list-style-type: none"> ● Content and interest level might not always be suitable for younger pupil ● Links to rest of curriculum often weaker because topics are out of step 	<ul style="list-style-type: none"> ● Whether it would be socially and emotionally demanding for the pupil – acceleration may be more appropriate for the oldest pupils in a year group ● What happens in Y6 or final year? Can use alternative strategies (such as use of ICT) ● More flexible alternative – occasional opportunities for able pupils from different year groups to meet within or outside lessons ● 'fast-tracking' a small group may be possible in larger schools
Where possible – an additional adult to provide simultaneous teaching or support	<ul style="list-style-type: none"> ● Flexible – can be used at different parts of hour 	<ul style="list-style-type: none"> ● Could reduce support for other pupils 	<ul style="list-style-type: none"> ● Teaching assistant needs to be skilled and confident to be able to support and challenge pupils ● Good liaison required between teacher and assistant

Planning your lessons

When you plan your lessons, you should consider how to include extension and enrichment activities for able pupils. On the next page there is an extract from a plan for teaching mathematics to an 'average' Year 2 class. The plan draws objectives from the Year 3 and Year 4 teaching programmes. The unit of work still concentrates on the same topic, enabling the teacher to manage the necessary differentiation. You can use the same approach in literacy, by providing extension tasks which are linked to the main part of the lesson. For example, while the majority of the class is becoming aware of commas to mark grammatical boundaries, able pupils could be working on how commas, connectives and full stops are used to separate clauses. Teachers should take care to further differentiate enrichment and extension activities where the needs of individual able pupils demand this.

The planning structure within the Numeracy strategy leaves an unallocated week each term. Able pupils can use this 'spare week' to undertake a sustained piece of extension work. This may involve some research and investigation and could be linked to the main teaching programme for the class or could be a new topic. It may draw on subjects outside mathematics. The normal timetabled curriculum can also be extended and enriched through the provision of a range of extra-curricular activities including: clubs (e.g. writing or mathematics clubs); workshops and masterclasses; visits; residential; and independent study.

Extract from a plan for teaching mathematics to an 'average' Year 2 class

Unit	days	page	Topic	Objectives	Extension	Enrichment
1	3	2-7	Counting, properties of numbers and number sequences	Say number games in order to at least 100 Count reliably up to 100 objects by grouping them in tens Count on or back in ones or tens from any two-digit number Recognise two-digit multiples of 10 Count in 100s from/ back to 0	Estimate up to 100 objects Extend to three-digit numbers Recognise three-digit multiples of 10	Solve number problems and puzzles (examples to follow in March 2000)

Teaching Strategies for Literacy and Mathematics

When teaching able pupils, you should consider not only the levels of support and challenge but also the kinds of learning which are most suitable. Investigative approaches, and opportunities to make comparisons and to provide evaluative and critical comments are particularly important. In shared sessions, able pupils should have opportunities to set their own questions, offer opinions and views, interpret information and reflect and speculate on the topic. They then need to apply these skills in independent work which should encourage them to become confident and ambitious as learners.

You can match tasks to the needs of able pupils by providing:

- common tasks that involve different responses and outcomes;
- tasks which have an incline of difficulty or a range of steps as in graded exercises, the able pupils entering at a higher level and taking the task further;
- separate tasks linked to a common theme.

Take care not to leave able pupils to get on with work unsupported and undirected. Also avoid overloading them with extra work at the same level, where possible setting higher order demands of the work already undertaken. In particular, emphasise investigative, problem solving and exploratory approaches which can be sustained over a number of lessons.

You should consider negotiating targets with individual able pupils which are challenging and which they must work to over a constrained period of time.

Questioning

You can use questioning in whole class sessions to develop able pupils. You can:

- plan in advance higher order questions such as *how do you explain...? What were the stages...? How can you tell that...? What evidence can you find to support...? Can you explain your calculation?*;
- plan alternative strategies, such as inviting elaborations (*say a little more about...*), speculations (*I wonder why...*), predictions (*What would happen if...?*) or the use of 'thinking time' to allow the formulation of contributions;
- provide some questions or ideas for able pupils to consider beforehand;
- remain receptive to divergent thinking;
- insist that able pupils justify their working out and their answers.

Using the Literacy Hour and daily mathematics lesson

Literacy Hour	Mathematics lesson
<p>Shared reading and writing</p> <ul style="list-style-type: none"> ● use the shared session as the starting point for extension work in the group session; ● offer suggestions for related reading; ● provide opportunities for brief written responses and pair discussion; ● give pupils an active role in demonstrating key skills. <p>Word and sentence work</p> <ul style="list-style-type: none"> ● set extension tasks; ● draw on existing knowledge during vocabulary work; ● sometimes ask able pupils to lead the session; ● encourage use of appropriate terminology <p>Guided reading and writing</p> <ul style="list-style-type: none"> ● group by ability; ● set challenging texts; ● set questions and tasks that require inference, deduction, analysis, evaluation and comparison; ● provide reading and writing conferences. <p>Independent work</p> <ul style="list-style-type: none"> ● use investigative tasks over a number of lessons; ● encourage pupils to raise their own questions; ● ask pupils to act as response partners; ● ask pupils to generate text frames; ● provide extended writing e.g. by linking sessions; ● sometimes extend group time. 	<p>Oral and mental starter</p> <ul style="list-style-type: none"> ● direct questions to able pupils; ● include more open questioning to allow all pupils to respond at their own level to the same question; ● encourage pupils to explore alternative mental strategies. <hr/> <p>Main part of the lesson</p> <ul style="list-style-type: none"> ● reduce whole class activity setting stepped tasks, encouraging able pupils to omit earlier steps; ● reduce amount of time able pupils spend on practice and consolidation; ● target teaching in ability groups; ● use a range of different levels that are linked to a common theme; ● use a range of open tasks/investigations that all pupils can access at their own level; ● encourage sustained work that able pupils may continue over two or more lessons.
<p>Plenary</p> <ul style="list-style-type: none"> ● celebrate achievement and raise expectations by showing good work and explaining what is good about it; ● make learning explicit, by requiring able pupils to explain their thinking and use the appropriate terminology; ● ask able pupils to explain the criteria for success in their work and to reflect on how well they have met them; ● invite able pupils to make generalisations and to provide evidence to support their conclusions and opinions; ● allow able pupils to lead the session occasionally, asking them to prepare questions or points to put to the rest of the class; ● whet the appetite for the next day's work, negotiating challenging targets for future lessons. 	
<p>Homework</p> <ul style="list-style-type: none"> ● use homework to encourage wider reading (including on mathematical topics) and to tackle challenging questions and puzzles. The results can form the basis of the next lesson with either the whole class or a group; ● invite parents to support their children by providing the titles of texts for preparatory or wider reading and giving a list of suitable approaches and questions to use at home. 	

Key Points for Teaching Literacy to Able Pupils

Text level

Choose texts with several layers of meaning and encourage able pupils to appreciate that different interpretations are possible. Able pupils should also extend their experience to more challenging texts. Plan for close connections between reading and writing so that pupils are taught to apply the structures and techniques noticed in their reading with conscious control in their writing. They should be challenged to experiment with styles and language features for different effects, for example by writing a story with multiple viewpoints.

Able pupils should use writing to construct and clarify as well as define and record their ideas and experiences. They may write at greater length and you can provide opportunities for this by: linking work over a number of literacy hours; using time outside the hour; and connecting the writing of non-fiction texts to work on other subjects. They should also be encouraged to write with economy and precision, by: paring down their writing through editing; tackling higher order writing tasks involving the summary of information and evidence; and using the discipline of shorter or more constrained forms, such as (in poetry) couplets, limericks, haiku or cinquains.

Word and sentence level

In phonic and grammar work, use an investigative approach that challenges able pupils to analyse words and sentences to explain how conventions work, for example collecting and categorising words, phrases and sentences to draw out rules. Provide extension tasks; for example in key stage one, while the rest of the class is working on writing a CVC word, able pupils could be finding new words by changing the final consonant. The spelling bank for key stage two includes activities for the able pupils for each objective and shows how extension work can be planned. Plan for systematic attention to the development of fluent handwriting to ensure that pupils can record their ideas efficiently and avoid frustrations in transcription. Probe able pupils' responses to ensure they have a firm grasp of phonics and grammatical concepts, and encourage them to use the appropriate terminology in discussing words, grammar and punctuation.

Speaking and listening

Able pupils often have a precocious oral ability, marked as much by good listening as by effective speaking. Their established oral skills should be used as a rich basis for development in literacy, for example by asking them to lead the group discussion of a text, or to explain their language choices and decisions in their writing. They should use talk to recollect, make connections, identify patterns, describe generalisations and to speculate on possibilities. They will be using some talk to present well-formed ideas, for example in the plenary, but often the nature of whole class and group discussion should be exploratory, allowing able pupils to shape their thoughts in new ways.

Key Points for Teaching Mathematics to Able Pupils

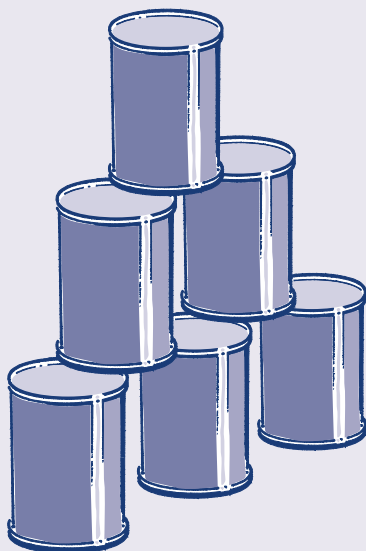
Short activities related to current class work. A booklet will be issued with the extension Framework with examples of such materials. Each activity has learning objectives identified and a suggestion as to the year groups for which it may be suitable. This should help teachers link the activities to their present work.

Extended tasks, problems or investigations within the main curriculum. There is a wide range of publications on problem solving and investigations. Internet sites also contain such materials. Schools are encouraged to draw from these activities and link them to particular teaching units in their termly plan. For example, while a year 6 class is consolidating written methods of multiplication, able pupils could consider and explain different methods of long multiplication.

Extra activities on 'new' topics outside the main curriculum. Able pupils, during an unallocated week, might investigate palindromic numbers, Fibonacci numbers, or the golden ratio.

In order to draw the links within mathematics it is useful for pupils to attempt what appear to be different problems whose solutions are fundamentally the same mathematics. You might set, for example, several problems that reduce to triangular numbers. Pupils could be asked to work out:

1.



● how many tins of beans are needed to make a pile with 20 layers in it?

2. If there are 20 teams in a football tournament and each team plays every other team once, how many matches are played altogether?

3. If a sheet of paper has 3 points marked on it and a straight line is drawn through each pair of points, how many lines can be drawn altogether? As the number of points increases, investigate how many lines it is now possible to draw.

Using National Numeracy Strategy training materials to support able pupils

Framework for teaching mathematics:

the organisation of teaching objectives signal the progression in topics.

Mathematical vocabulary booklet:

includes examples of questions to extend children's thinking.

Five day training material:

includes useful sessions on: problem solving; using a calculator; laying the foundations for algebra; and fractions, decimals, percentages, ratio and proportion.

Other sources of support

QCA will be issuing further guidance next year on provision for gifted and talented pupils in the revised national curriculum.

QCA are also developing world class tests in mathematics and problem-solving calibrated against the performance of the most able 9 and 13 year-olds in countries that lead in studies of international comparisons. Able pupils will take the tests when they are ready, and so compare their performance against the best in the world. The tests will be available from Autumn 2001.

Other sources of support include:

Local Education Authority advisory services, literacy and numeracy centres and local universities.

For example:

for generic guidance see –

More Able Action, Worcestershire County Council, Quality Division July 1999.

for literacy guidance see –

Able Children in the Literacy Hour, South East Region, August 1998 and

Supporting and Challenging More Able Pupils in the Literacy Hour, February 1999

Geoff Dean, General Adviser – English, Cambridgeshire Advisory Service.

The National Association of Advisers in English (NAAE)
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The National Association for the Teaching of English (NATE)
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The Mathematically Promising Network
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